Lexicographic studies of collocations

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1. Introduction

It is widely recognized that collocations are indispensable for EFL learners. They were traditionally dedicated to mastering forms, pronunciation, and meanings of words. However, they have gradually focused on the combination of words to acquire active mastery of English, as the development of their collocation competence has been advocated based on contrastive analysis between L1 and L2 (Bahns, 1993; Bahns & Eldaw, 1993; Biskup, 1992; Caroli, 1998; Fayez-Hussein, 1990), and comparison of use of strategies between native speakers of English and non-native speakers of English (Cowie & Howarth, 1996; Granger, 1998; Greenbaum, 1970; Howarth, 1993, 1998a, 1998b).

In spite of the agreement on this view of collocations, some researchers regard mastering collocations as problematic for the learners. For example, Mackin (1978) is rather dubious about the possibility of actually teaching collocations and argues that ESL or EFL learners can not learn all the many thousands of collocations. His suggestion is that learners can acquire some degree of collocational competence in 'years of study, reading and observation of the language' (1978: 151-152) and in order to support learners' study, dictionaries are important. The role of dictionaries for learners has been also focused on by Benson (1985), Benson et al. (1986, 1997), Cowie (1978), Kjellmer (1994) and Hill & Lewis (1999).

The aim of this paper is to review the main lexicographic studies of collocations to date. As the importance of collocation teaching has been advocated more, lexicographers have more frequently discussed the following

questions of collocations in a dictionary: Should collocations be regarded as separate dictionary entries? If so, which collocations and how many should be dealt with in the restricted space of a dictionary? The former part of this paper will argue how modern dictionaries have covered the entire language on not only a word by word basis but also collocation by collocation basis. The latter part of the paper will describe how modern English Japanese dictionaries have been compiled, giving more attention to collocation.

2. Previous research on collocations in the lexicographic studies

2.1. Modern general purpose dictionaries

Modern general purpose dictionaries are giving more and more attention to collocation and contain many collocations in them. For example, the *Oxford Advanced Learner's Dictionary* (*OALD* sixth edition, 2000) contains 10,000 collocations while its fifth edition contains no more than 4,000. Furthermore, it provides study pages in which the definition and the type of collocations are shown, and explains how to check collocations so that learners can understand collocations better. *The Longman Dictionary of Contemporary English* (*LDOCE* third edition, 2001) presents collocations in the order frequency in reference to the frequency of collocations in the Longman Corpus Network and the Longman Spoken Language Corpus. The *Collins COBUILD English Dictionary* (*COBUILD* second edition, 1995) and the *Cambridge International Dictionary of English* (*CIDE* first edition, 1995) also present many collocations, which are emphasized in bold face.

However, a couple of important problems arise in such dictionaries in terms of the treatment of collocation-insufficient information on collocations and inconsistent presentation of collocations. As for the former, the *Oxford Collocations Dictionary for Students of English* (2002, p. viii) points out that as modern dictionaries have an inclination to be hindered by trying to cover as much information as possible about any word (*registers, word patterns, grammatical information* and so on) besides its collocations, collocational information is still not enough for learners. Regarding the latter, Cowie (1981,

pp. 223-224) criticizes the inconsistent presentation of collocations, exemplifying *wage freeze* as a main entry in the *Longman Dictionary of Contemporary English* (1978), while it is one of the examples at *wage 1* in the *OALD* 3rd edition (1974). He suggests that more collocations should be introduced in the general pedagogical dictionaries as lexicographers take into account the learner's use of dictionaries with a reference purpose in the decoding process in spite of the limited space of dictionaries. In order to overcome these problems, some dictionaries have been compiled, especially focusing on collocations.

The interest of Mackin (1978) is what kind of collocations should be included in a dictionary. He suggests that collocations should be placed on a scale of probability (1978, p. 164) and that three main sources should be used in compiling a collocation dictionary: (a) other dictionaries, (b) the lexicographer's competence, and (c) occurrences which are met in spoken and written English such as newspapers and radio and television conversations. All of them are used in compiling the *Oxford Dictionary of Current Idiomatic English (ODCIE)*.

In the *ODCIE*, Cowie, Mackin and McCaig (1983) present a wide range of collocations. The dictionary has a consistent classificatory system in which both the external relationship between collocations and grammatical patterns and the internal arrangement, such as belonging to different word classes, different subclasses of noun (e.g. *common, abstract, proper*) etc., of lists of collocates are made clear by using some abbreviations and symbols in the entries (1983, pp. xliii-xlix). The dictionary presents open sets, to which other words can be added by the user, and restricted sets, which include all the possibilities of choice of collocates, and it marks the latter form with a special symbol (1983, pp. xiv-xv). In spite of the fact that this dictionary covers a wide range of collocations, the name of the dictionary is confusing. Learners might not use the dictionary to look up a collocation unless they know it explains collocations as well as idioms used in current English.

