

A Case Study on the Development of Writing Skills in a Master's Pathway Program

Thomas Stones
Kwansei Gakuin University

Abstract

The ability to write effectively is one of the key areas that learners of English need to master in order to be successful while studying at a university in an English-speaking country. It is, therefore, an area of major focus on pre-sessional, pathway, and bridging programs. This paper takes a case-study approach to investigate the development in academic writing skills that two learners of English achieved across a master's pathway program. The program is designed to prepare learners for post-graduate education in the UK and covers all aspects of academic English. The paper focuses on the development of two key areas of effective academic writing: lexis and syntax. The two featured participants made gains in a number of ways but differed in the nature and extent of their development, as there were some gains in use of academic lexis but mixed results for their development in some of the syntactic complexity measures. Thus, it is clear that while the approaches to writing development used on the course were effective to some degree, further reinforcement of these key writing skills is required to maximize improvement. This paper discusses these and other pertinent issues that arose from the research.

Keywords: Academic vocabulary, academic writing, lexical sophistication, syntactic complexity

Introduction

For many learners of English, the composition of lengthy reports for university and beyond represents a major challenge, and the process of writing and rewriting such reports can be protracted and difficult (Flottum et al., 2006). One of the difficulties is the need to communicate in the specialized language of the target discourse community, using linguistic styles and rhetorical patterns that may seem unfamiliar (Hyland, 2009). This is perhaps exacerbated for non-native students who may find their previous academic practices to be undervalued in their new environment and may be required to develop new academic skills (Snowden, 2003) as well as a new 'identity' to fit the expectations of western academia (Hyland, 1999); this is in addition to developing the necessary linguistic competence. To make this transition smoother, writing courses in English for academic purposes (EAP) pathway programs aim to prepare students for the community into which they will enter. These programs are essentially preparation courses, which aim to equip participants with the academic skills necessary for successful study at undergraduate or postgraduate courses at universities in English-speaking countries. However, this task is made more complex by the lack of a clearly definable notion of 'academic English' (Spack, 1998). This has been reflected in numerous studies that have investigated the inter-disciplinary differences in the genres of academic writing (e.g. Biber, et al., 1999; Swales, 1990; Thompson & Yiyun, 1991). Despite these differences,

there are generalizable features of written academic English that make it distinct from other genres, such as an increased lexical density; syntactic complexity; use of nominalization and passives; as well as distinct patterns of rhetorical organization at the sentence, paragraph, and discourse levels (Swales, 1990). Thus, developing students' familiarity with such features should be an important element to any writing course. This study will therefore investigate the development of students undertaking a pre-master's course in regard to two of those elements, namely, syntactic complexity and lexical sophistication. The focus here is on *academic* writing, but the approach can be applied to the development of any form of high-level writing task.

Vocabulary

Vocabulary development is seen as a key factor in the development of high-level writing proficiency for a number of reasons. Firstly, vocabulary has been suggested as a key indicator of general linguistic proficiency (González, 2017; Laufer & Nation, 1995; Treffers-Daller et al., 2018), and this is reflected in the assessment criteria for a number of standardized international tests, for example IELTS and TOEFL. Additionally, language learners frequently express the desire to develop broader vocabularies for more sophisticated production (Leki, & J. Carson 1991), and comprehension of subject texts (Edwards & Collins, 2011). Furthermore, L2 writing when compared to L1 writing, "Exhibited less lexical control, variety and sophistication overall" (Silva, 1993: 671) as well as fewer lexical bundles (Douglas, 2012). It has also been noted that lexical richness, or variety, is a key component in effective academic writing (Coxhead, 2000; Gregori-Signes & Clavel-Arroitia, 2015), and can be a good predictor of essay quality (McNamara et al., 2010) although it can vary between genres (Staples & Reppen, 2016). It is also important to raise learners' awareness of these phenomenon as they can shy away from using lower-frequency words (Henriksen & Danelund, 2015) Therefore, vocabulary development will be examined using measures of lexical density and token/type ratios, to discover the extent to which students could utilize larger quantities of lexical items, as well as utilization of items from the Academic Word List (AWL) (Coxhead, 2000), a widely used list of commonly occurring academic words.

