

6-1-2023

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10.18823/asiatefl.2023.20.2.9.375

Chen, Q., Thwaite, A., & Moon, B. (2023). Chinese-speaking undergraduates in Australia: A lexical approach to teaching academic writing. *The Journal of Asia TEFL*, 20(2), 375-396. <https://doi.org/10.18823/asiatefl.2023.20.2.9.375>

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## Chinese-Speaking Undergraduates in Australia: A Lexical Approach to Teaching Academic Writing

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Chinese-speaking students enroll in Australian tertiary institutions in large numbers. Success for these international students is heavily dependent upon their mastering the conventions of academic writing in English. How best to ensure such mastery among EAL learners has been a matter of debate among tertiary educators and language specialists, with competing theories and methods proposed. This paper reports on an attempt to improve English academic writing through intensive lexical instruction, a method proposed by Ackermann & Chen (2013), Boers et al. (2016), Lewis (1993), Selivan (2018), Wray (2005, 2018) and others. Nine Chinese-speaking tertiary students were offered training in recognising and employing those lexical constructions commonly found in relevant technical and academic genres. The project employed a mixed methods case study approach to describe students' performance and their perceptions and responses to the teaching they underwent. While gains in performance were evident in some cases, the outcomes of the teaching were inconsistent and equivocal overall. We conclude that this raises questions about the efficacy of purely lexical methods and underscores the challenge involved in teaching complex genres at tertiary level. These findings have implications for those teaching Chinese-speaking students, particularly in EAL contexts.

大量讲中文的国际学生就读于澳大利亚的高等教育机构。这些国际学生的成功在很大程度上取决于他们对英文学术写作规范的掌握。如何最好地确保英语二语学习者对英文学术写作的掌握一直是高等教育工作者和语言专家们争论的问题。他们提出了许多具有竞争性的理论和方法。本文报道了由Ackermann & Chen (2013), Boers et al. (2016), Lewis (1993), Selivan (2018), Wray (2005, 2018) 及其他学者提出的一种尝试方法, 即通过强化性的词块教学来提高英语学术写作。九名讲中文的国际学生接受了培训以帮助识别并使用相关技术和学术文章中常见的词块结构。该研究采用混合案例研究方法呈现学生的表现以及他们对所接受培训的观点和反馈。虽然在某些案例中, 学生写作有明显提高, 但教学结果总体上并不完全一致。我们的结论是, 该研究结果引发了对纯词块教学法有效性的质疑, 强调了在高等教育中英语学术写作教学所面临的挑战。这些发现对那些教授讲中文的学生具有启示意义, 尤其是在英语为第二语言的环境中。

**Keywords:** lexical method, lexical chunks, EAL teaching, academic writing, English; proficiency, polywords, collocations, sentence builders, Chinese-speaking students



## Introduction

While some scholars have found that experience of English academic writing has more of an effect on students' tertiary writing than their first language (L1) background (Frankenberg-Garcia, 2018), overall, it has been found productive to consider students' language background as a factor in the quality of their writing in general (Appel & Murray, 2020) and in their use of formulaic language in particular (Granger, 2018). Furthermore, there can be a large difference between English as Additional Language (EAL) students' general English proficiency and their proficiency in academic writing (Biber & Gray, 2010; Biber, Gray & Poonpon, 2011; Shin et al., 2019).

Chinese students are a substantial portion of the international cohort in Australian tertiary institutions. For these students, English proficiency, including writing in academic genres, can be a significant barrier to success. Previous studies (Allen, 2016; Leedham, 2011; Li, 2014) have documented the challenges presented by EAL learners' limited vocabulary and struggles with grammar and usage. Students from China frequently use Chinese expressions in their writing, hampering clear and conventional expression; additionally, the demands of text structure, content knowledge and discipline-specific skills often complicate written expression. That is not to say such students have linguistic deficits but that knowledge of the students' L1 may help us to discuss the features of their L2 writing (Chuang & Lee, 2020; Lu & Ai, 2015).

While a variety of methods can be used to support EAL students' genre writing in English, this project sought to test the efficacy of one, a lexical training approach. The aim of the study was to investigate whether intensive instruction in lexical constructs could facilitate rapid improvement in the written English proficiency of Chinese-speaking students in a tertiary setting. We asked whether increased awareness of lexical chunks, coupled with explicit training in the high-frequency constructions found in specific academic genres, could accelerate progress toward appropriate and idiomatic written expression. This investigation used small-group and individualized instruction to generate data from a limited number of individuals, to track specific language features in their writing. Interview data was also obtained, to evaluate students' confidence levels and attitudes, independent of an objective assessment of their writing. In this way we sought to examine both the objective and the subjective impact of lexical methods.

Here we focus on the writing performance of a small group of L1 Chinese-speaking students in Australia, to investigate two research questions (RQs):

- 1) What is the relationship between knowledge and awareness of relevant lexical chunks and the students' English writing proficiency?
- 2) What are the effects of intensive lexical instruction on students' English writing proficiency?

Although the study was situated in Australia, we were aware that there are many Chinese-speaking students in different parts of the world, and that this study may also be relevant to them. Additionally, although we should be careful of overgeneralization, some scholars have identified differences between teaching and learning styles in Asia in general, and 'Western' learning styles. For example, Bruthiaux (2010), states that, "English language teaching in Asia has long been characterized by its emphasis on receptive knowledge and a requirement for grammatical accuracy in language production" (cited in Wang & Hill, 2011). Wang and Hill believe that while the Communicative Approach has become very popular in Asia, for various reasons teacher-centered learning is still the most common situation (p. 215). As the lexical approach would normally be considered a teacher-centered approach, it could be that it is suitable for Chinese-speaking students, and it is also suitable for other students in Asia.

## Literature Review

### Lexical Chunks and the Lexical Approach

Scholars (e.g., Ackermann and Chen 2013; Davis and Kryszewska, 2012; Leedham, 2012; Mohamadr, 2015) propose that lexical chunks exist somewhere between lexicon, syntax and semantics and should be central in language teaching and learning. Additionally, studies have emphasized the role of chunks as basic building blocks in both speaking and writing (Conrad & Biber, 2005; Biber & Barbieri, 2007; Yun, 2021) and that language knowledge, including knowledge about grammar, “comes from actual language use” (Selivan, 2018, p. 5). Selivan finds that, “Memorized chunks can be used by learners to produce situationally appropriate and well-formed language” beyond their ability with grammar (2018). Interestingly, eye-tracking research has also shown that both L1 and L2 speakers read familiar chunks more quickly (Siyanova-Chanturia et al., 2011), indicating that knowledge of chunks may assist with fluency. Some types of chunks may be more helpful than others: learning complex chunks such as sentence builders can help learners with grammatical patterns (Hill, 2001).