Mackin (1978) also mentions collocation studies from the pedagogical point of view. He claims that whether an association of words belongs to

collocations or not is based on native speakers' intuition. Therefore, second or foreign language learners have no way in which they can produce new acceptable combinations of words, let alone be taught all the collocations, because "collocations are in any case so numerous as to rule out any methodical teaching or acquisition of them" (1978, p. 151). His suggestion is that learners can acquire some degree of collocational competence in "years of study, reading and observation of the language" (1978: 151-152) and that dictionaries should play an important role in order to support learners.

Cowie (1978) focuses on collocations in editing a learner's dictionary. He discusses the treatment of collocations in dictionaries by giving some examples (e.g. *block all roads/lanes/alleys/streets* and *check a bill/sb's statements/these figures.*) from the *ODCIE vol. 1.*

First, he defines collocation as "the co-occurrence of two or more lexical items as realizations of structural elements within a given syntactic pattern" (1978, p. 132) and second, he emphasizes the importance of the range of words in order to distinguish open combinations and restricted combinations. He claims that openness and restrictedness of co-occurrence of words are related to the range of other items with which they can combine and can be represented as "the end-points of a scale or continuum; various major types of collocation can be identified, and can conveniently be related to parts of this scale" (1978, p. 133). He also mentions that restricted collocations, especially idiomatic collocations, are difficult for second or foreign language learners to acquire, because of the unique and opaque meaning created by combining constituents of words.

Finally, Cowie discusses the lexicographic view, which is his most interesting point: how to present lexical patterns in a learner's dictionary. He makes four important recommendations (1978, pp. 135-136) as described below:

1. Lexicographers who want to display collocational potential from example sentences can do so in three possible ways. One is by expressing words with semantic features. For example, *father, foreman* and *officer* have the same

semantic features: [+human, +male, +adult, +authority]. The second is by specifying one general word: superior can be related to terms, *boss, leader* and *patron*. The final way, which he thinks is the most effective, is by "listing a judicious selection of such particular items as representative (and suggestive) of the total range of choice" (1978, p. 135). The reason why he recommends the last way is that it can reduce learners' burden in learning language by presenting them with a sub-set of particular items.

2. If the collocational range of a headword includes nouns which have different semantic sub-classes, it should be mentioned to learners explicitly by using a semicolon to make clear the words' special possibilities and restrictions of co-occurrence.

3. Some possible combinations with items many native speakers tend to choose should be displayed in dictionaries. For example, *voice* and *accent* collocate with *put on*; however, *it, act, airs* are higher choices to be combined with these words. The simplest way of indicating such preferences is to put them first in entry of headwords.

4. A small set of items which collocates with another in a specialized sense should be highlighted by using a special sign.

Cowie's concern is the study of collocations not only in dictionaries but also in journalistic prose. Cowie (1992) examines the use of the multiword lexical units in newspaper writing: "Gorbachev's new revolution" from Mary Dejewsky and *The Times* on June 29th, 1988. His study provides evidence that in newspaper articles the number of creative word combinations and idioms tends to be very small, while verb-noun *restricted collocations* which are already well-established and widely known are extensively used. As a pedagogical implication, Cowie argues that as restricted collocations play an important role in text, they should be intensively taught to learners of English.

2.2. Non corpus-based collocation dictionaries

A more synthetic definition of collocations has been provided by Benson et al. (1997), comparing them with free combinations and idioms, all of which belong to lexical combinations. They claim that these three groups exhibit various degrees of cohesiveness, on the basis of which they can be distinguished and explain the difference by using an example, commit murder (1997, p. xxx). *Commit murder* is not an idiom, because the meaning of the whole reflects the meaning of the constituents and *commit* is limited in use to a few nouns, meaning *crime* and *wrongdoing*[1]. Moreover, this word combination is also different from free combinations in two ways. First, perpetrate seems to be the only synonym of the verb which can replace *commit*. Second, and more importantly, the combination *commit murder* is used more frequently. The points they regard as important in defining collocations are frequency, the range of each word, and collocational restriction with other words by comparison of two other combinations.

