

การเพิ่มปริมาณคำศัพท์วิชาการในการเขียนงานวิจัย

BOOSTING ACADEMIC WORDS IN RESEARCH WRITING

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Abstract

The common features of academic vocabulary (process, analysis and evaluation) give rise to the need for implementing academic vocabulary in research writing. This study aimed to stimulate EFL postgraduates to increase the use of academic words in their research writing. ‘Word noticing process’ and ‘depth of processing words’ were implemented to foster academic vocabulary use. During the four-month course, participants used the AWL highlighter programme to identify academic words in their research projects and studied the use of selected academic words in the online British National Corpus (BNC) for deep processing. Results showed a slight increase in the quantity of academic words in the revised research reports.

Key words: academic words, research writing, noticing process, depth of processing and task-induced involvement

บทคัดย่อ

คุณลักษณะเฉพาะของคำศัพท์วิชาการซึ่งเป็นคำที่แสดงกระบวนการ การวิเคราะห์ และการประเมินผล ทำให้คำศัพท์วิชาการเป็นส่วนสำคัญในการเขียนรายงานการวิจัย งานวิจัยครั้งนี้มีจุดประสงค์เพื่อกระตุ้นให้นักศึกษาระดับบัณฑิตศึกษาใช้คำศัพท์วิชาการในการเขียนงานวิจัยมากขึ้นโดยใช้ “กระบวนการสังเกตคำ” และ “แนวลึกขั้นตอนการเรียนรู้คำ” ในช่วง 4 เดือนของการทดลอง นักศึกษาได้ใช้โปรแกรม AWL highlighter เพื่อกระตุ้นการสังเกตคำ จากนั้นศึกษาการใช้คำศัพท์ที่เลือกในคลังศัพท์ BNC Corpus เพื่อการศึกษาแนวลึก ผลการวิจัยพบว่า คำศัพท์วิชาการในการเขียนงานวิจัยฉบับปรับปรุงของนักศึกษามีปริมาณเพิ่มขึ้นเล็กน้อย

Introduction

Successful research entails effective thinking and writing processes involving a socio-rhetorical approach to the characteristics of an academic discourse (Chandrasegaran & Schaetzel, 2004). English as a foreign language (EFL) learners are generally guided to develop the ability to build coherent arguments using a formal writing and grammatical style (e.g. avoiding vagueness, direct questions, contracted forms of verbs, colloquial language, emotional and personal perspectives, but making use of passive constructions). However, formal written language does not mean using extravagant language and superfluous words. Rather, literature on English for academic purposes (EAP) emphasises the importance of academic vocabulary such as, “approach, context, illustrate, participation and strategy” for successful writing across academic disciplines (Corson, 1997; Nation 2001; see also Coxhead, 2001 for the 570 words on Academic Word List – AWL). Note that English vocabulary can be divided into two groups: high and low frequency words (Xue and Nation, 1984). The former is rather small in size, including approximately 2000–3000 words, whereas the latter is extremely large with a confined range used in particular fields. Among a large quantity of words in the low frequency range, a particular group of words frequently used in university study is known as a University Word List, more recently referred to as an Academic Word List. These words

sound formal due to “the Latinate nature of the vocabulary” (Nation, 2001: 194). Academic vocabulary knowledge is crucially important for all learners who aim to study at the tertiary level (Nation, 1990, 2001). In addition, the features of academic vocabulary (process, analysis and evaluation) (Martin, 1976) augment the need for implementing academic vocabulary in research writing. Therefore, it seems reasonable to direct students to utilize more academic vocabulary in their research reports in order to meet academic writing standards in terms of word choice. The point is to consider how EFL learners can master knowledge of academic words and use them in their research reports, while also determining what instructional tasks encourage productive academic vocabulary. This paper briefly reviews conditions that contribute to the learning and recollection of academic words.

Noticing process

The role of conscious and unconscious input processes for second language learning remains controversial. However, limited exposure to a language, especially with adult L2 learners, is a key factor influencing linguists to believe in conscious learning (e.g. Bialystok 1978; Leow 2001; Schmidt 1990; Rutherford & Smith 1987). This conscious attention or “noticing” is an essential factor leading to awareness. Importantly, greater awareness leads to improved recognition and correct use of written productive forms (Leow 2001).