The lexical approach is founded on the assertion that lexis is central to language, and that learners should seek to memorize and apply multi-word chunks as single items. Knowledge of lexical chunks can “raise learners’ awareness of word co-occurrence and help them prioritize the learning of lexical items” (Ackermann & Chen, 2013, p. 245). According to Lewis (1997), a lexical approach devotes more time to multiword items and awareness-raising, without ignoring traditional grammar or underestimating the value of creativity. It advocates repeated encounters with a chunk, noticing it in context and then converting it to intake (Lewis, 2001), so that each word “becomes cumulatively loaded with the contexts and co-texts in which it is encountered” (Hoey, 2005, p. 8).

Alternative terms for lexical chunks include ‘collocations’, ‘formulaic language’, ‘idioms’, ‘polywords’, ‘multi-part verbs’, and ‘sentence builders’ (Nattinger & DeCarrico, 1992; Selivan, 2018; Wray, 2005). In this paper, the term “lexical chunk”, first coined by Lewis, is adopted to signify “a group of words customarily found together” (Selivan, 2018, p. 1). The main types of chunks referred to here are:

- (1) ‘collocations’ (“two or more words seem to appear frequently in each other’s company” (Hoey, 2005, p. 2), such as “prices fell/rose”)
- (2) ‘polywords’ (fixed phrases acting like single words (Nattinger & DeCarrico, 1992), such as “on one hand,” “on the other hand”)
- (3) ‘sentence builders’ (longer phrases that function “to provide a skeleton for the expression of an entire idea... Not only A but also B” (Nattinger, 1980, p. 340). They include sentence frames and heads, such as “it can be found that...”.

### Research on Lexical Chunks in EFL Contexts

A substantial body of literature addresses the complex challenges that academic and technical writing poses for EAL learners (Allen, 2016; Hardy & Clughen, 2012; Ravichandran et al., 2017; Yang, 2018). One strand in such research is the role of lexical chunks in L2 language acquisition and production (Crossley & Salsbury, 2011; Lewis, 1993, 1997; Nattinger & DeCarrico, 1992; Selivan, 2018; Wray, 2008, 2018). This body of work suggests that attention to lexical chunking can expedite English language acquisition and enhance proficiency by capitalizing on the formulaic quality of much daily discourse. For example, Ogawa (2021) conducted her research with 48 first-year Japanese university students. She examined to what extent additional intervention with formulaic language helps EFL learners develop speaking fluency. She found that additional intervention to facilitate the use of formulaic language enhanced students’ oral fluency. In academic writing there is likewise a large corpus of formulaic phrases that may serve as shortcuts to the attainment of effective expression and mastery of a particular style (Al Hassan & Wood, 2015; Leedham, 2011; Li, 2014). Abbas et al. (2023) reported that novice writers who worked with a domain-specific set of formulaic sequences performed better than those who used traditional phrase banks.

Research shows that both L1 and L2 learners can benefit from learning about chunks. Some studies suggest that different aspects of writing, such as cohesion and coherence, may be positively influenced by a knowledge of chunks (AlHassan & Wood, 2015; Q. Li, 2014; Shahryari & Balakumar, 2014). Other scholars differentiate between the frequency and accuracy of use of chunks. For example, in Huang's (2015) study, senior students produced a wide variety of lexical chunks more frequently in their essay writing but did not use chunks more accurately than juniors. AlHassan and Wood (2015), Fritz et al. (2022), and Peters and Pauwels (2015) all suggest that explicit focused instruction can boost learners' knowledge of chunks. Boers and colleagues found that the EFL learners in their study were most successful when working with "intact phrases" (2016, p. 362). That is, it was not useful to give learners cloze exercises where they needed to provide the missing parts of chunks; learners needed to have repeated exposure to the whole chunk to retain the full expression in their memories.

## **The Writing Challenges Faced by EAL Students**

Research on EAL writing confirms that the challenges faced by students are significant and the available pedagogies and interventions are imperfect. Allen (2016) stated that EAL students' success relies heavily on their mastery of academic writing. She conducted a mixed-methods study to investigate the efficacy of an English for Academic Purposes Pathway program in an Australian university. Suggestions offered to better address EAL students' needs emphasized not only content knowledge, mastery of discipline-specific genre requirements and vocabulary, but also "a complex combination of extratextual, circumtextual, intratextual and intertextual features and skills" (2016, p. ii).

Knoch et al. (2014) found scant research on whether the English proficiency of EAL students improved during their time at university in Australia. Existing research on EAL writing (Larsen-Freeman, 2006; Storch & Tapper, 2009; Tsang & Wong, 2000) focused on using discourse-analytic measures to gauge writing development less than one year after commencing study in L2-medium universities. These studies generated mixed findings in terms of grammatical accuracy and complexity, and lexical complexity. However, Knoch et al. believed the duration of these studies was not long enough to achieve more significant improvements in writing.

Research investigating EAL writing after immersion in the L2 environment for one year or longer is scarce (Knoch et al., 2015). The few longitudinal studies on the subject (Knoch et al., 2014; Serrano et al., 2012) indicate some improvement in grammatical and lexical complexity over time, but not in fluency. Knoch et al. (2015) conducted a further study to examine undergraduate students' ESL writing proficiency after a three-year degree in Australia. The results showed the writing skills of most participants improved with respect to academic style (e.g., paragraph structure, vocabulary), but only a quarter of participants' grammatical accuracy improved. Half of them attributed their improvements to reading articles and textbooks and listening to tutorials, news, etc., while almost a quarter believed their writing did not improve and attributed this to a lack of practice and feedback on language use.

Further studies have examined the challenges encountered by Chinese EAL students. For example, Yang's (2018) American study examined first-year Chinese students' academic writing. Participants reported challenges with clarity of expression, text structures and organization of ideas, as well as subject matter, cultural understanding, and higher-level thinking. Hu (2000) conducted a multi-case study of 15 Chinese graduate students in science and engineering at a Canadian university, involving course assignments and research proposals during their first two years of study. The study analysed interviews and writing samples to investigate the writing processes and challenges students faced. Four areas of difficulty were found: vocabulary and grammar, stylistic concerns, information management and text organization.

This body of research confirms that academic writing is a complex, multifaceted challenge for EAL students, with no simple solution. With this complexity in mind, we sought to investigate the lexical approach. We did not expect that the lexical method would be a panacea, but that it might prove a useful addition to the repertoire of strategies available to EAL students and their teachers.

## Methodology

This study sought to test the hypothesis proposed by some scholars (Boers et al., 2016; Nattinger & DeCarrico, 1992; Lewis, 1993; Selivan, 2018) that the ability to comprehend and produce lexical chunks is a significant part of language acquisition; and that a lexical approach can improve learners' writing proficiency. The study was not intended to address the myriad of factors that influence English academic writing. Attention was restricted to recognizing, understanding, and using chunks, and to the contribution which this might make to broader proficiency.

Due to the small number of participants, a case study approach was adopted to describe how each student responded to some teaching on lexical chunks. The lessons consisted of ten training sessions that taught participants to identify, comprehend and employ lexical constructions in everyday usage and in specific academic genres. Subsequently, data were collected by means of mixed methods. Mixed methods is a useful approach if the researcher aims to "develop a detailed view of the meaning of a phenomenon or concept" (Cresswell, 2009, p.18).

The data were mainly analysed using quantitative methods. In addition, a qualitative method, underpinned by an interpretivist epistemology, was also employed to obtain an in-depth understanding of participants' views and perspectives via interviews. This research entailed a group-based instructional intervention involving nine participants and collected a total of 72 writing samples and 35 ranked samples. Quantitative methods were used to analyse the numerical data collected from the nine Chinese-speaking international students. The first phase entailed a comparison of the number of lexical chunks used in students' writing samples with the errors they made in each aspect of writing, such as task response, text structure, sentence-level grammar and lexical resources, and a comparison of the number of lexical chunks used with the marks assigned for their samples to explain RQ1 and RQ2. In the follow-up qualitative phase, semi-structured interview data were collected to further explain the relationships and effects of knowledge of lexical chunks on the students' writing.

Effects were not only measured in terms of their linguistic repertoire, but also their attitudes and confidence in English writing. Consolidating the qualitative interview data and the quantitative numeric data provided deeper insights into the effects of lexical chunks on English writing proficiency.

## Participants and Recruitment

Participants were recruited from tertiary institutions in Western Australia, through convenience sampling. Invitations were disseminated through notifications to the teaching staff in Faculties with high numbers of Chinese students, through campus notice boards and online chat groups, and through liaison with language support services on campus. Following these invitations, nine Chinese speaking students were recruited. The small number of participants resulted in a case-study format being adopted, which allowed for close engagement with the participants and detailed consideration of their individual characteristics and rates of progress.

The project was granted formal Ethics approval by the host University Human Research Ethics Committee, and all appropriate protocols relating to privacy and duty of care were observed. Prior to commencement of the research, the study was explained to all participants and informed consent was sought in both English and Mandarin. Participants have been rendered anonymous in this report using the abbreviations S1 to S9. Table 1 provides a summary of their demographic data.

TABLE 1  
*Demographic Data of Participants*

	Sex	Educational Background	L1	L2	Course	Year Level
S1	M	6 years EAL learning In Australia for 2 years From Nanning, Guangxi Province	Mandarin		Diploma of Accounting	Year 1
S2	M	10-12 years EAL learning In Australia for more than 4 years From Weihai, Shandong Province	Mandarin		Bachelor of Engineering	Year 4
S3	F	12-15 years EAL learning (started learning from Year 3 in Shenzhen, in 1995 moved to HK*) From HK	Mandarin	Cantonese	Diploma of Nursing	Year 2
S4	F	27 years EAL learning In Australia for 5 years From HK	Cantonese	Mandarin	Diploma of Nursing	Year 2
S5	F	15 years EAL learning Working holiday visa for 2 years in Australia (2013-2014) In Australia for 3 years From HK	Mandarin	Cantonese	Diploma of Nursing	Year 2
S6	M	16 years EAL learning In Australia for 4 years From Chaozhou, Guangdong Province	Chaoshan	Mandarin	Bachelor of Accounting	Year 2
S7	M	More than 20 years' EAL learning (fro kindergarten) In Australia for 10 years From HK	Cantonese	Mandarin	Bachelor of Criminology and Justice	Year 2
S8	M	10 years EAL learning In Australia for 5 years From Wuhu, Anhui Province	Mandarin		Bachelor of Marketing	Year 3
S9	F	8 years EAL learning In Australia for 2 years From HK	Mandarin	Cantonese	Diploma of Accounting	Year 2

*Note.* M: male, F: female; HK: Hong Kong; EAL: English as Additional Language; L1: first language, L2: second language

## Training Program

Participants were offered ten 1.5-hour training sessions aimed at improving their recognition, understanding and use of lexical chunks in writing tasks of different genres. All training sessions were taught by the chief investigator using original purpose-designed teaching plans and resources. This ensured consistency of approach and eliminated any confounding factors that might be introduced using multiple instructors.

To promote engagement and make the work relevant to the participants' needs, an attempt was made to link the content and writing tasks to each student's academic context, using subject-specific sample texts and chunks.

The instructional approach was based on the learning strategies proposed by Lewis (1997). It emphasized explicit teaching, including repeated examples of chunks, explanations, demonstrations, guided practice in identifying chunks, feedback, and testing. Catering to the changing timetables and availability of participants necessitated some flexibility in delivery, resulting in some sessions being delivered to small groups, while others involved one-on-one instruction. This caused some variation in frequency and completion of the training schedule across the pool of participants. Of the nine participants, seven had the full ten sessions, one had six sessions, and another had three sessions.

## Data Collection and Analysis

Writing tasks completed during the training were collected for analysis. Ensuring that participants completed a range of common tasks facilitated a comparison of their writing skills and rates of progress. The main comparison tasks were letters and memos, written descriptions of graphical content, and short essays. Clearly, different types of lexical chunks would be more suited to each of these genres. The tasks generated 72 writing samples for analysis, summarized in Table 2.

The resulting samples were analysed quantitatively. The first phase of analysis entailed a count of the lexical chunks used in students' writing samples, and a comparison of the number used with the errors that were made in each aspect of writing. Recognizable attempts at chunks were counted in the analysis, even if spelling and grammar was not standard. In a second qualitative phase of analysis, semi-structured interview data were collected to further explore the effects of knowledge about chunks on the students' writing.

Diagnostic and summative assessment was used to measure change or progress resulting from the teaching intervention. These assessments comprised production of a writing sample (see Appendix A). To ensure reliability and objectivity, the samples were analysed according to specific assessment criteria derived from a combination of the IELTS band descriptors and a locally produced assessment proforma (see Appendix B). Both diagnostic and summative tests were first scored by the chief investigator and then reviewed by the same two co-researchers, to ensure consistency.

TABLE 2  
*Writing Samples Collected for Analysis from Nine Participants*

Students	Genres	Samples (No.)	Genres	Samples (No.)	Genres	Samples (No.)
Semester 1, 2017						
S1	Letter, Email, Memo	4	Describing graphs	2	Writing essays	3
S2	Letter, Email, Memo	3	Describing graphs	2	Writing essays	3
Semester 2, 2017						
S3			Describing graphs	5	Writing essays	5
S4			Describing graphs	5	Writing essays	4
S5			Describing graphs	6	Writing essays	4
S6			Describing graphs	5	Writing essays	4
S7			Describing graphs	5	Writing essays	5
S8			Describing graphs	3	Writing essays	1
S9			Describing graphs	2	Writing essays	1
Total		7		35		30

To provide another perspective on the data, 35 writing samples from nine participants were selected. The samples consisted of diagnostic and summative assessment tasks from most students: apart from S9, who supplied only three writing samples, four writing samples were selected from each participant. The samples were judged by a panel of five L1 expert users of English, who were education specialists uninvolved in the project. The samples were ranked on a scale of 1 to 3 by the five markers, who assigned rankings subjectively, based on overall quality and fluency. The marking guidelines are shown below.

1. The writer seems to have a developing grasp of English. The writing contains some errors, but they



are not too distracting. I can follow what is being said. I did not have to re-read to understand.

2. The writer seems to be struggling to express ideas in English. The writing contained some distracting errors. I could follow what was meant, but I had to backtrack and re-read some parts.

3. The writer seems to have very limited skill and experience writing in English. The writing contained many distracting errors. I had difficulty following what was meant, even after backtracking and re-reading.

The average ranking for each sample and the number of lexical chunks used were tabulated and compared to identify and assess the relationship, if any, between the frequency of chunks and a general measure of English-writing proficiency.

## **Interviews**

Finally, semi-structured interviews were conducted with seven participants at the conclusion of the project. The questions had been trialled and validated in a pilot study (see Appendix C) and were designed to elicit the participants' perceptions of chunks and the usefulness of the training. The interviews were conducted in Mandarin to ensure the students were comfortable and able to express exactly what they wanted to say. They ranged from 25 to 48 minutes in duration. All interviews were listened to repeatedly and translated from Chinese into English. Reliability and validity in the collection and interpreting of this data could potentially be influenced by a range of factors. Validity was ensured by isolating the variable (lexical chunks), and examining it under test conditions, using tools refined through a pilot study. Reliability was assured by consistency of the evaluations, achieved using clear assessment criteria for quantitative analyses of all the writing samples and the use of rating instructions by the panel of five expert markers.

We emphasize that this was a case study based on the realities of the teaching context, not an experimental study under ideal conditions. The combination of the three data sources (close analysis of writing samples before and after the intervention, assessment of the overall effectiveness of the writing by an expert panel and feedback from the students themselves) enabled triangulation of the data from different perspectives to provide a range of points of view on the success of the targeted lessons.

## **Findings**

In this section we discuss the findings in terms of the analysis of student writing and the questionnaires and interviews investigating their attitudes. We acknowledge the limitations of the study in terms of the small number of participants (hence the case study approach) and the fact that they did not all have the same experiences in their training, which was tailored towards their individual needs.

### **Analysis of the Writing Samples**

Analysis of the writing samples showed that progress for most participants following the intervention was mixed, with fluctuations in chunk usage and in the error rates pertaining to other features of writing. Table 3 captures the complex relationship between genres attempted, and error rates in the various language features, for all the writing samples obtained. While the overall ability of these students to communicate in writing is important, for all of them accuracy is crucial to their success in tertiary assessments and high-stakes English tests. Therefore, accuracy was considered in the analysis.

TABLE 3

Major Types of Errors in Writing Samples (Including Pre- and Post-Test Samples)

Students	Chunk Formation	Spelling	Word Choice	Sentence Structure	Tense	Voice	Punctuation	Others
S1	♣☉♥	☉▲♥			♣☉▲	●	☉	♥
S2	☉♥	▲♥	♥	☉▲♥	▲		☉▲♥	▲
S3	▲♥	▲♥		▲♥	♥	▲♥		
S4	▲♥	▲♥	▲♥	▲♥				
S5	▲	▲♥	♥	▲♥				
S6	▲♥	▲	▲♥	▲♥				
S7	▲♥	▲♥		▲♥	▲			♥
S8		▲♥		▲♥		▲		
S9	▲♥	▲♥		▲	▲			
Total	♥=7 ▲=6 ♣/☉/●=1	▲=9 ♥=8 ☉=1	♥=4 ▲=2	▲=8 ♥=8 ☉=1	▲=4 ♥/♣/☉=1	▲=2 ♥/●=1	☉=2 ▲/♥=1	♥=2 ▲=1

Note. Symbols in the table represent genres. ♣ = email, ☉ = letter, ▲ = graph description, ♥ = essay, ● = memo. Other errors include noun-verb agreements and singular-plural forms of nouns and verbs.

Table 3 indicates that spelling errors were evident in almost all the samples. Problems with sentence structure and chunk formation were evident after ten weeks of instruction. Details about the types of chunk formation that students found most difficult are depicted in Figures 1 & 2, and related to graph descriptions and essays. Collocations and sentence builders were the two main error types in eight students' graph descriptions. By comparison, there were far fewer errors in polywords, with some students (S2, S6, S7, S8 and S9) making no errors in these chunks at all. S1 made more polyword errors than collocation errors, while S4 made several polyword errors, and S3 and S5 made very few polyword errors. Collocation errors were a dominant issue for both S5 and S6 in their application of lexical chunks, however. Errors in sentence builders were mainly evident in three students' (S3, S4 and S9) writing. It is interesting that S2, S7 and S8 made the same number of errors in both collocations and sentence builders.

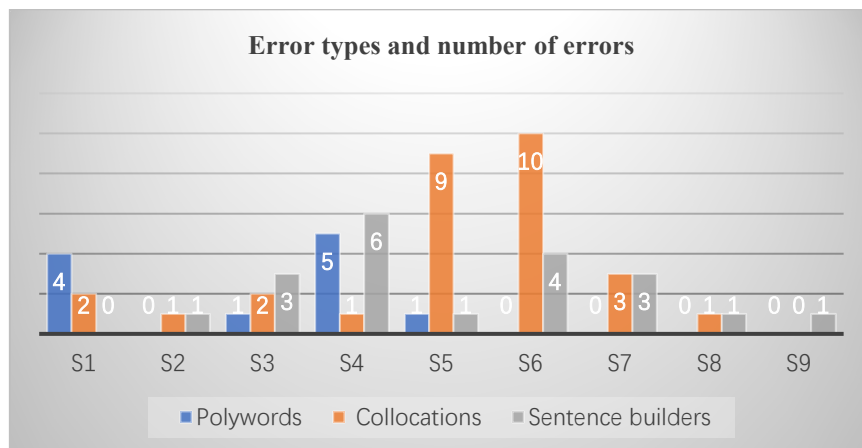


Figure 1. Lexical chunks: Number of errors in the graph description genre.

In the essay writing tasks, most of the errors were in collocations (n=9), followed by sentence builders (n=8) and polywords (n=5). All nine students used collocations in their essay writing; and the number of collocation errors, compared with the other two types of chunks, was dominant in this type of writing. Another major error related to sentence builders was apparent in eight students' (S1- S8) samples. As with describing graphs, there were fewer errors in polywords, with four students (S3, S6, S8, and S9) making no errors of this type. Another four students (S1, S2, S4 and S5) made fewer polyword errors than the other

two types. S7 made the same number of polyword and sentence builder errors. Overall, polyword errors were the least frequent in both genres of graph descriptions and essay writing.

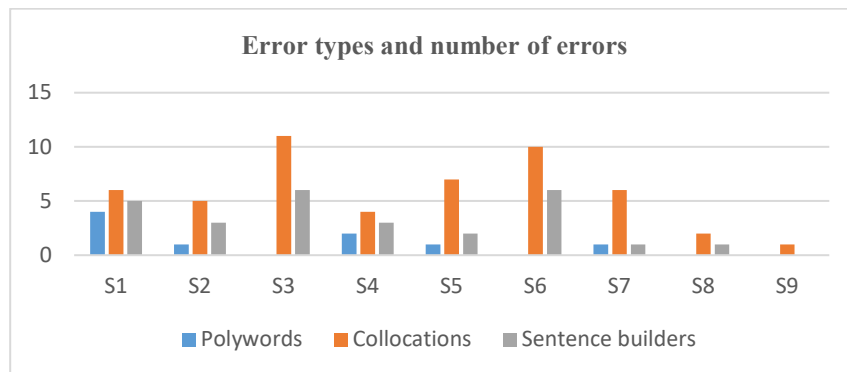


Figure 2. Lexical chunks: Number of errors in the essay genre.

### English Experts' Ranking of Writing Samples

A total of 35 writing samples were selected from the nine participants for ranking by L1 English speakers. Most of the samples comprised tasks from the formative and summative assessments, to identify differences in students' writing before and after the intervention. The number of chunks used, and rankings are shown in Table 4. The sum of the rankings awarded by the five markers ranged from 1.1 (Good) to 2.6 (Poor), and the number of chunks used by students varied from three to 36 per sample. The total number of chunks used in students' (S1 to S8) four writing samples (total word count of no less than 800 words) was between 34 and 90.

Table 4 reflects that the more chunks students used in their writing the more successful it was perceived to be. For example, S1 achieved an average ranking of 1.1 with a total of 90 chunks, while S8 achieved an average ranking of 1.85 with a total of 35 chunks. Furthermore, the findings indicate that for most participants (S1, S2, S5, S6 and S8), their awareness and use of chunks increased in their writing, following the instruction.

TABLE 4  
*Lexical Chunks Attempted and English Speaker Rankings of Proficiency*

Students	Writing Samples	Rankings*			Lexical Chunks Attempted	
		Details	Total	Average	Number attempted	Total
S1	001 letter	2/1/2/2/2	37	1.85	6	43
	003 letter	2/1/2/1/1			11	
	005 essay	2/1/2/1/2			8	
	007 essay	3/2/3/2/3			18	
S2	002 letter	1/1/1/1/1	22	1.1	13	90
	004 letter	1/1/1/1/1			16	
	006 essay	1/1/1/1/2			25	
	008 essay	1/1/1/1/2			36	
S3	016 line graph	3/1/2/1/2	31	1.55	11	52
	023 mixed graphs	3/2/1/2/2			8	
	009 essay	2/1/2/1/2			20	
	028 essay	1/1/1/1/1			13	
S4	017 line graph	1/1/2/2/2	33	1.65	5	43
	024 mixed graphs	2/2/2/1/2			13	
	010 essay	2/1/2/2/2			14	
	029 essay	2/1/1/1/2			11	
S5	018 line graph	2/1/3/2/2	37	1.85	6	34
	025 mixed graphs	2/1/3/1/1			9	
	011 essay	2/1/3/2/2			8	
	030 essay	2/1/2/2/2			11	
S6	019 line graph	2/1/2/2/3	31	1.55	8	46
	026 mixed graphs	2/2/1/2/1			10	
	012 essay	2/1/1/1/2			11	
	031 essay	1/1/1/1/2			17	
S7	020 line graph	1/1/1/1/3	26	1.3	9	46
	027 mixed graphs	1/1/1/1/1			9	
	013 essay	1/1/2/1/2			9	
	032 essay	1/1/2/1/2			19	
S8	021 line graph	3/2/3/2/3	52	2.6	8	35
	014 essay	3/2/3/2/2			16	
	033 two pie charts	3/2/3/2/3			3	
	035 table	3/3/3/3/2			8	
S9	022 line graph	2/2/2/1/2	36	2.4	5	16
	015 essay	3/2/3/3/2			7	
	034 two pie charts	3/3/3/3/2			4	

Note. 1: Good; 2: Fair; 3: Poor. Average rankings were calculated by totalling individual rankings and dividing by the number of rankings. The lowest average number denoted the highest-ranking student.

### Semi-Structured Interviews

The analysis of the writing samples shows the effects of learning about chunks on the students' writing proficiency. The interviews were conducted in Mandarin with participants who had attended the training sessions, apart from two students who couldn't attend interviews due to work commitments. Interviews were conducted to determine how the instruction influenced perceptions and confidence.

The number of years for which the student has been learning English is indicated in brackets next to each one.

## Perceptions of the relationship between knowledge and awareness of relevant lexical chunks and students' writing proficiency

Grammar and vocabulary are not vital aspects in marking my faculty writing, more important is the ideas and content in the writing. The training also helps me understand and be more confident on how to develop and complete IELTS tasks writing (S2 (10-12 years), S7 (20 years)).

S2 and S7 stated in their interviews that lexical chunks may not be all that important for writing assignments in their faculties, but nevertheless felt that their learning would have a positive impact on other genres of writing, especially for certain writing tasks in the language test, such as IELTS or PTE (Pearson Test of English).

## Perceptions of the effects of learning about lexical chunks on their writing

Some of the discourse organizers helped improve the cohesion. (S2 (10-12 years))

Lexical chunks help shorten the time to generate phrases and help make text more cohesive. (S5 (15 years), S6 (16 years))

S2, S5 and S6 held the view that acquiring knowledge of lexical chunks, especially discourse organisers, helped to make their writing more cohesive and reduced the time it took to generate phrases and sentence structure. S1, S5 and S6 believed that lexical chunks improved their language accuracy and variety:

Applying some lexical chunks could help improve language accuracy. (S1 (6 years))

Chunks could improve the variety of language in my writing. (S5 (15 years))

Lexical chunks could help improve the language accuracy and variety. (S6 (16 years))

S1 reported that knowing about lexical chunks helped improve his sentence structure and made his writing more fluent, thereby reducing the time needed to complete the tasks.

## Perceptions of the transfer of lexical awareness from writing to other modes of communication

I am aware of chunks when doing reading but cannot come up with chunks I have read in writing. (S3 (12-15 years), S4 (27 years))

I have awareness of memorizing and noticing chunks and can use some chunks that I learned from model writing samples in my writing. (S5 (15 years))

I have awareness of noticing some chunks when reading. The more chunks I acquire, the more it will help improve my writing proficiency. (S7 (20 years))

The students' responses indicated that most of them have awareness of noticing chunks when reading (S3, S4, S5 and S7) but had trouble generating their own chunks (S3 and S4). Some students (S1, S4, and S6) believed that learning about lexical chunks increased their awareness and they noticed them more in reading, listening and daily oral communication.

...it can help enlarge my vocabulary pool (S1 (6 years)).

Learning lexical chunks gives some help to my reading and writing. Also, it helps improve my listening if I memorize and accumulate lexical chunks (S4 (27 years)).

After knowing what lexical chunks are, I have the awareness to notice chunks instead of individual words when reading. And also, I have more consciousness of lexical chunks used in daily oral communication and also in discipline-specific reading (S6 (16 years)).

## **Changes in students' attitudes towards learning about lexical chunks before and after focused instruction.**

Feel more confident than before. (S1 (6 years), S5 (15 years))

I hold a positive attitude to the training as the materials of lexical chunks and other related writing resources I got from the training would be of some help to my future IELTS/PTE exam. (S2 (10-12 years))

The training is of great help to me. I know how to organize and develop ideas in each paragraph, and this makes me more confident about taking the IELTS exam in the future. (S3 (12-15 years), S7 (20 years))

I am more confident as I have clearer ideas of paragraph organizing.... (S4 (27 years))

The training is of some help for my grammar and understanding texts. I feel more confident, especially clearer in the paragraphs organizing. (S6 (16 years))

It was clear that students (S1-S7) felt more confident about their IELTS writing tasks and some (S3, S4, S5 and S6) felt they had made improvements in organizing paragraphs and developing their ideas. Students S2, S3 and S7, who wanted to take the IELTS test, acknowledged the importance of lexical chunks and were more confident after the training.

The interview data thus indicated that learning about lexical chunks in the focused instruction had some effect on the participants' writing, particularly on their attitudes to writing. A transfer of lexical awareness from English writing to vocabulary, reading and oral communication was also evident. Students' responses about their writing were imbued with a renewed sense of confidence, especially in those who needed to take the IELTS/PTE tests.

## **Discussion**

The overriding finding from this research is that lexical chunks have value but are probably not the primary factor influencing students' EAL writing, especially in their faculty writing assignments. The results confirm that EAL academic writing is complex and affected by a range of variables, including individual factors, academic factors, pedagogical factors and even the context of the study. This implies that a lexical approach to instruction should supplement other methods and not be used as the sole or principal strategy for teaching writing.

### **A Relation between the Knowledge and Awareness of Lexical Chunks and Writing Proficiency**

A relationship was observed between knowledge of lexical chunks and writing proficiency. This was evident in the ranking of students' writing samples, and follow-up interviews. The ranking of selected samples indicated that the more chunks used the more successful the writing was seen to be. For example, S2 included the most chunks in his four selected samples and achieved the highest ranking at 1.1 ("good" proficiency). On the other hand, S5 used the fewest chunks in her four samples and had the lowest average ranking at 1.85 (close to "fair"). This finding suggests an association between the number of lexical chunks used by the students and the overall quality of their writing and concurs with the studies of Zhao (2009) and Chen and Baker (2010).

The responses of two students, S2 and S7, provided further insights. They stated that the knowledge of lexical chunks had some positive effects on their writing in some of the language tests but was not as important in their discipline-specific writing assignments, where ideas and content were the foremost considerations. This is supported by the distinction made between IELTS writing and students' discipline-specific writing by Cooper (2013), and Phakiti and Li (2011) and Rochecouste et al. (2010), who suggest

that the IELTS writing test does not sufficiently measure the complexity of discipline-specific academic writing because it does not require students to synthesize information from research sources.

Furthermore, comparisons across the ranked samples (Table 4) showed that S1, S3 and S4 used a comparatively small number of chunks in their selected essay samples but had a comparatively high ranking for their writing. This concurs with the findings of AlHassan and Wood (2015) and Huang (2015). The results of these two studies along with the current study may suggest that the number of chunks is not a reliable indicator of Chinese-speaking students' writing proficiency and may be too simplistic a measure. As Allen has argued, common chunks need to be taught because they help students read more efficiently, "thereby gaining ideas and content knowledge to inform writing" (2016, p. 294). However, academic writing involves many factors, such as socio-cultural domain, context of the study, academic writing skills and pedagogies (Allen, 2016; Knoch et al., 2015; Ravichandran et al., 2017).

For the summative writing samples, S5 and S6 achieved higher rankings than for their formative samples, and S2 achieved the same ranking for both assessments. S3 and S4 attained lower rankings for their graph descriptions but increased rankings for their essay writing. Conversely, S1 improved his letter writing but received a lower ranking for his essay writing. Thus, the data suggest no clear-cut relationship between lexical competence and these students' writing proficiency, and signal those other variables, such as genre and educational background, should also be taken into consideration.

Therefore, while a relationship between the knowledge of chunks and students' writing proficiency can be acknowledged, especially in language test writing tasks such as IELTS, it is not possible to draw firm conclusions about a direct, positive relationship between the number of chunks used and writing proficiency. This is particularly the case when student groups are not identical, as in Hyland (2008) and the current study, and when comparing different genres of writing, such as an IELTS writing task in the current study and discipline-specific writing assignments in students' courses of study.

## **Effects of intensive lexical instruction on writing proficiency**

Those effects that could be observed in participants' writing were mainly associated with lexical awareness, cohesion and coherence, accuracy and variety, sentence production and other "by-products" of focused instruction, such as increased students' confidence. More than half the students used more chunks in their writing samples after instruction. This may point towards the effectiveness of focused instruction in motivating students to use target chunks in their writing. The result accords with AlHassan and Wood (2015), who found that explicit and focused instruction enhanced learners' acquisition and promoted their inclination to incorporate target chunks in their writing. J. Li and Schmitt (2009), and Peters and Pauwels (2015) also found in favor of explicit focused instruction, and Cortes (2004) reminds us that we need to explicitly instruct students to utilize chunks in their writing. Nevertheless, it should be acknowledged that it is not possible to know whether the improvements noticed were due to explicit instruction or to increased exposure to the language in the L2 country of Australia (Serrano et al., 2015).

Some students increased their use of discourse-organizing chunks. This finding concurs with studies (AlHassan & Wood, 2015; Q. Li, 2014; Shahryari & Balakumar, 2014) which show that writers used discourse organizers to create smooth transitions and to make their texts logical and consistent. However, the writing samples collected in the current study do not provide strong evidence to endorse improvements in cohesion and coherence.

Four students expressed the view that learning about chunks improved the language variation in their writing. This can be verified in their writing samples and graph descriptions. After instruction on target chunks to illustrate different percentages and proportions, students used a variety of chunks to replace numeric percentages. Both S1 and S6 stated in the interviews that applying chunks improved the language accuracy in their writing. This aligns with the findings of AlHassan and Wood (2015), who pointed out that focused instruction promoted participants' ability to use chunks accurately and appropriately.

The effects of learning about chunks on grammar can be identified in a comparison between the numeric data on chunks attempted and the error rates for sentence-level grammar and lexico-grammar. It appears

that the instruction on chunks had a positive effect on students' grammatical accuracy, especially in their descriptions of pie charts. This was especially true for S3, S5 and S6, who were given the same writing tasks in two consecutive weeks and included more chunks in their writing but had lower error rates in both sentence-level grammar and lexico-grammar. The result suggests that learning about chunks may have a positive effect on mastery of grammar in the same writing genre and seems to be consistent with previous studies on the effect of chunks on grammar, e.g., Hill's (2001) study of grammatically complex chunks.

However, this positive effect was not apparent in the other students' approaches to different writing genres. Their error rates fluctuated in both sentence-level grammar and lexico-grammar, possibly because some of the chunks the students learned cannot be applied to all genres of writing. It could also demonstrate that students do not store a wide range of chunks in their memories, as reflected in the limited number of chunks used by S8 and S9. Moreover, it could explain the correlation between the use of fewer chunks and lower ranking of overall writing quality.

Consequently, it cannot be stated that learning chunks will always help students acquire grammar. Several variables need to be considered, such as the genre of writing, students' lexical competence (including their knowledge of chunks and ability to utilize them in different contexts), and the duration and type of the focused instruction.

While the main purpose of the study was to investigate the effects of learning about chunks on academic writing, students also appear to have gained some "by-products" from the instruction. All seven students interviewed reported that they felt more confident in their IELTS writing after the instruction. Earlier research by Nattinger and DeCarrico (1992) suggested that, overall, storage and retrieval of chunks made learners feel less pressured and more confident to express themselves. This concept seems logical, but, to date, few studies have identified confidence as an effect of focused instruction on chunks. The qualitative data in the current study shows that confidence was a positive effect of the instruction; yet, despite this, the students' writing samples did not demonstrate consistent improvement in the use of chunks or rankings. It is also worth noting that the quantitative data in the study did not always support what students reported in their interviews.

## Conclusion

### Implications

In summary, a relationship between writing proficiency and chunks was most evident on simple, formulaic writing tasks, such as IELTS writing tasks, and on enhanced lexical awareness because of focused instruction. In this respect, the study has pedagogical implications for both language instructors and discipline lecturers. There might be some value in instructional strategies and activities that use a lexical approach to "target the recognition, retrieval, production, manipulation and creative use of discipline-specific and generic academic language" (Allen, 2016, p. 311; AlHassan & Wood, 2015). Discipline lecturers may consider combining discipline-specific chunks and arranging them thematically. In this way, students may gain a better understanding of the use and functions of chunks in specific fields. Moreover, it is recommended that lecturers incorporate chunks in writing activities that promote noticing and deep processing, two essential processes for successful acquisition and internalization (AlHassan & Wood, 2015; Boers & Lindstromberg, 2009; Coxhead & Byrd, 2007).

The effects of learning about lexical chunks on writing are complicated and influenced by a variety of confounding factors; therefore, combining a lexical approach with other methods to develop a more eclectic program for teaching academic writing is recommended.

### Limitations and Further Research

The main limitation of this research is the size of the participant sample; the data may therefore be



unrepresentative of general Chinese-speaking student cohorts that could affect the validity and reliability of the research.

Another issue is that language acquisition is a lifetime process; eight to ten weeks of instruction may not be sufficient to notice significant writing improvements and assist students to acquire all the chunks needed for their English writing. Additional longitudinal research is required to investigate this more deeply.

The writing samples collected during the intervention were all related to IELTS writing tasks and are likely to differ from disciplinary writing assignments. IELTS writing tasks normally require at least 150 words to describe graphs and 250 words to write an essay. This limitation on the number of words may reduce opportunities to use lexical chunks in writing. This leads to the conclusion that IELTS writing does not serve as a good indicator of students' writing proficiency. Given the discrepancies between the IELTS writing test and discipline-specific assignments, it is therefore advisable for further studies to investigate the effects of lexical chunks on discipline-specific academic writing to shed light on ways of reducing this gap.

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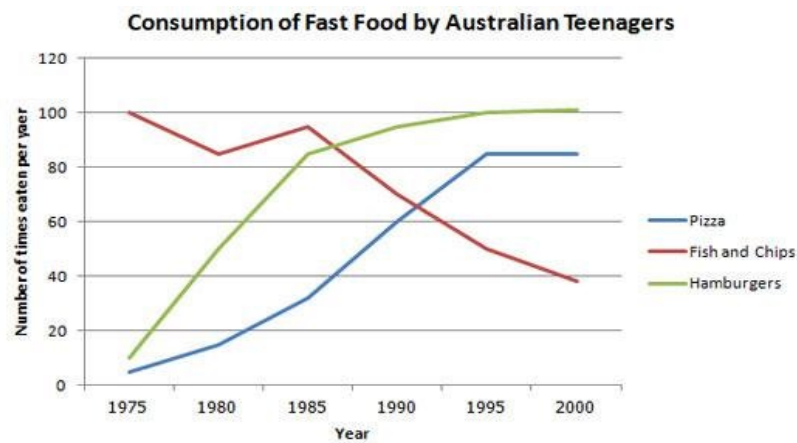
(Received December 14, 2022; Revised June 6, 2023; Accepted June 10, 2023)

## Appendix A

### Diagnostic assessment

#### Task 1

The line graph below shows changes in the amount and type of fast food consumed by Australian teenagers from 1975 to 2000. Summarize the information by selecting and reporting the main features and make comparisons where relevant. You should write at least 150 words. You should spend 20 minutes on this task.



(Source: <http://www.ieltsbuddy.com/ielts-writing-task-1.html>)

#### Task 2

*Directions:* For this part, you are required to write an essay according to the following situation. Allow 40 minutes. Write at least 250 words.

Most developed countries spend a large proportion of their health budgets on expensive medical technology and procedures. This money should be spent instead on health education to keep people well.

To what extent do you agree or disagree with this opinion?

(Source: IELTS on track, One Sided Paper, 2013: 168)

## Appendix B

### Assessment Criteria

	<i>Questions</i>
Task response	<p>Does the writing address all parts of the task?</p> <p>Are the text structure and language features appropriate to the topic and the task?</p>
Text coherence and cohesion	<p>Is the text appropriately structured?</p> <p>Is the writing paragraphed appropriately?</p> <p>Is cohesion maintained by effective use of the following devices?</p> <ul style="list-style-type: none"> <li>● lexical chains</li> <li>● referencing devices</li> <li>● conjunction</li> <li>● substitution &amp; ellipsis</li> </ul> <p>Are details placed logically and sequenced effectively?</p>
Sentence level grammar	<p>Are the sentence structures appropriate to the genre?</p> <p>Is there agreement between –</p> <ul style="list-style-type: none"> <li>● Tense</li> <li>● Noun-pronoun</li> <li>● Noun-verb</li> <li>● Singular plural</li> <li>● 1st, 2nd, and 3rd person</li> <li>● Active/passive voice</li> </ul> <p>Has punctuation been used correctly and effectively?</p>
Lexical chunks and other lexico-grammatical resources	<p>Which error patterns are evident?</p> <ul style="list-style-type: none"> <li>● Misuse of words</li> <li>● Chinglish (Chinese-influenced English)</li> <li>● Incorrect lexical chunks</li> <li>● Wrong collocations</li> </ul> <p>Is there evidence that the writer is aware of applying lexical chunks appropriately in their writing?</p> <p>Does the writing use correct spelling?</p>

*Source:* IELTS writing band descriptor; assessment proforma, copyright (2009) held by AISWA and ECU.

## Appendix C

### Semi-Structured Interview (English Version)

1. Would you please tell me about your experience of the training? Prompts:  
What elements of the training content did you remember best/ impressed you the most? Did you find them helpful or not?  
If helpful, which parts do you think helped you the most (give some examples)?  
If not helpful, which parts of the training did you find not so interesting or not helpful? What do you think needs to be improved?
2. How did you find writing training? Why did you want to come for the training?
3. What were your expectations of the training before you started?  
Prompts:  
Before the writing training, did you seek any assistance in your English writing? If yes, who did you usually seek assistance from to tackle your writing problems (learning consultant, peer help)? What kinds of assistance did you normally get from them (grammar correction, vocabulary usage, structure, etc.)?  
If no or very little, what did hold you back?
4. During our training sessions, did you still seek their help with your writing? Did you do anything else to help improve your writing proficiency (such as: some reading, writing practice)?
5. During the training, we have learned what a lexical chunk is, and how to use lexical chunks in writing. Would you please say something about what you understand about lexical chunks?  
Prompts:  
What is your understanding of lexical chunks? Could you give some examples of lexical chunks?  
Do you now notice lexical chunks when you read or communicate with others?  
Would you please give some examples of lexical chunks that you learnt?  
When you write, are you conscious of using lexical chunks in your writing? If yes, would you please give some examples?
6. What kinds of writing assignments do you have for your discipline? What factors are important for your writing (ideas; structure; grammar; vocabulary, etc.)? Can you talk a little bit more about that?
7. What lexical chunks do you usually use in your discipline-specific writing? Which aspects of writing do you think are affected by knowledge of lexical chunks (grammar, vocabulary, sentence structure, etc.)?
8. What challenges do you see ahead in trying to apply your knowledge of lexical chunks to your writing?
9. Besides the above, are there any other effects that you noticed after attending the training? Would you please assess your general level of confidence in writing after completing the training?  
Prompts:  
Lower than before? (Lexical chunks make you more confused than before)  
About the same as before?  
Higher than before?
10. Are there areas in which your writing still needs improvements? What will you do to continue improving your writing?