Based on the above definition of collocation, Benson et al. (1997) divide collocations into two categories: grammatical collocations and lexical collocations. The former consists of a dominant word such as noun, adjective, and verb and a preposition or a grammatical construction. The latter, on the other hand, does not contain any preposition or grammatical construction. Each categorization has been divided into sub-categorization as follows (1997, pp. xv-xxxiii):

Table 1. Grammatical collocations by Benson et al. (1997, pp. xv-xxxiii)

	Combination	Example
G1	noun + preposition	*blockade against, apathy towards*
G2	noun + to infinitive	*It was a pleasure to do it.*
G3	noun + that clause	*He took an oath that he would do his duty.*
G4	preposition + noun	*by accident, in advance*
G5	adjective + preposition	*be angry at, be fond of*

G6	predicate adjective + to infinitive	*It was necessary to work.*
G7	adjective + that clause	*It was nice that he was able to come home for the holidays.*
G8	consists of 19 English verbs	*send (the dative movement transformation verb)*

Table 2. Lexical collocations by Benson et al. (1997, pp. xv-xxxiii)

	Combination	**Example**
L1	verb + noun	*compose music, wind a watch*
L2	verb + noun (eradication and/or nullification and a noun)	*reject an appeal, reverse a decision*
L3	adjective + noun	*strong tea, a sweeping generalization*
L4	noun + verb	*bees buzz, bombs explode*
L5	noun + noun	*a bit of advice, a pack of dogs*
L6	adverb + adjective	*deeply absorbed, strictly accurate*
L7	verb + adverb	*affect deeply, amuse thoroughly*

From the pedagogical point of view, they emphasize the importance of the collocation acquisition in order for second or foreign language learners to achieve active mastery of English.

Although Benson et al.'s definition of collocations is more synthetic than previous researchers', Gramley and Pāzold (1992, pp. 64-65) point out that boundary between collocations and free combinations is not clear in *the BBI Dictionary of English Word Combinations*. Their critique is that while in the introduction of the dictionary it is mentioned that free lexical combinations are excluded, free combinations such as combinations of woman and common adjectives *fat, old, short* and *tall* are listed. Thus, Benson et al.'s distinction between collocations and free combinations is vague and therefore Gramley and Pāzold suggest that empirical research based on corpora is necessary to make the boundary clear.

Hill and Lewis (1997) have compiled *the Dictionary of Selected Collocations (DOSC)* based on Lexical Approach (1993) advocated by them. They argue in

the approach that as a chunk, especially collocation, is a central component in language, learners should try to develop their larger mental lexicon by paying attention to collocations from the early stages. To promote their Lexical Approach, they select collocations based on the frequency of the combinations, which is one of the important features for collocations (1999, p. 7).

The main interesting feature of the *DOSC* is that in compiling this dictionary, collocations are selected for intermediate or advanced learners who have had some degree of prior semantic knowledge about collocations to enable them to write, translate or speak English by using the words they have already known. On its cover, the *DOSC* states that it offers 55,000 collocations under 3,200 essential headwords to help learners make more natural, and hence better, use of words already partially known. Excluded are those collocations which, they write, are too common, too technical, too colloquial, or too difficult for learners to use; it includes those which have a strong relation, the strength of judgment resting on their expertise and their native speaker intuition.

2.3. Corpus-based collocation dictionaries

Since the middle of the 1990s computer-assisted collocation dictionaries such as *A Dictionary of English Collocations* (1994), *Collins COBUILD English Collocations on CD-ROM* (1995) and *Oxford Collocations Dictionary for Students of English* (2002) have been published.

Kjellmer (1994) has compiled a collocational dictionary: *A Dictionary of English Collocations* by using the Brown Corpus, which consists of one million words taken from representative samples of writings published in 1961 (1994, p. x). His work is based on two criteria for collocations, which he defines as "such recurring sequences of items as are grammatically well formed" (1994, p. xiv). One criterion is frequency of co-occurrence of certain words and the other is categorization of collocations. The former criterion is whether a sequence of two or more words has to co-occur more than once in the corpus in order to be accepted as a collocation. In discussing this, he makes the comment that the co-occurrence of words varies in both spoken and written English, and high

frequency word combinations should be listed in the dictionary. The latter criterion is that collocations should belong to one of 19 categories taken from Allen et al. (1975, cited in Kjellmer 1994, p.xxii) on a Swedish corpus, but the 19 categories are not divided into two groups, lexical collocations and grammatical collocations like Benson et al. (1997). The 19 categorization of collocations is shown in Table 3 (1994, pp. xxiii-xxix).