With reference to vocabulary learning, words that are seen may not necessarily be learned if they are not noticed or given ample attention. In this sense, “noticing” facilitates word acquisition. Nation (2001) suggests three processes: noticing, retrieval and generative use that may assist learners to remember words. Noticing is the first step and involves decontextualisation. Learners also need to feel motivated and interested in a task. In fact, there are several ways for vocabulary items to be noticed through decontextualisation. Highlighting words works well with written production. To do so, learners notice highlighted words and study them seriously. At this stage, language teachers may assign students instructional tasks to generate deep processing to enhance students’ recall of the words.

Task-induced involvement load: depth of processing

In second language (L2) vocabulary learning, the term, “depth of processing” is widely known. It is believed that “the greater the involvement load, the better the retention” (Hulstijn & Laufer 2001; see also Laufer & Hulstijn 2001). Language teachers can construct instructional tasks that require deep processing for words to be remembered, in addition to the noticing process. This involves need (motivational non-cognitive component), search and evaluation (cognitive components). When writing, for example, students require particular words to express meanings. They have to search for those

appropriate forms and evaluate whether or not the words fit the given context. The depth of processing may vary according to the amount of effort required by the task. It seems likely that the more effort learners apply, the greater retention that will occur. If this process proves to be correct in productive vocabulary for EFL learners, it will help them successfully apply the target words in their written production.

Objective

The objective of this study was to stimulate EFL postgraduates to use academic words in research writing through word noticing and the depth processing of words.

Hypothesis

An increase in academic word use during the four month process of noticing academic words and depth processing academic words will be identified.

Method

Participants

Participants were a group consisting of eleven EFL postgraduates. Seven participants were second year MA students in English and the other four were first year Ph.D. students in English at a university in Bangkok, Thailand. They were studying in a “Research Writing” course. The objectives of the course were to guide students to become acquainted with language conventions in research writing, equip

them with analytical and critical competence related to their research and enable them to employ academic writing skills in their research with confidence.

Procedure

Classroom activities

Classes met once a week for sixteen weeks. To encourage students to visualize the structure of research papers, language conventions and a variety of styles, they were required to read at least two research papers or theses and critique them. During the course, the students were required to write seven sections of their mini-research project, including introduction, literature review, method, results, discussion and abstract, respectively. It took two class meetings to complete each section starting with a discussion on how to write to ensure that they had sufficient knowledge of their topic. They turned in their writing the following week for peer feedback. The peer feedback activity aimed to help students learn from each other. Finally, they submitted their papers to the instructor and received written and oral feedback during the following session. These procedures were applied throughout the course.

The students were expected to apply expanded academic vocabulary in their writing, although no direct vocabulary teaching took place. The students were adult learners and highly responsible, and were expected to possess the potential to direct their academic vocabulary learning autonomously when assigned

to accomplish tasks. From these tasks, they were expected to transfer their passive academic vocabulary into active use. The students were assigned the two following tasks to promote academic vocabulary learning.

Noticing Process: highlighting academic words

Productive use of academic vocabulary is considered an important component in successful research reports. This study adopted the technique of highlighting to increase the noticing of words (Nation, 2001). The AWL highlighter programme (Haywood, 2003) was used to identify and highlight academic words on students' research projects. The sample below shows text with academic words highlighted in bold type operated by the AWL Highlighter.

The purpose of this study is to examine library computerisation from this more neglected point of view and **focus** on ways in which better account can be taken of human **factors**. A rationale for the **automation** of libraries will first be presented. The **implications** of this **process** for library staff will then be examined, with a **focus** on **psychological** and educational pressures and ways in which these may be successfully overcome will be discussed. Since libraries in some developing countries are upgrading or installing **automated** system for the first time, it is felt that this examination will **highlight areas** which need to be taken into consideration over and above the practical and **technological** steps that will be **implemented**.

The students were asked to highlight academic words in their papers using Haywood's highlighter programme when they finished writing each section of their project. The purpose of the highlighting task was primarily to bring academic words to the students' attention. Prior to this task, the students had discussed the role of employing academic words for academic success. They were also introduced to the academic word list – AWL (Coxhead, 2000) so they would be familiar with it. By that stage, they were sensitised to the importance of knowing academic words and were explicitly motivated to utilize them in their writing. This directly contributed to implicit word knowledge.

Deep processing: studying academic words in the BNC Corpus

To encourage vocabulary learning, students were assigned a task requiring great effort and involvement with academic words. They were assigned to select three highlighted academic words from each section of their writing (abstract, introduction, literature review, method, results and discussion) and study the functions of these words (e.g. grammatical function, different shades of meaning, stylistic varieties, collocations and connotations) in the online BNC Corpus, which is a one million word corpus of spoken and written British English (British National Corpus, 2000). It contains approximately 4000 samples from a wide range of linguistic productions. Findings were presented to the class at the subsequent class meeting. Below is a sample

search of the word “indicate” from the British National Corpus.

AOT 1490 Ordinary experience seems to indicate that brain position determines experience content: where my head is (in space and in time) is the most important determinant of the content of my consciousness.

A8X 354 But if the rule was reformed, this would not indicate that the former rule was unreasonable.

AJJ 241 Although Arazi is odds-on to win the Kentucky Derby with British bookmakers, reports from Las Vegas indicate the colt can still be backed there at 7-;5.

AMG 1300 The dental remains indicate little more than a dependence on a hard-fruit diet, and there may have been several species with this inclination.

B31 1674 However, the counts indicate a wintering population of the order of 800 birds in these Harbours, although the counts from December to February ranged from 400 to 1,450 birds.

Data Analysis

To count the number of academic words used, Laufer and Nation's (1995) Lexical Frequency Profile (LFP) programme, also called VocabProfile, was used to measure how many words were used in the texts at 3 word levels. The first and the second base lists are derived from the first 1000 and the second 1000 most

frequent words from Michael West's General Service List (West, 1953). The third base list is derived from the University Word List compiled by Xue and Nation (1984). A greater quantity of low frequency academic words indicates more advanced texts. This programme was used to

analyse the subjects' writing for academic vocabulary size. Therefore, only the third base list was applied. Below is an example of a table that shows the relative coverage of the three base lists of a written text in terms of word tokens, word types and word families.

WORD LIST	TOKENS/ %	TYPES/ %	FAMILIES
One	54/ 72.0	34/ 69.4	33
Two	2/ 2.7	2/ 4.1	2
Three	14/ 18.7	9/ 18.4	9
Not in the lists	5/ 6.7	4/ 8.2	?
Total	75	49	44

(From the instructions of VocabProfile)

The example shows that 54 words in a sample written text are in base list one (the first thousand word level). These 54 words account for 72.0% of the overall 75 words in the text. Word lists one, two and three represent the first thousand word frequency level, second thousand word frequency level and the University Word List, respectively. "Not in the lists" refers to any words outside the three word levels mentioned.

Data Treatment

To examine academic vocabulary size, each participant's full research report was entered as a separate file with syntactic and lexical errors retained. Proper nouns were also included. With some exceptions, incorrect spellings were corrected to allow the computer to recognise the word forms. Contractions such as "she's" were changed to "she is." The individual

research report was then analysed using VocabProfile.

Statistical Treatment

To determine the size of the academic vocabulary statistically, SPSS statistical software was employed. Comparisons of means of academic words between the drafts and revised papers were measured using Matched t-test.

Results

This study aimed to stimulate EFL postgraduate students to use academic words in their research writing. It was expected that the students would utilize more academic words in their revised papers after four months of the noticing process and the depth of processing the words. The results, shown in Tables 1, 2, 3, and 4 below, indicate positive, although not dramatic, change.

Table 1: Number of academic words in students' research writing

	Drafts		Revised Papers		Length (Total Tokens)	
	Tokens	% (AW)	Tokens	% (AW)	Drafts	Revised Papers
Student						
1	106	4.98	131	5.47	2130	2393
2	265	14.17	360	16.83	1870	2139
3	225	11.85	192	10.66	1899	1801
4	131	10.90	145	11.65	1202	1245
5	166	10.76	325	11.88	1543	2736
6	307	11.96	302	12.99	2566	2324
7	192	10.63	220	11.12	1807	1979
8	607	12.57	753	11.84	4829	6359
9	496	10.71	461	10.77	4630	4281
10	369	11.04	543	12.06	3343	4501
11	406	9.98	489	9.94	4068	4919

Table 1 displays the frequency count, percentage of academic word tokens and the total number of word tokens of the drafts and revised papers of eleven Thai postgraduates. The majority of students (8 out of 11) applied more academic words, whereas three students (S3, S8, and S11) applied fewer academic words in their revised papers. Table 2 summarises the difference in the number of AWs between the drafts and the revised papers.

Table 2: Comparison of the number of academic words

		N
Revised Papers - Drafts	Negative Differences (a)	3
	Positive Differences (b)	8
	Ties (c)	0
	Total	11

Notes: (a) Revised Papers < Drafts

(b) Revised Papers > Drafts

(c) Drafts = Revised Papers

Table 3: Percentage of academic word tokens in students' research writing

	N	Mean	SD	Min	Max
Drafts	11	10.87	2.27	4.98	14.17
Revised Papers	11	11.38	2.67	5.47	16.83

As shown in Table 3, the students applied more academic words in the revised papers (with the mean 10.87% – drafts/11.38% – revised papers). This is also evident in the minimum and the maximum use of AWs. However, as shown in Table 4, the difference between the percentage of AWs in the drafts and the revised papers was not significantly different.

Table 4: Comparison of mean difference in the number of academic words (Matched t-test)

	N	t	P (2-tailed)
Drafts – Revision Papers	11	-1.66	.127

Note: the significance is at 0.05 level.

Conclusion and Discussion

It was expected that over the four months of “academic word noticing process” and “depth of processing academic words,” the number of AWs in the students' research reports would increase. The results, as shown in Tables 1, 2, 3, and 4 suggest that an increase in AWs occurred for the majority of the students. However, 3 students did not show an increased use of academic words in their revised papers. The results indicate the effectiveness of the noticing process and that students transferred some level of awareness of AWs to their written production, as shown in a slight increase in the quantity of AWs in their research writing.

In physiological aspects, vocabulary learning operates implicitly and explicitly (Ellis, 1997). Implicit vocabulary learning takes place naturally without conscious operation, whereas explicit learning operates in a more conscious manner. Students tested their hypotheses when searching for word structures in the BNC Corpus. They experienced more input and opportunity to develop vocabulary knowledge. As a result, they could produce the language because of the increased recognition from their extensive analysis.

The findings reveal a small increase in the number of AWs in the students' research writing over time. However, the increase

of the AWs is not significantly different. Word noticing and an increase in word recognition do not necessarily increase productive vocabulary use. Further, these two phenomena are not always interrelated because productive knowledge involves the ability to pronounce a word, spell it, use it correctly with grammatical patterns and employ it properly in collocations. Productive vocabulary also entails the use of high frequency words (words such as “amount, offer and stop” appear frequently in all kinds of texts) and low frequency words (words such as “expulsion, rut and spore” appear infrequently and cover about 2% of the running words in a text) in appropriate contexts and the ability to use the words to express meaning (Nation, 1990). Consequently, word noticing and productive vocabulary cannot be equally mastered since acquiring productive knowledge is intuitively more demanding. Additionally, productive vocabulary is difficult to evaluate because various factors are involved in the communication process. For example, learners may avoid using difficult words and opt for words with which they are more confident. Learners may apply communicative strategies when they are unable to retrieve a target word even when they know it. Thus, they may avoid that word or use synonyms. To promote productive vocabulary growth, sufficient productive tasks should be allocated. Schmitt (2000) adds that explicit teaching is essential in second language learning, for it is a prerequisite to language use.

Implications and Recommendations

Although this study is limited to a particular group of students with a small number of participants, the findings suggest implications for second language vocabulary teaching and learning. Introducing vocabulary learning strategies to students is an effective way to help them deal with learning difficulties (Hemchua & Schmitt, 2006; see Schmitt & McCarthy, 1997, for more vocabulary learning strategies). Using corpora such as the online BNC Corpus is a powerful teaching aid to increase awareness of authentic language use, particularly collocations and preposition partners (see Wichmann et al., 1997, for the further implications of corpora in language teaching and learning).

Since the focus of this study was on the number of AWs, proper use of vocabulary was not guaranteed. Besides, increasing the quantity of academic words might not be appropriate in a particular context. Therefore, it could prove interesting to investigate such areas for further studies.

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