Lexical Density and the Academic Word List

The concept of lexical density was one that was first proposed by Ure (1971) and measures the proportion of different lexical items (e.g., nouns, verbs, adverbs, and adjectives) versus the total number of words (tokens). A high lexical density, as shown earlier, is known to be a feature of written genres. One problem, however, arises when comparing texts of different lengths as lexical density can decrease with text length due to lexical items being repeated and the relative increase in the number of function words (Halliday, 2002). This paper, then, will use a standardized measure of the type-token ratio, sometimes known as lexical variation (Laufer & Nation, 1995). This will be done using WordsmithTools (Scott, 2008), which makes a new calculation at a set number of words, 1,000 words as a default, and provides a running average, making it a more reliable measure. This measure, however, does not take into account the sophistication of the words used.

One approach to measuring lexical sophistication is to analyze texts for the presence of words from established word lists. In Laufer and Nation's (1995) case, they examined learner texts for use of the three thousand most common words and also the AWL

(Coxhead, 2000). However, limitations in using the 3,000 most common words have been pointed out as being insensitive to changes in productive vocabulary sizes of over 3,000 words (Meara, 2005), although the most common 2,000 words can cover 80% of the words in academic texts (Nation, 2000). This research, then, will use a method comparing the texts to items that occur in the AWL. Changes in the use of the 3,000 most common words will not be examined as it is believed that the students in this study will be at too advanced a level to register significant changes (low-intermediate students are thought to have productive vocabularies of around 3,000 words (Meara, 2005)). As the AWL provides a sample of words that are common in academic texts and is said to be non-field specific, it is thought that the increased use of these items will represent an increase in the students' vocabulary when combined with the earlier measure. One caveat to the use of the AWL is that its distribution is irregular across disciplines (Hyland & Tse, 2007). However, it is thought that the AWL is suitable for this stage in the students' development and has been found to be a useful resource by both teachers and learners alike (Coxhead, 2012).

Syntactic complexity

A further key indicator of linguistic development is syntactic complexity (Ortega, 2003). Hinkel's (2003) research of L2 academic writing found it to be generally lacking in sophistication and syntactically simplistic and that this can negatively affect the readers' assessment. Also, professors have been found to regard L2 writing as comprehensible, but insufficiently 'academic' in tone (Santos, 1988), suggesting the lexical, stylistic, and syntactic elements to be inadequate and in need of improvement. For this study, three of the six most common measures taken from Ortega's (2003) meta-analysis of 21 studies on syntactic complexity will be used: length of sentence, length of clause, and number of clauses per sentence, thus measuring a combination of coordination and subordination.

Methods

The course featured here is a four-month, full-time master's pathway program that was held in Japan prior to the participants proceeding to post-graduate study in the UK. The course includes a content module on globalization and modules on research methods and EAP. The EAP module deals with all four skills: listening, reading, speaking, and writing. The writing module specifically covers, in Term 1, short essay and sentence level writing. The focus then shifts in Term 2 to dissertation writing and the writing of longer academic texts. The approaches to the development of the two key skill areas—syntactic and lexical complexity—are briefly described here. For the development of lexis, learners' attention was first raised as to the differences between 'general' vocabulary that might be used in any context, versus 'academic' vocabulary that is suitable for academic genres. Learners were then introduced to the AWL and given weekly tasks using words from each of its sub lists. In order to develop beyond the limitations of the AWL, learners were also given advice on vocabulary learning of words outside the AWL. In terms of the development of syntactic complexity, again, learners' attention was drawn to the number of clauses and length of sentences in academic papers, and this was then compared to their own written production. Learners were then given sentence-combining tasks where short, single-clause sentences were combined into longer, multi-clause ones. Syntactic complexity was also one area that was discussed in all peer review sessions that followed in order to reinforce its development, and this was an area also targeted in teacher

feedback.