Table 3. 19 categorization of collocations by Kjellmer (1994, pp. xxiii-xxix)

	Combination	Example
1	noun phrase	*the big question, evening service*
2	nominal head + a related structure word	*way out, day off*
3	verb + object	*loved him, receive attention*
4	verb + related structure word(s)	*partakes of, paid for by*
5	verb + verb(s)	*will come, let go*
6	to + infinitive	*to be, to examine*
7	verb + its predicate	*was cold, made better*
8	adverbial + subordinating conjunction	*very young, extremely well*
9	adverb + subordinating conjunction	*now that, even though*
10	conjunction + adverb	*or else, and yet*
11	preposition + subordinating conjunction	*except that, in that*
12	adverb or preposition + preposition	*out from, from under*
13	full finite clause optionally followed by related structure word	*he said, when he was shot*
14	it- or there- construction + related structure word	*it is impossible to, it was obvious that*
15	noun-finite or verbless clause	*hands off, back straight*
16	as or like + NP or adverb	*as always, like myself*
17	interjections, exclamations, vocativistic expressions	*hey there, well now*
18	co-ordinated elements	*openly and honestly, actual or potential*
19	non-English expressions	*status quo, ad infinitum*

Such a classification scheme used in *A Dictionary of English Collocations* (1994) as well as *the BBI Dictionary of English Word Combinations* (1997) might be useful for reference purposes, but it seems to reduce vocabulary items and grammatical structures occurring in the natural language to collocations, according to Elyildirm (1997, p. 40). He is afraid that classifying collocations into some categories distorts natural language as if it were composed only of units of collocations, because there is no evidence showing that "native speakers of English completely rely on collocations in language production" (p. 40).

The *Collins COBUILD English Collocations on CD-ROM* (1995) is an electric collocation dictionary containing about 140,000 node/collocate pairs and 2.6 million different examples. They are all taken from the Bank of English, which consists of 320 million spoken and written British English (about 70%), American English (about 25%) and other native varieties of English (about 5%) from various sources such as newspapers, magazines, and radio broadcasts. The node of collocations was selected by computer based on the frequency and distribution in the Bank of English, omitting too technical terms, and the examples of combinations were selected at random from the Bank of English. Therefore, some unusual examples are found in it.

This electric dictionary can be easily accessed to check occurrences of high-frequency collocations, but the problem is that only 20 examples of combinations can be seen. In other words, only high-frequency collocations can be accessed, and low-frequency collocations cannot be seen. Thus, the presentation of collocations in the *Collins COBUILD English Collocations on CD-ROM* is very limited.

The *Oxford Collocations Dictionary for Students of English* (2002) is also a corpus-based collocation dictionary in which 150,000 collocations of 9,000 headwords (nouns), verbs and adjectives and over 50,000 examples of the collocations in context that occurred in the about 100 million word British National Corpus (BNC) are provided (see section 5.3.1.). The compilers define collocations as "the way words combine in a language to produce natural-

sounding speech and writing." They consider medium-strong collocations (e.g. *see a doctor*, and *direct equivalent*) as more important than fairly weak collocations (e.g. *see a film* and *an enjoyable holiday*) and the strongest and most restricted collocations (e.g. *see reason* and *burning ambition*) (p. viii). They argue that medium-strong collocations are vital to communicative competence in English because they will make learners' speech and writing sound much more natural, even when basic intelligibility does not seem to be at issue. Therefore, medium-strong collocations are especially focused on for learners, although it covers the full range of collocations in this dictionary.

From the pedagogical point of view, learners aim to build up their own collocational competence on a *need-to-know* basis, starting from the words they already know (p. viii), because "choosing the right collocation will make his speech and writing sound much more natural, more native speaker-like, even when basic intelligibility does not seem to be at issue" (p. vii).

2.4. Collocation dictionaries and English-Japanese dictionaries in Japan

Thanks to the development of corpus studies, collocation studies have made rapid progress which results in better treatment of collocations in English-Japanese dictionaries from both a scientific point of view and a pedagogical point of view. The growing popularity of electronic dictionaries, due to their reasonable price and the portability, began to add extra formation such as collocational information and more communicative information to general English-Japanese dictionaries in new editions.

There are a couple of English dictionaries which treat only collocations in Japan: *The Kenkyusha Dictionary of English Collocations* (1995) and *the Dictionary of English Basic Words' Usage* (1999), and English-Japanese dictionaries have attempted to present as much collocational information as possible.

The Kenkyusha Dictionary of English Collocations (1995), the first English collocation dictionary in Japan, was first published in 1939 and revised in 1995. This dictionary was designed to help learners produce appropriate English

sentences on the basis of collocation as a key factor whose meaning is the habitual association of words. Therefore, unlike general English-Japanese dictionaries, it focused on word combinations with nouns, verbs and adjectives and listed 200,000 examples. When revised, to provide more current and rich examples for learners, 380,000 examples of word combinations with three word classes are listed, renewing 80% of all examples as the result of access of an original corpus gathered by Kenkyusha. Thus, *the Kenkyusha Dictionary of English Collocations* has been used by many Japanese learners of English owing to its abundance of examples and has recently been included in electronic dictionaries.

Edited from more scientific point of view is *the Dictionary of English Basic Words' Usage* (1999). Words which collocate with 874 basic words for Japanese learners of English were selected from a 931,303 word corpus gathered from 10 sources: personal conversations, personal letters, literary works, