

Accounting Academic Word List (AAWL): A Corpus-Based Study

Reza Khany

*Department of English Language and Literature, Faculty of Literature and Human
Sciences, Ilam University, Ilam, Iran*
r.khany@ilam.ac.ir

Behrooz Kalantari*

*Department of English Language and Literature, Faculty of Literature and Human
Sciences, Ilam University, Ilam, Iran*
b.kalantari@ilam.ac.ir

Abstract

The aim of this study was threefold: it aimed to develop a field-specific academic word list for accounting, to find the degree of coincidence between the word list and Coxhead's academic word list (AWL), and also to compare the occurrences of the most frequently used words in the list with six available word lists in different disciplines. A large corpus of accounting research articles was compiled and analyzed. We recognized 658 academic word families with the highest frequency in the corpus which we called Accounting Academic Word List (AAWL). These 658-word families accounted for 10.16 % of the whole corpus. Further analysis indicated that out of these high-frequency word families we identified, only 354 coincided with those listed in AWL. Moreover, 50 most frequently used words in the list accounted for 3.98 % of the whole corpus. These words appeared in six available word lists in different disciplines with different degrees of occurrences which is a starting point for the development of a composite word list. Generally, this study confirmed the significance of subject-specificity of corpus-based word lists. The findings of this study suggest that AAWL can be used as a reference for the accounting community.

Keywords: Academic Word List; Accounting Academic Word List; corpus analysis; Accounting Students; English for Academic Purposes

Received: 2021-01-18

Available Online: 2021-03-15

Accepted: 2021-03-10

DOI: 10.22034/efl.2021.268643.1070

*Corresponding author

1. Introduction

Because of the vital role of vocabulary in reading and writing academic texts, the knowledge of vocabulary seems to bring about educational achievement. Also, the acquisition of vocabulary is an indispensable component of students' academic competence. Therefore, academic word and collocation lists are widely considered to be important in education especially within the domain of language learning, particularly English for Academic Purposes (ESP) (e.g., [Campion & Elley, 1971](#); [Coxhead, 2000](#); [Dang, 2018](#); [Deveci, 2019](#); [Ghadessy, 1979](#); [Jablonkai, 2020](#); [Jahangard 2007](#); [Khani & Tazik, 2013](#); [Lynn, 1973](#); [Martinez, Beck & Panza, 2009](#); [Praninskas, 1972](#); [Valipouri & Nassaji, 2013](#); [Wang, Liang, & Ge, 2008](#); [Ward, 2009](#); [Xue & Nation, 1984](#); [Yang, 2015](#)). It has been argued that academic word lists can be classified into two types: "general academic word lists and field-specific academic word lists" ([Liu & Han, 2015](#), p. 1). General academic word lists are composed of words related to various disciplines ([Campion & Elley, 1971](#); [Coxhead, 2000](#); [Gardner & Davies, 2014](#); [Ghadessy, 1979](#); [Lynn, 1973](#); [Praninskas, 1972](#); [Xue & Nation, 1984](#)). These words can be acquired and used by the majority of ESP students as a prerequisite for their university studies.

Having combined four previously developed word lists, [Xue and Nation \(1984\)](#) established a comprehensive University Word List (UWL). The list contained 800 high-frequency non- General Service List (GSL) words across various disciplines. This word list was used for more than fifteen years and gained considerable attraction at that time. The word list was criticized by [Coxhead \(2000\)](#). In her seminal article, she mentioned the need for a more comprehensive academic word list and proposed Academic Word List (AWL). Coxhead explained that UWL lacked consistent selection principles and the corpora were small and did not contain a balanced range of topics. She emphasized a need for an academic word list based on the data gathered from a large, well-designed corpus of academic English. Her corpus contained 3.5 million words in 28 sub-disciplines of four main disciplines of Art, Commerce, Law and, Science. AWL consists of 570 word families which has become a standard and appropriate vocabulary list in English language education for many years, but several studies have found some weaknesses of AWL since its advent (e.g., [Hyland & Tse, 2007](#); [Gardner & Davies, 2014](#)).

[Gardner and Davies \(2014\)](#) developed an academic vocabulary list (AVL) while raising some concerns regarding the use of AWL. They draw our attention to two aspects of AWL that seem to be problematic: "the use of word families to determine word frequencies and the relationship of the AWL with [West's \(1953\)](#) General Service List (GSL)" (p. 3). By pointing out some key considerations for AVL such as using lemmas, not word families and including different academic disciplines, they established an AVL which derived from a 120-million-word

academic subcorpus of the 425-million-word Corpus of Contemporary American English (COCA; [Davies, 2012](#)). The corpus was almost 35 times larger than Coxhead's AWL corpus. In order to create the AVL, they used four criteria to distinguish the academic core including Ratio, Range, Dispersion, and Discipline Measure in which Ratio helps to exclude general high-frequency words from an academic 'core', while Criteria of Range, Dispersion, and Discipline Measure help to exclude technical words and words that occur mainly in one or two disciplines. They concluded that the AVL discriminated between academic and other materials and that it covers 14% of academic texts in both COCA and the British National Corpus.

The above-mentioned studies aimed to propose core academic words in their lists, but [Hyland and Tse \(2007\)](#) described that identifying core academic words from different academic disciplines can be questionable because these "lexical items often occur and behave in different ways across disciplines in terms of range, frequency, collocation, and meaning"(p. 235). Therefore, it seems essential to produce field or discipline-specific words to understand academic discourses. Field-specific academic word lists include words commonly found in different subject areas of a particular discipline (e.g., [Beck & Panza, 2009](#); [Khani & Tazik, 2013](#); [Martinez, Valipouri & Nassaji, 2013](#); [Wang, Liang, & Ge, 2008](#); [Yang, 2015](#)).

Medical academic word list (MAWL) was created by [Wang, Liang, and Ge \(2008\)](#). Eliminating GSL word families, MAWL contained 623 word families, which accounted for 12.24% of their corpus. [Ward \(2009\)](#) used a 271,000 word-corpus in order to develop a word list for foundation engineers. He intended to have a word list that could be utilized by low level learners of English and used by all disciplines of engineering. The word list was named Basic Engineering List (BEL) consisting of 229 words. He criticized that high school education does not equip engineering students with the ability to read English language textbooks in colleges or universities. [Martinez, Beck and, Panza \(2009\)](#) conducted a study in order to identify the academic words in a corpus of agriculture research articles (RAs). By adopting both quantitative analysis and qualitative observations, they found that the GSL (67.53%) and the AWL (9.06%) provided a cumulative coverage of 76.59% for the whole corpus. In their study the idea of specificity in EAP in general and the specificity of the meanings and behaviors of the words in particular has been emphasized. An academic word list for applied linguistics including 773 academic word types was developed by [Khani and Tazik \(2013\)](#). Of 773 words, 573 found in [Coxhead's \(2000\)](#) AWL. They described that GSL and AWL covered 88% of tokens in their corpus. [Valipouri and Nassaji \(2013\)](#) conducted a study to analyze a corpus of 1,185 chemistry RAs including 4 million words from different chemistry subject areas. They identified 1400 academic word families. They explained that, of 1400 word families, 327 overlapped with word families in AWL which provided coverage of 9.60% of the tokens in their

corpus. Out of 1400 words families, 390 used frequently in chemistry RAs which has not been in GSL and AWL.

Yang (2015) analyzed 252 English nursing research articles to find out the most frequently used nursing academic vocabularies. He established a Nursing Academic Word List including 676 word-families which accounts for 13.64% of the coverage in the nursing research articles. He stressed the necessity for generating field-specific academic word lists for EFL nursing students to strengthen their academic reading and writing proficiency.

Most aforementioned studies mainly used a text analysis approach for their purposes. The significance of texts analysis in EAP is associated with the idea that the texts used in particular specialist environments have particular characteristics that distinguish them from other texts and from the generalized summaries of linguistic features that arise from an approach to text analysis that uses a corpus of differing texts (Dudley-Evans, 1994).

Research articles as academic texts can be considered to be an important source of academic and technical information in order to investigate vocabularies related to specific fields of study. Specialists as actual writers of research articles try to use field-specific vocabularies in order to convey their messages to the readers and to publish their articles in well-known journals. This has persuaded researchers to make attempts not only to develop and establish word lists for different purposes including general, academic, or technical but also to present models and frameworks for identifying and categorizing words. For these reasons, accounting students and professors need to have a word list containing specific vocabularies related to the research articles of their field. To date, no study has been done to analyze accounting research articles to develop a word list.

One main finding among above-mentioned studies is that vocabulary can help increase students' advancement in academic writing in their area of study and lack of vocabulary can really affect the quality of their writing. The variability of vocabulary use can be attributed to the variability of academic disciplines. In other words, various disciplines have some words with a high frequency and a wide range of occurrences which are not usually found in basic general English texts (Farrell, 1990 as cited in Liu and Han, 2015). That is, the meanings of most of these words are closely related to a particular subject area (Valipouri & Nassaji, 2013). This is the main requirement for developing field-specific academic word lists and also a few studies have been done to identify technical vocabulary in different disciplines (Chung & Nation, 2003, 2004; Kwary, 2011; Ha & Hyland, 2014). Thus, EAP practitioners should work closely with special vocabulary to gain an understanding of discourses and courses related to their disciplines which confirms the idea of specificity of EAP vocabularies and texts (Dudley-Evans, 1993; Hyland, 2006). It is also challenging to adhere to general academic word lists such as AWL as versatile lists suitable and useful for all levels and

disciplines. Therefore, every field such as should have its own specific academic word list. Accounting as a practical and helpful field does not have a specific academic word list and attempts were made in the present study to establish such as word list.

2. The present study

Accounting students especially graduates need to read and write research articles written in English in order to be aware of the latest development and research trends in the field. One prerequisite to this awareness is to know words that are common in accounting research articles. Additionally, there are some words such as *disclosure, assets, forecast, cash, equity* which are frequently used in accounting research articles that are not in any general or field-specific academic word lists. As previously mentioned, many word lists have been developed for several specific disciplines, for example, applied linguistics; medical academic word list (MAWL); chemistry academic word list (CAWL); nursing academic word list (NAWL); engineering English word list; academic vocabulary in agriculture.

Regarding accounting, no one to the best of our knowledge has developed a word list specific to the field of accounting. To make sure, the researchers conducted interviews with three professors teaching English for accounting at three universities in Iran. They confirmed that there is no comprehensive accounting academic word list available for their students to be able to use it to read accounting research articles and to use it as a guide to write papers in English. Thus, an accounting academic word list is of practical significance. Accordingly, this research article is an attempt to develop a more restricted, discipline-based lexical repertoire of accounting. In developing the word list, we have tried to answer the following questions.

1. What are the most frequently used academic words in the accounting research articles?
2. How many academic words in accounting research articles coincide with those of AWL?
3. Which of the most frequent words identified in this study appeared in six various word lists across different fields?

The rationale behind the third question is that comparing different word lists from different fields of study to find out common words can lead to designing a composite word list useful for many disciplines. That is, the purpose of this investigation is to compare and contrast many word lists in order to determine the degree of overlap among various word lists (Yorkston, Dowden, Honsinger, Marriner, & Smith, 1988).

3. Methodology

3.1. The corpus

For the study, the corpus consisted of a particular genre (research article)-2,098 accounting research articles were compiled. The criteria for building the specialized corpus were determined considering the specialty of the texts, their sizes, representativeness, and dates of publication (Liu & Han, 2015; Sinclair, 1991, 2005 as cited in Liu & Han, 2015). The corpus was specialized texts on accounting and provided information about vocabulary typically used in the field. Moreover, a very large corpus was used including 29,441,460 words. Finally, to achieve an acceptable level of representativeness of the corpus, the research articles written by qualified researchers and experts and published in top accounting journals from 2008 to 2017 were used.

Based on the purpose of our study, a large corpus was gathered to make sure of a reasonable number of occurrences of academic words. As Coxhead (2000) pointed out, “more language means that more information can be gathered about lexical items and more words in context can be examined in depth” (p. 216). All the research articles were downloaded from the five most influential journals in academic accounting. Bonner, Hesford, Van der Stede, and Young (2006) found that these five journals *Accounting, Organizations and Society*, *Contemporary Accounting Research*, *Journal of Accounting and Economics*, *Journal of Accounting Research*, and *The Accounting Review journal* rank consistently as the top journals in the field. The articles in *The Accounting Review journal* were not accessible from our university (Ilam University) at the time of the study, thus this journal was replaced by *Review of Accounting Studies Journal* based on expert view. The information regarding each journal is illustrated in Table 1. All the articles were collected from the journals published from 2008 to 2017 from the journals databases. The rationale behind selecting these journals was related to the idea of representation to include texts written by a variety of writers to neutralize bias that may result from the idiosyncratic style of one writer (Atkins, Clear, & Ostler, 1992; Sinclair, 1991, cited in Coxhead, 2000). Additionally, increasing the number of lexical items in the corpus maximize the degree of representativeness of the corpus (Sutarsyah et al., 1994, cited in Coxhead, 2000). As Bonner et al. (2006) mentioned, various specialty areas of accounting were among these five journals and “the proportion of articles devoted to the specialty areas of accounting has remained relatively constant” (p. 683). They mentioned the proportion of the articles related to four subject areas of accounting including financial accounting, management accounting, systems and tax, and auditing. For example, articles related to financial accounting appear in high numbers for all journals except *Accounting, Organizations, and Society* and auditing articles emerge in all journals except in the *Journal of Accounting and Economics*. It seems that articles in all subject areas can be seen at least in three of these five

journals. In other words, the research articles in different subject areas of accounting are the focus of analysis.

Table 1

Number of Articles and Words in Each Journal

journals	Number of articles	Number of words
Accounting, Organizations and Society	409	5898593
Contemporary Accounting Research	511	6665233
Journal of Accounting and Economics	489	6850905
Journal of Accounting Research	325	5239783
Review of Accounting Studies	364	4786946
total	2098	29441460

3.2. Word Selection Criteria

A lot of studies on academic vocabulary utilized word families as the unit of analysis (e.g. [Coxhead, 2000](#); [Liu & Han, 2015](#); [Valipour & Nassaji, 2013](#)). A word family consists of a base word and all its derived and inflected forms that can be understood by a learner without having to learn each form separately” ([Bauer & Nation, 1993](#), p. 253). As [Nagy, Anderson, Schommer, Scott](#), and [Stallman \(1989\)](#) mentioned, word families are an important unit in the mental lexicon. If learners know a base word, learnig its common inflected or derived members of the family does not involve much more effort. Additionally, Range (the program used to analyze the corpus) includes three ready-made word lists that are the first and second 1000 most frequent words in the GSL and AWL are in word families. Therefore, in this study the words are classified as word families based on Level 6 of [Bauer and Nation’s \(1993\)](#) Scale.

Following [Coxhead \(2000\)](#), three criteria (specialized occurrence, frequency and range) were adopted. For specialized occurrence, the word families included in AAWL had to be outside the first 2000 most frequently occurring words of English of GSL [West \(1953\)](#). Furthermore, we assigned a cut-off frequency and range procedure in which each word should occur equal to or higher than 839 times in the whole corpus and for range, each word should appear at least 50 times in each journal.

3.3. Procedure

For analysis, the corpus composed of 29,441,460 running words from top influential journals of academic accounting was given to Range ([Heatley, Nation](#),

& Coxhead, 2002) to have a word list. The software can be downloaded and used for free (<https://www.wgtn.ac.nz/lals/resources/vocabulary-analysis-programs>). It is noted (Nation, 2005, p. 2) that Range can be adopted for several purposes “to find the coverage of a text by certain word lists, to create word lists based on frequency and range, and to discover shared and unique vocabulary in several pieces of writing”. After downloading the research articles from the journals databases, the downloaded files which were in pdf format, were converted into txt files. This is necessary as a corpus program (Range) can only analyze data in the form of txt. Additionally, aspects unrelated to the lexical analysis, charts, diagrams appendices, bibliographies, equations, abbreviations, function words, articles, propositions, and symbols were removed for the analysis. Txt files were entered into the software to find out the number of occurrences of each word, its range (i.e. how many texts the word occurs in) plus the words shared with the AWL and GSL word lists. Rang was run and the output consisted two main parts namely a table showing the number of words shared with the AWL and GSL and a word list with frequency and range of each word in the corpus. Then, those words below the cut-off frequency and range procedure were deleted. Also, function words such as pronouns, prepositions and numbers were excluded from the list. Finally, by removing all GSL words from the list, AAWL was developed. Finally, to compare the word list with different word lists, six well-known word lists were selected based on the expert views in different fields. They were Coxhead's (2000) AWL, Wang, Liang and Ge's (2008) medical academic word list, Ward's (2009) engineering English word list, Martinez, Beck, and Panza's (2009) Academic vocabulary in agriculture, Valipouri and Nassaji's (2013) chemistry academic word list, and Khani and Tazik's (2013) academic word list for applied linguistics.

4. Validating the List

To make sure that the AAWL is appropriate and to determine that the list is more useful than AWL for the field of accounting, a validating test was performed. Coxhead (2000) mentioned that "the real test is how the list covers a different collection of similar texts"(p. 224). Thus, a small-sized validating corpus containing accounting research articles was compiled to investigate the AWL's coverage and that of the AAWL in the new texts.

First, three accounting professors were requested to choose randomly 30 accounting research articles from those five academic accounting journals, but the articles were different from those in our corpus regarding the years of publication. To be exact, the research articles in our corpus belonged to the years 2008 to 2017, while the validating corpus was selected from the articles published in 2018. The corpus contained 356,523 running words. As Liu and Han (2015) mentioned, the same criteria for selecting, collecting, and processing the validating corpus should be applied to build the specialized corpus to ensure the consistency of the corpus structure. Besides, “Texts in the validating corpus

should be different from those in the original corpus to guarantee the reliability of the testing results” (Liu and Han, 2015, p. 9). Therefore, the AWL and AAWL were validity tested by comparing their coverage in the validating corpus which is shown in Table 2.

Table 2

The AWL's Coverage and the AAWL's Coverage in Validating Corpus

Difference	The AWL's coverage	the AAWL's coverage
Validating corpus	11.37%	4.08%
15.42		

Although, AAWL coverage was a little lower than that of AWL in some individual articles, on average as Table 2 indicated, the AAWL covered the validating corpus better than did the AWL. The AAWL's coverage of the validating corpus is 15.42% while the AWL's coverage of the corpus is 11.37%. As Coxhead (2000) pointed out, "A frequency-based word list that is derived from a particular corpus should be expected to cover that corpus well" (p. 224). Therefore, it can be concluded from the difference (4.08%) in coverage that, the AAWL seems to be more useful than the AWL in the field of accounting.

5. Results and Discussion

This study was set out to develop an academic word list for the field of accounting, to find the degree of coincidence between the word list and the AWL, and to compare the occurrences of 50 most frequent words in the list with six available word lists in different disciplines. As mentioned previously, all words with frequencies of 839 or higher in the corpus and range of 50 in each journal were regarded as frequent. All words below these criteria were excluded; therefore, the remaining words were 3,172. After removing aspects unrelated to the lexical analysis, we had 2,129 words.

Table 3

The Coverage by the Different Kinds of Vocabulary in the Corpus

WORD LIST	TOKENS	% of the whole corpus	content words	AAWL
GSL	8,711,440	29.58%	1,471	0
AWL	3,288,707	11.17	354	354
not in the lists	17,441,313	59.24	304	304
Total	29,441,460	100	2,129	658

Research	*	*		*	*	*	5
Audit		*					1
Financial	*						1
Period	*	*	*	*	*	*	6
Panel	*	*					2
Disclosure							0
Evidence	*			*		*	3
Assets							0
Forecast							0
Analysis	*		*	*			3
Cash							0
Prior	*	*		*	*	*	5
Equity							0
Economics	*			*			2
Negative	*	*	*	*		*	5
Positive	*	*	*	*	*	*	6
Investor	*						1
Significant	*				*	*	3
Consistent	*			*		*	3
Income	*						1
Corporate	*	*					2
Accruals							0
Section	*	*	*		*	*	5
Regression		*					1
Compensation	*						1
Incentives	*						1
Participant	*	*			*	*	4
Percent	*	*		*	*	*	5
Coefficient					*		1
Similar	*	*	*	*	*	*	6
Estimate	*	*	*	*	*	*	6
Role	*	*		*	*	*	5
Empirical	*				*	*	3
Statistics	*	*		*	*	*	5
Median							0
Loss			*		*		2

Annual	*	*		*			3
Ratio	*	*	*	*	*	*	6
Hypothesis	*	*		*	*	*	5
Impact	*	*		*	*	*	5
Internal	*	*			*	*	4
Indicate	*	*	*	*	*	*	6
Announcement							0
Errors	*	*			*	*	4
Contemporary	*						1
Institutional	*					*	2
Specific	*				*	*	3
Theory	*	*	*		*	*	5
Abnormal							0
Potential	*	*		*	*	*	5

In order to find answers to the third question, fifty most frequent word families in our list which are shown in Table 4 were selected. It is very necessary to note that these 50 family words occurred 1,173,488 times in our corpus which accounted for 3.98 % of the whole corpus. It was intended to find out whether these words have occurred in the above popular word lists. If a word has appeared in different word lists, it can be called a multi-purpose academic word but if a word just occurs in one word list it can be called a field-specific word special to that field. As shown in Table 4, we compared 50 most frequent words with words in six different word lists in different fields to find out the degree of coincidence among these seven word lists.

Out of 50 words in our list, 37 appeared in [Coxhead's \(2000\)](#) AWL, 25 in [Wang, Liang and Ge's \(2008\)](#) medical academic word list, 11 in [Ward's \(2009\)](#) engineering English word list, 20 in [Martinez, Beck, and Panza's \(2009\)](#) academic vocabulary in agriculture, 25 [Valipouri and Nassaji's \(2013\)](#) chemistry academic word list, and 26 in [Khani and Tazik's \(2013\)](#) academic word list for applied linguistics. Therefore, our word list shares the most words with AWL; while it shares the least words with the engineering English word list. Of 50 words, there are 6 words (*Period, positive, similar, estimate, ratio and indicate*) that occurred in all 7 word lists and 11 words appeared in 5 word lists. There are nine words (bold words in Table 4) just occur in our word list. It can be said that there are some words in all or at least in most available word lists which can be called all-purpose academic words, because they are frequent in various disciplines. That is, comparing all words in various word lists can indicate the importance of field-specific word lists which once more necessitates the establishment of a word list specific for the field of accounting. Although in this study we could compare fifty words of the AAWL, establishing a word list from comparing different word lists

can be useful and practical for all disciplines. This new academic word list will be more comprehensive than the AWL including words from all academic disciplines. Coxhead (2000) pointed out that words in AWL are frequent in many disciplines, but some words are not in AWL appearing in other word lists, for example, the word *audit* is a frequent word in both in our list and in Wang, Liang and Ge's (2008) medical academic word list.

This reinforces the argument that although vocabulary lists differed from one another in which the majority of words are unique to a single list, there are fairly overlap between various pairs of vocabulary lists. Six out of 50 words occurred in all word lists. Therefore, a composite word list can be developed for future research by carefully scrutinizing all words in the word lists.

6. Pedagogical Implications

The findings of this study can be used for accounting students, instructors and material developers. The AAWL is subject-specific repertoire comprising words that are used frequently in accounting texts, thus, it can be used as a reference for the accounting community. Additionally, the word list can be useful for those who like to read and write accounting RAs. Researchers in the field of accounting who are interested in publishing their papers in topmost influential accounting journals can include these academic words in their studies to increase the possibility of accepting and publishing their articles. Special attention should be paid to the words in designing materials and developing a curriculum for accounting ESP courses based on the frequency order of the words in the list. Also, the efficiency of language-focused learning is of paramount importance (Nation & Hunston, 2018). Accordingly, accounting teachers and professors can have a repertoire of vocabularies at hand to use them in their classes and to recommend their students learn a reliable word list. To be exact, the AAWL can be taught directly by accounting teachers and professors. Finally, once accounting students begin their university studies, they encounter accounting RAs in order to do research or to be aware of the latest development in the field, therefore there is an urgent need to know the most frequently used words in their field of study.

7. Conclusion

The present study aimed to establish an academic word list specific to the field of accounting. To this end, an accounting academic corpus was used. Although the importance and need for AWL in the field of accounting was considered, a field-specific word list would better cover the accounting academic corpus. Analyzing a large corpus collected from research articles in five most influential accounting journals led to Accounting Academic Word List (AAWL). Therefore, subject-specificity of a word list is of paramount importance. Additionally, the need for the development of a composite word list was emphasized by analyzing the amount of overlap between various word lists. Thus, composite word lists may serve as a source of “core” vocabulary for use in all the above disciplines. Finally,

focusing on academic vocabulary supports the students in their academic studies at university, especially their academic writing and errors in vocabulary use affects the quality of their writing (Coxhead, 2012; Laufer, 1994; Leki & Carson, 1994). Further research is needed to be done in different aspects such as accounting collocations by using this corpus to complement finding of this study.

References

- Bauer, L., & Nation, P. (1993). Word families. *International journal of Lexicography*, 6(4), 253-279.
- Bonner, S. E., Hesford, J. W., Van der Stede, W. A., & Young, S. M. (2006). The most influential journals in academic accounting. *Accounting, Organizations and Society*, 31(7), 663-685.
- Chung, T. M., & Nation, P. (2003). Technical vocabulary in specialized texts. *Reading in a Foreign Language*, 15(2), 103-116.
- Chung, T., & Nation, I. S. P. (2004). Identifying technical vocabulary. *System*, 32, 251-263.
- Coxhead, A. (2000). A new academic word list. *TESOL Quarterly*, 34, 213-238.
- Coxhead, A. (2012). Academic vocabulary, writing and English for academic purposes: Perspectives from second language learners. *RELC Journal*, 43(1), 137-145.
- Dang, T. N. Y. (2018). The nature of vocabulary in academic speech of hard and soft- sciences. *English for Specific Purposes*, 51, 69-83.
- Davies, M. (2012). The corpus of contemporary American English: 425 million words, 1990- 2012. Available from <https://www.english-corpora.org/coca/>
- Deveci, T. (2019). Frequently Occurring Words in Education Research Articles Written in English: A Preliminary List. *The Asian ESP Journal*, 15(1), 8-38.
- Dudley-Evans, T. (1993). Subject specificity in ESP: How much does the teacher need to know of the subject?. *ASp. la revue du GERAS*, (1), 1-9.
- Dudley-Evans, T. (1994). Genre analysis: An approach to text analysis in ESP. In M. Coulthard (Ed.), *Advances in written text analysis* (pp. 219-228). London: Routledge.
- Gardner, D., & Davies, M. (2014). A new academic vocabulary list. *Applied Linguistics*, 35, 305-327.
- Ha, A. Y. H., & Hyland, K. (2017). What is technicality? A Technicality Analysis Model for EAP vocabulary. *Journal of English for Academic Purposes*, 28, 35-49.

- Heatley, A., Nation, I. S. P., & Coxhead, A. (2002). RANGE and FREQUENCY programs. retrieved from <https://www.wgtn.ac.nz/lals/resources/vocabulary-analysis-programs>
- Hyland, K. (2006). *English for academic purposes: An advanced resource book*. Routledge.
- Hyland, K., & Tse, P. (2007). Is there an “Academic vocabulary”? *TESOL Quarterly*, 41,235- 253.
- Jablonkai, R. R. (2020). Leveraging professional wordlists for productive vocabulary knowledge. *ESP Today*, 8(1), 165-181.
- Jahangard, A. (2007). Which word types (technical or general) are more difficult to retain by the Iranian high school learners. *The Asian ESP Journal*, 3(2), 6-23.
- Khani, R., & Tazik, K. (2013). Towards the development of an academic word list for applied linguistics research articles. *RELC journal*, 44(2), 209-232.
- Kwary, D. A. (2011). A hybrid method for determining technical vocabulary. *System*, 39 (2), 175-185.
- Leki, I., & Carson, J. G. (1994). Students' perceptions of EAP writing instruction and writing needs across the disciplines. *TESOL quarterly*, 28(1), 81-101.
- Liu, J., & Han, L. (2015). A corpus-based environmental academic word list building and its validity test. *English for Specific Purposes*, 39, 1-11.
- Martinez, I. A., Beck, S., & Panza, C. B. (2009). Academic vocabulary in agricultural research articles: a corpus-based study. *English for Specific Purposes*, 28, 183–198.
- Nagy, W., Anderson, R., Schommer, M., Scott, J. A., & Stallman, A. (1989). Morphological families in the internal lexicon. *Reading Research Quarterly*, 24, 262–281.
- Nation, I. S. P. (2005). Range Program with GSL/AWL List. Retrieved from www.wgtn.ac.nz/lals/resources/vocabulary-analysis-programs.
- Nation, P., & Hunston, S. (2018). *Learning vocabulary in another language*. Cambridge: Cambridge University Press.
- Valipouri, L., & Nassaji, H. (2013). A corpus-based study of academic vocabulary in chemistry research articles. *Journal of English for Academic Purposes*, 12(4), 248-263.
- Wang, J., Liang, S., & Ge, G. (2008). Establishment of a medical academic word list. *English for Specific Purposes*, 7,442–458.

- Ward, J. (2009). A basic engineering English word list for less proficient foundation engineering undergraduates. *English for Specific Purposes*, 28,170–182.
- West, M. (1953). *A general service list of English words*. London: Longman, Green & Co.
- Xue, G., & Nation, P. (1984). A university word list. *Language Learning and Communication*, 3,215–229.
- Yang, M. N. (2015). A nursing academic word list. *English for specific purposes*, 37, 27-38.
- Yorkston, K., Dowden, P., Honsinger, M., Marriner, N., & Smith, K. (1988). A comparison of standard and user vocabulary lists. *Augmentative and Alternative Communication*, 4(4), 189-210.

Appendix: Accounting Academic Word List (AAWL) ranked by frequency of occurrence

1. Research	22. <i>Accruals</i>	43. <i>Announcement</i>	62. Define
2. <i>Audit</i>	23. Section		63. <i>Statements</i>
3. Financial	24. <i>Regression</i>	44. Errors	64. Approach
4. Period	25. Compensation	45. Contemporary	65. <i>Column</i>
5. Panel	26. Incentives	46. Institutional	66. Individual
6. <i>Disclosure</i>	27. Participant	47. Specific	67. <i>Compustat</i>
7. Evidence	28. Percent	48. Theory	68. Focus
8. <i>Assets</i>	29. <i>Coefficient</i>	49. <i>Abnormal</i>	69. <i>Extent</i>
9. <i>Forecast</i>	30. Similar	50. Potential	70. Bias
10. Analysis	31. Estimate	51. Items	71. <i>Proxy</i>
11. <i>Cash</i>	32. Role	52. <i>Client</i>	72. Target
12. Prior	33. Empirical	53. Adjusted	73. Overall
13. <i>Equity</i>	34. Statistics	54. <i>Conservatism</i>	74. <i>Fiscal</i>
14. Economics	35. <i>Median</i>	55. Credit	75. Index
15. Negative	36. <i>Loss</i>	56. <i>Volatility</i>	76. <i>Discretionary</i>
16. Positive	37. Annual	57. Issue	77. <i>Versus</i>
17. Invest	38. Ratio	58. Factors	78. <i>Fraud</i>
18. Significant	39. Hypothesis	59. Fees	79. <i>Sox</i>
19. Consistent	40. Impact	60. <i>Ability</i>	80. Affect
20. Income	41. Internal	61. Alternative	81. Strategy
21. Corporate	42. Indicate		82. <i>Portfolio</i>

83. <i>Score</i>	107.Bond	131.Subsequent	155.Document
84. <i>Securities</i>	108. <i>Liquidity</i>	132.Revenue	156.Investigate
85. Voluntary	109.Deviation	133.Legal	157.Task
86. Design	110. <i>Asymmetry</i>	134. <i>Magnitude</i>	158.Equation
87. Interaction	111.Identify	135. <i>Robust</i>	159. <i>Consensus</i>
88. Options	112.Previous	136.Primary	160.Underlying
89. Selection	113.Initial	137.Context	161.Persistence
90. Finally	114. <i>Means</i>	138.Volume	162. <i>Intercept</i>
91. Accuracy	115. <i>Dummy</i>	139.Partner	163. <i>Transparency</i>
92. Contrast	116. <i>Implications</i>	140.Hence	164. <i>Expertise</i>
93. Structure	117. <i>Turnover</i>	141.Survey	165.Outcomes
94. <i>Leverage</i>	118. <i>Covenants</i>	142.Consequences	166. <i>Untabulated</i>
95. Contract	119.Required	143.Project	167.Proportion
96. <i>Knowledge</i>	120.Predicted	144. <i>Reaction</i>	168.Framework
97. <i>Services</i>	121. <i>Mandatory</i>	145.Series	169.Source
98. <i>Executive</i>	122.Professional	146.Relevant	170. <i>Default</i>
99. <i>Shareholders</i>	123. <i>Variation</i>	147.Components	171.Benchmark
100.Environment	124.Function	148. <i>Capture</i>	172.Fund
101.Monitoring	125.Aggregate	149. <i>Tenure</i>	173. <i>Database</i>
102. <i>Correlation</i>	126.Range	150.Acquisition	174.Summary
103. <i>Litigation</i>	127. <i>Equilibrium</i>	151. <i>Dividend</i>	175.Found
104.Distribution	128.Enforcement	152.Conference	176.Perspective
105.External	129. <i>Optimal</i>	153.Obtain	177. <i>Accountability</i>
106.Benefits	130. <i>Outside</i>	154.Method	178. <i>Bonus</i>