More generally, there were four main written formative assignments on this course. There were two 1,500-word responses to questions for the content module, one relating to ethical issues regarding tobacco sales and the other relating to Corporate Social Responsibility. There was also a dissertation proposal of 1,500 words and a 5,000-word dissertation on a topic of the students' choosing that required the inclusion of primary data. This research will focus on a comparison the first subject assignment (Paper 1) and the final dissertation because these cover the widest span of the course, and so can best capture the developments in linguistic competence made over the entirety of the program.

The students selected for participation in this study, referred to by the pseudonyms Taka and Yuki, were chosen for a number of reasons. Firstly, they are typical in age and background of the learners that feature on this program—both were in their twenties and had recently graduated from undergraduate programs in Japan: both had IELTS scores of 5.5 and so were typical of the entry point level held by many students in the program.

Further to that, there were both similarities and differences in their academic and work backgrounds. Both were economics graduates from Japanese universities, in their twenties and had learned most of their English at high school or other institutions in Japan. Both had taken a short academic English course at the featured institution prior to the course starting. The main difference was that Taka had done a three-month homestay in which he studied general English, full-time at a language school in Canada. Yuki, however, had only vacationed overseas and used very little English while on these short trips. Her English studies after high school focused on TOEIC and general English mainly for career advancement, including both speaking and writing. The writing she did appears to have been fairly general and limited to diary keeping, but she maintained this throughout those courses. Both students were working prior to the course, Yuki for a major technology company and Taka for a major hotel chain; however, neither used English frequently in their work. The students differed in future goals in that Yuki intended to go on to study business and Taka intended to study development studies. The students' progress across the course in terms of English ability is reflected in their EAP writing grades at the end of Term 1 being a C (equivalent to 6.0 on the IELTS test) for Taka and a D (equivalent to 5.5 on the IELTS test) for Yuki. Both achieved an EAP grade of A (equivalent to 7.0 on the IELTS test) for their final dissertation. This is a further reason for their selection for this research as their grades represent what is possible to gain across the course. The two participants gave permission for their work to be used in this research.

Thus, this paper aims to investigate the developments made across the course of study in terms of syntactic complexity and lexical sophistication.

Results

The measures used to evaluate syntactic complexity were the differences between Paper 1 and the Final Dissertation in terms of number of words per sentence, number of words per clause and clauses per sentence. The measures used to evaluate lexical sophistication were the differences between Paper 1 and the Final Dissertation in terms of standardized type-token ratio (i.e. lexical variation), lexical density, and the percentage of total words used that feature in the AWL.

Figure 1
Yuki: Sentence length

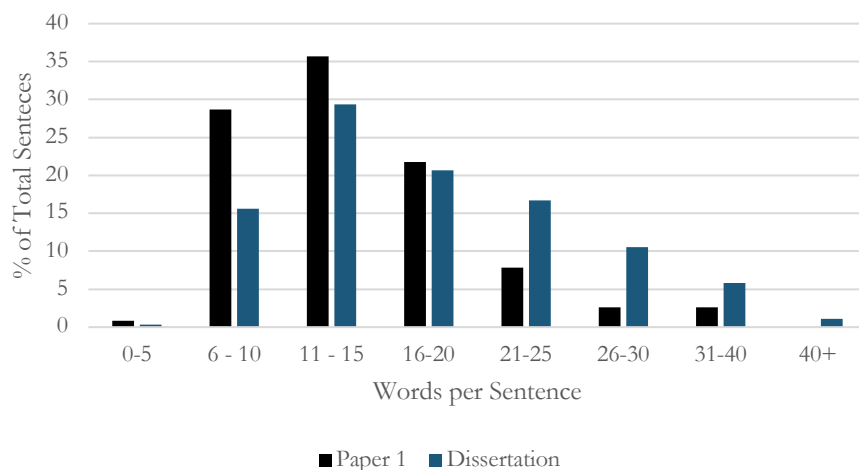
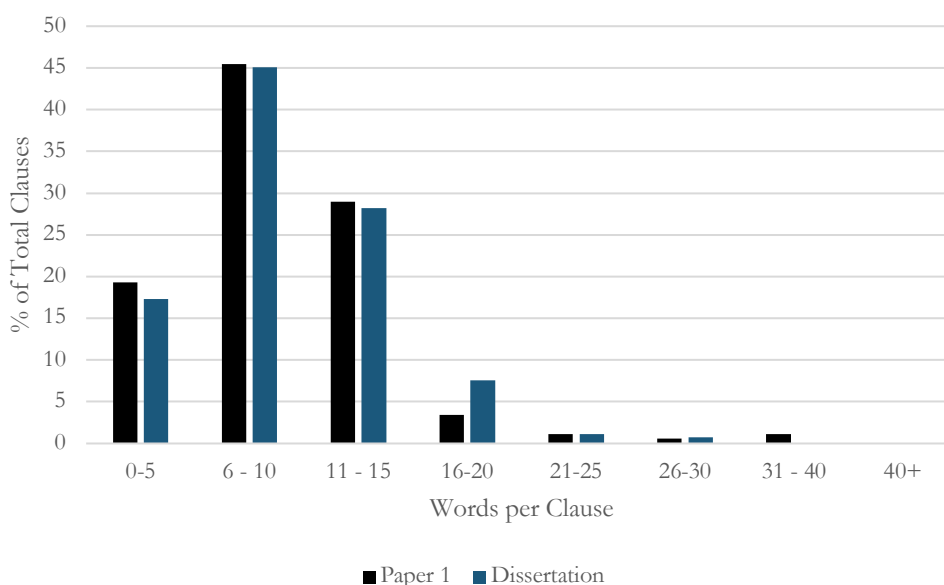
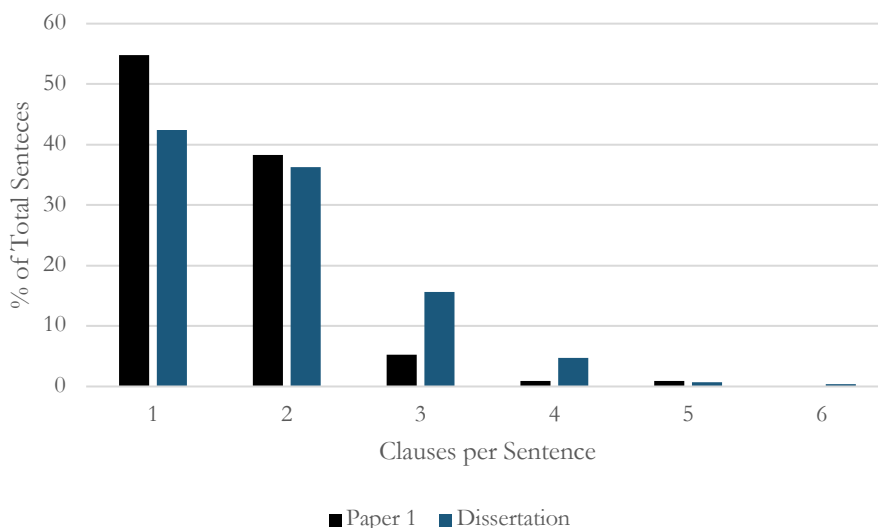


Figure 2
Yuki: Clause length



As reflected in the data, Yuki increased the overall length of both the clauses and sentences that she could produce. In terms of overall sentence length, as shown in Figure 1, there is a shift from sentences ranging in length mostly from six to twenty words, with a total of just under ten per cent over twenty words, up to sentences in the range six to thirty, all with figures over ten per cent. There was also a significant reduction of almost fifty percent in sentences in the six-to-ten-word range. However, Figure 2 shows that there was very little change in the length of clauses that were produced, which would suggest that increased coordination or subordination was used to lengthen sentences. This area is examined below.

Figure 3
Yuki: Clauses per sentence



As predicted above, the results show an increase in the amount of coordination and subordination that this student used in her final dissertation. This is shown in Figure 3 by a drop of ten percentage points in one-clause sentences and a corresponding increase in three-clause sentences, with a slight increase in the number of four-clause sentences as well. Taka also showed gains in some areas under examination, as shown in Figures 4 to 6, but these differed in a number of ways.

Figure 4
Taka: Sentence length

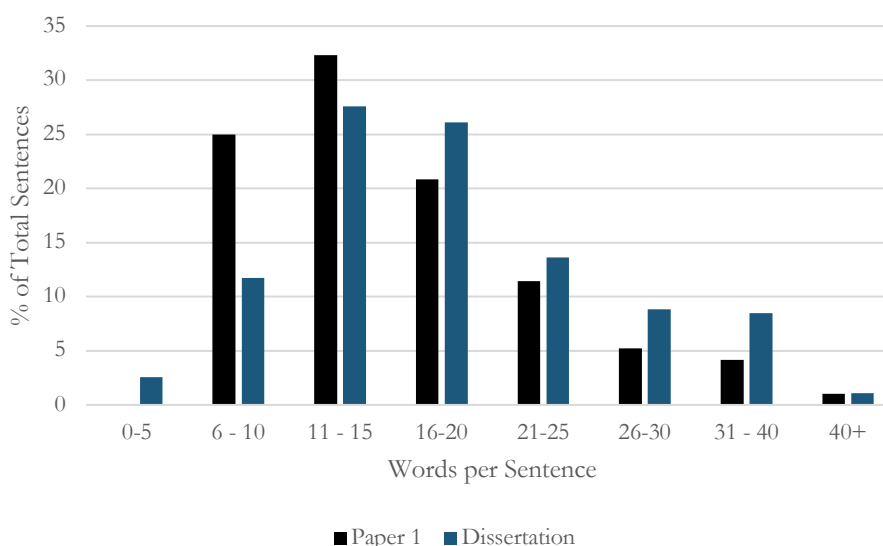
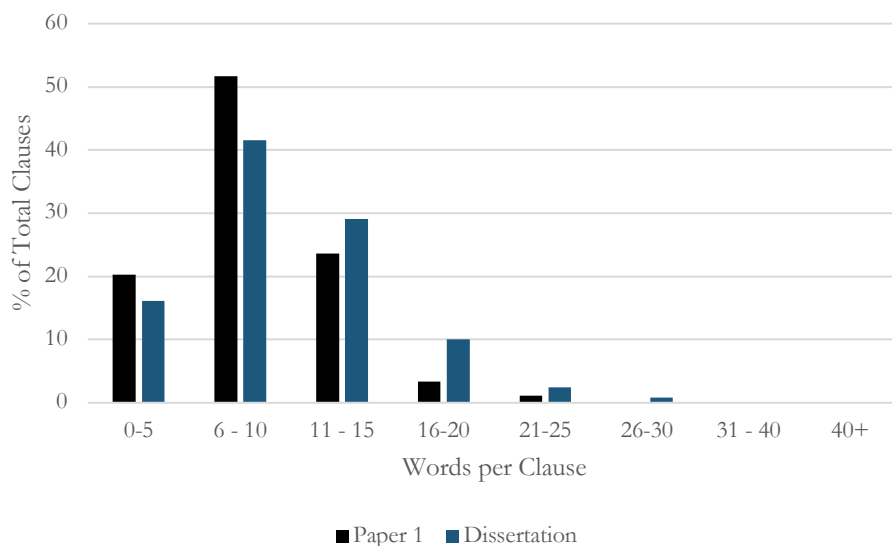
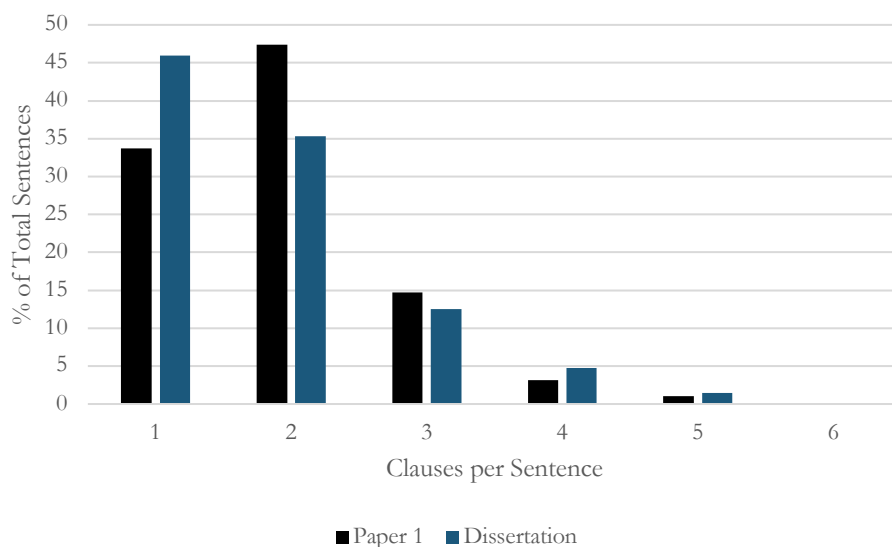


Figure 5
Taka: Clause length



Here, Taka has also exhibited a similar capacity to produce longer sentence in the final dissertation, with decreases in the six to fifteen-word range and increases of varying degrees, of sentences from sixteen to forty words in length. There was also an unexpected increase in the number of sentences of zero to five words in length. Unlike Yuki, however, Taka was used a greater proportion of longer sentences with a shift comparable in the length of clauses used, evidenced by a decrease in the lower ranges, zero to ten words per clause, and increases in the eleven-to-twenty-five-word range.

Figure 6
Taka: Clauses per sentence



Interestingly, as shown in Figure 6, Taka showed a decrease in the amount of coordination and subordination in the final dissertation, seeming to prefer one clause sentences as there was an increase in this area and drops in both two and three clause

sentences, but most noticeably with two-clause sentences. Despite this, there was a very slight increase in the number of four-clause sentences, the emergence of which suggests further experimentation with the limitations of this learner’s linguistic competence and is likely to lead to further development in this area as the learner continues his journey as an academic writer. It is clear that while Taka could increase the overall length of sentences produced, more work is required in terms of use of coordination and subordination.

Table 1
Lexical variety and lexical diversity

	Tokens	Types	Standardized TTR	Lexical Density
Taka, Paper 1	1548	432	40.5	27.9
Taka, Dissertation	5013	839	41.4	16.7
Yuki, Paper 1	1642	488	45.3	29.8
Yuki, Dissertation	5049	947	42.6	19.3

Table 1 shows that the two students were not able to increase significantly, if at all, the type/token ratio of their texts at the end of the course. This may have been, however, due to the increase in length of the assignment and added task complexity and may not truly reflect a lack of development. Lexical density also decreased; however, this is often the case with increased text length (Halliday, 2002).

Table 2
Lexical development and the AWL

	Total Tokens	Tokens from AWL	% of Total Tokens	Types from AWL	% of Total Types
Taka, Paper 1	1548	115	7.4	46	10.7
Taka, Dissertation	5013	536	10.7	133	15.9
Yuki, Paper 1	1642	83	5.1	37	7.6
Yuki, Dissertation	5049	312	6.2	106	11.2

Table 2 shows that the students used more academic vocabulary as a result of participation in the course as the absolute number of words used from the AWL increased as did the ratio to other words in the text, suggesting vocabulary development. The usage of words from the AWL are also close to the typical proportion of words from the AWL that are common to written academic genres, 10% (Coxhead, 2000). Although this increase in academic word use is positive, it may not reflect the extent to which the students could develop their vocabularies, as a number of advanced words appeared in the text but were not part of the AWL. A selection of examples taken from both learners’ dissertations that did not fall within the target word range can be seen in Table 3 as well as their word frequency band according to the combined BNC-COCA 1-25k corpus (Cobb, 2020), showing that the AWL has limitations if used as the sole reference for lexical development among learners or lexical complexity of a text to be used in class.

Table 3
Lexical sophistication outside the AWL

Word	Frequency Band	Word	Frequency Band
Abundant	K-4	Subordinates	K-4
Allotted	K-6	Valence	K-13
Anonymity	K-7	Abolish	K-5
Undertaken	K-3	Counterparts	K-4
Consumption	K-3	Duopoly	K-17
Cosmopolitan	K-7	Materialistic	K-2

Discussion

This research investigated students' development in a number of areas with the aim of informing future courses. While it appears that the students were able to make a variety of improvements, there were still some areas to develop, such as Taka's increased use of shorter sentences, and Yuki's need to use longer clauses was also highlighted. In order to develop these skills, a genre approach to the analysis to examples of real research papers specific to the students' field (Casanave, 2003) could be advantageous. The advantages of this would be that the students would be able to see contextualized examples of the sentence structures that they were being encouraged to use, and also, hopefully, notice some characteristics of the writing in the fields they will move into for their master's degrees. Additional areas that could be focused on in future investigations could be use of hedging, reporting verbs, and the development of argument, all key areas in effective writing.

Likewise, the development of lexical density and variety was limited for both students, and only gains were seen in terms of use of the AWL. This was due to the targeted nature of vocabulary development tasks that were a feature of the course. However, it is clear that more emphasis needs to be placed on lexis outside of the AWL. For this, training in the recording and use of vocabulary encountered through the course would be of use. Learners would be taught approaches to recognizing and making decisions about potentially useful expressions (e.g., Barker, 2007) and given a systematic means of recording them, either on paper or electronically. This could then be reviewed in the weekly study skills sessions that are a part of the course in order to increase accountability. It is also key to highlight the learners' own use of vocabulary as it can serve them well in future academic careers due to its close correlation to higher-quality writing (Gregori-Signes & Clavel-Arroitia 2015; McNamara et al., 2010), especially as learners can be reluctant to use lower-frequency words they are still gaining control over (Henriksen & Danelund, 2015)

This research had a number of limitations and perhaps the most obvious would be the unsuitability of the vocabulary measure to track vocabulary development. While it did reflect development to some extent, it did not reflect the full extent of progress made. This is in part due to the use of the AWL as a measure of lexical complexity, which it was not originally designed. As such, in future studies, the approach to analysis should be expanded to incorporate more sophisticated and reliable measures, such as Malvern et al. (2004) or Edwards and Collins (2011). Similarly, it has been noted that as learners' levels

improve, they move towards use of more phrasal than clausal aspects of complexity (Biber et al, 2020), so a focus on both aspects would add considerable precision to any future analysis. Other areas for future consideration are the number of participants, which should be increased, and variables such as length, type and topic of evaluated assignments, should also be controlled. It would also have added to the study to have heard the learners' views of how they perceived their development, whether the complexity under study here was an area they consciously worked on, and their perception of the improvements highlighted in the results of this study.

Conclusion

The research here has shown that these students were able to progress in a number of areas across the course, thus endorsing the methods used, but that further research is required using a larger sample to investigate this more closely as well as investigations into students' capabilities in other areas of academic writing.

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