179.Constant	203.Core	227.Unique	251. <i>Decile</i>
180. <i>Lagged</i>	204.Perceive	228. <i>Realized</i>	252. <i>Reliability</i>
181.Status	205. <i>Variance</i>	229.Marginal	253.Objective
182.Manipulation	206.Complexity	230. <i>Inventory</i>	254. <i>Provisions</i>
183.Global	207. <i>Compliance</i>	231.Exclude	255.Fundamental
184.Crisis	208. <i>Incremental</i>	232.Filing	256.Implementation
185. <i>Peer</i>	209.Construct	233.Team	257.Involved
186. <i>Liability</i>	210.Resources	234. <i>Logarithm</i>	258. <i>Merger</i>
187.Assume	211.Access	235. <i>Pressure</i>	259.Abstract
188. <i>Profitability</i>	212. <i>Hedge</i>	236.Create	260.Domestic
189. <i>Customer</i>	213.Conduct	237. <i>Critical</i>	261. <i>Insurance</i>
190.Inferences	214. <i>Dispersion</i>	238.Commission	262.Revision
191. <i>Transaction</i>	215. <i>Timeliness</i>	239.Authors	263. <i>Reserved</i>
192.Major	216.Plus	240. <i>Senior</i>	264.Comments
193. <i>Propensity</i>	217. <i>Premium</i>	241. <i>Clustered</i>	265.Appropriate
194.Release	218. <i>Classification</i>	242.Corresponding	266.Interpretation
195. <i>Minus</i>	219. <i>Goodwill</i>	243.Mechanisms	267. <i>Engage</i>
196. <i>Francis</i>	220.Media	244.Exhibit	268.Notion
197.Principal	221. <i>Typically</i>	245.Link	269.Exposure
198.Evaluation	222.Precision	246.Rely	270. <i>Bankruptcy</i>
199. <i>Residual</i>	223.Capacity	247.Technology	271. <i>Cumulative</i>
200.Assess	224.Regime	248.Decline	272.Via
201.Transfer	225. <i>Digit</i>	249. <i>Procedures</i>	
202. <i>Pension</i>	226.Code	250.Ensure	

273.Categories	297.Goal	319.Thereby	342.Reveal
274.Impairment	298.Psychology	320.Sustainabi lity	343. <i>Reform</i>
275.Instance	299.Comprehe nsive	321.Insights	344. <i>Sentiment</i>
276. <i>Discount</i>	300. <i>Tone</i>	322.Credibility	345.Text
277.Job	301.Concentra tion	323. <i>Pseudo</i>	346.Portion
278. <i>Outstanding</i>	302.Allocation	324. <i>Commitme nt</i>	347. <i>Agencies</i>
279.Computed	303.Intensity	325. <i>Federal</i>	348.Achieve
280. <i>Quintile</i>	304.Approxim ately	326.Mutual	349.Established
281. <i>Adverse</i>	305.Communi cation	327. <i>Maximum</i>	350.Authority
282. <i>Budget</i>	306.Features	328. <i>Negotiation</i>	351. <i>Optimistic</i>
283. <i>Capitalizat ion</i>	307.Area	329. <i>Perceptions</i>	352.Violation
284.Attributes	308.Norms	330.Generate	353. <i>Quantitative</i>
285.Despite	309. <i>Superior</i>	331.Identity	354.Explicit
286.Labor	310.Assurance	332.Shift	355. <i>Interviews</i>
287. <i>Feedback</i>	311. <i>Technical</i>	333.Minimum	356. <i>Univariate</i>
288. <i>Expenditures</i>	312. <i>Depreciation</i>	334.Normal	357.Validity
289.Conclusion	313. <i>Linear</i>	335.Innovation	358.Elements
290. <i>Substantial</i>	314.Maturity	336.Traditional	359.Restricted
291.Occur	315. <i>Aggressive</i>	337.Principles	360. <i>Distress</i>
292.Oversight	316.Contribute	338.Network	361.Cycle
293. <i>Mitigate</i>	317.Denote	339. <i>Segment</i>	362. <i>Intangible</i>
294. <i>Metrics</i>	318.Random	340. <i>Idiosyncratic</i>	363.Grant
295.Constraints		341.Aspects	364.Criteria
296.Trend			365.Emphasis

366. <i>Calendar</i>	390. <i>Background</i>	414. <i>Anomaly</i>	438. Culture
367. Derivatives	391. Maintain	415. Conflicts	439. Neutral
368. <i>Utility</i>	392. <i>Distinct</i>	416. <i>Fraction</i>	440. <i>Momentum</i>
369. Inspection	393. <i>Percentile</i>	417. <i>Entry</i>	441. <i>Payoff</i>
370. Academic	394. <i>Downward</i>	418. Consumer	442. Dynamic
371. Published	395. Prohibit	419. Equivalent	443. <i>Stakeholders</i>
372. Demonstrate	396. Debate	420. <i>Gross</i>	444. Enhance
373. <i>Drift</i>	397. <i>Brokerage</i>	421. Version	445. <i>Matrix</i>
374. <i>Billion</i>	398. <i>Modified</i>	422. <i>Sue</i>	446. <i>Career</i>
375. Concept	399. <i>Throughout</i>	423. Facilitate	447. Medium
376. <i>Endogeneity</i>	400. Assigned	424. <i>Cognitive</i>	448. <i>Sophisticated</i>
377. Dimensions	401. Equipment	425. Consultants	449. <i>Surplus</i>
378. Gender	402. <i>Formation</i>	426. <i>Accelerated</i>	450. <i>Recall</i>
379. Motivated	403. Implicit	427. Parameter	451. Ethical
380. <i>Incorporate</i>	404. Expert	428. Techniques	452. <i>Legitimacy</i>
381. Community	405. <i>Extensive</i>	429. Seek	453. <i>Dual</i>
382. Exogenous	406. <i>Composition</i>	430. <i>Subjective</i>	454. Incidence
383. Emerging	407. Productivity	431. Identical	455. <i>Reliance</i>
384. Purchase	408. <i>Quartile</i>	432. Detect	456. <i>Simultaneously</i>
385. <i>Partial</i>	409. <i>Anonymous</i>	433. Location	457. Conformity
386. Output	410. Scope	434. <i>Reconciliation</i>	458. <i>Enterprise</i>
387. <i>Deferred</i>	411. <i>Logistic</i>	435. Sufficient	459. <i>Variability</i>
388. Preceding	412. Inputs	436. <i>Conjecture</i>	460. <i>Interim</i>
389. <i>Deflated</i>	413. Rational	437. Reverse	

461.Administrative	484.Logic	508.Willing	531.Discourse
462.Inverse	485.Lease	509.Agement	532.Imposed
463.Binary	486.Lobbying	510.Takeover	533.Probe
464.Entity	487.Conventional	511.Induce	534.Supplement
465.Proprietary	488.Region	512.Availability	535.Switch
466.Acknowledge	489.Footnote	513.Partition	536.Prospects
467.Rotation	490.Tier	514.Scenario	537.Scandals
468.Eliminate	491.Scheme	515.Hazard	538.Challenge
469.Circumstances	492.Site	516.Highlight	539.Contingent
470.Winsorized	493.Payout	517.Subsidiary	540.Officers
471.Proceeds	494.Flexibility	518.Characteristic	541.Confirm
472.Lawsuits	495.Geographic	519.Baseline	542.Estate
473.Archival	496.Somewhat	520.Vesting	543.Materiality
474.Goods	497.Respective	521.Opacity	544.Macroeconomic
475.Nevertheless	498.Retain	522.Penalties	545.Commit
476.Retail	499.Allowance	523.Aware	546.Interval
477.Specified	500.Intervention	524.Grade	547.Anticipate
478.Welfare	501.Namely	525.Diversity	548.Competence
479.Phase	502.Chairman	526.Subordinates	549.Stable
480.Inflation	503.Null	527.Ultimately	550.Thresholds
481.Mental	504.Inherent	528.Dominant	551.Format
482.Scrutiny	505.Exceed	529.Illustrate	552.Tendency
483.Extant	506.Fraudulent	530.Monetary	553.Severance
	507.Coordination		554.Practitioners

555.Exploit	<i>579.Intuition</i>	<i>603.Mortgage</i>	<i>627.Incumbent</i>
<i>556.Dense</i>	<i>580.Congress</i>	604.Temporary	<i>628.Retrieved</i>
<i>557.Moody</i>	581.Transition	<i>605.Talent</i>	<i>629.Insolvency</i>
558.Alter	<i>582.Dye</i>	<i>606.Sociology</i>	<i>630.Frank</i>
559.Academy	583.Remove	<i>607.Numerous</i>	<i>631.Bureau</i>
560.Style	584.Concurrent	<i>608.Regress</i>	<i>632.Headquarters</i>
561.Schedule	585.Apparent	609.Contrary	<i>633.Hereafter</i>
562.Integrated	<i>586.Premiums</i>	610.Phenomenon	634.Legislation
<i>563.Deficiencies</i>	<i>587.Brevity</i>	<i>611.Confounding</i>	<i>635.Minority</i>
<i>564.Subset</i>	<i>588.Slack</i>	612.Promotion	<i>636.Corollary</i>
565.Forthcoming	589.Ambiguity	<i>613.Personnel</i>	<i>637.Convey</i>
<i>566.Outliers</i>	<i>590.Recurring</i>	<i>614.Skewness</i>	638.Substitute
<i>567.Affiliated</i>	591.Guidelines	<i>615.Covariance</i>	<i>639.Plausible</i>
568.Duration	<i>592.Stewardship</i>	616.Extract	<i>640.Divisions</i>
<i>569.Internet</i>	<i>593.Statutory</i>	617.Chartered	<i>641.Skepticism</i>
<i>570.Software</i>	<i>594.Proximity</i>	<i>618.Exit</i>	<i>642.Vector</i>
<i>571.Essentially</i>	<i>595.Corruption</i>	<i>619.Cell</i>	<i>643.Hybrid</i>
<i>572.Outsourcing</i>	<i>596.Narrative</i>	<i>620.Cutoff</i>	<i>644.Divergence</i>
<i>573.Workshop</i>	597.Intrinsic	621.Topic	645.Symbolic
<i>574.Backdating</i>	<i>598.Collateral</i>	622.Ongoing	646.Assistance
<i>575.Vice</i>	599.Energy	<i>623.Electronic</i>	<i>647.Dissemination</i>
<i>576.Setters</i>	600.Oriented	<i>624.Amortization</i>	<i>648.Certified</i>
577.Foundation	<i>601.Embedded</i>	625.Stress	649.Normative
578.Preliminary	<i>602.Aversion</i>	<i>626.Justice</i>	<i>650.Alignment</i>

651.*Hail*

652.Visible

653.*Consecutive*

654.*Era*

655.Obvious

656.*Pessimistic*

657.*Comply*

658.*Handbook*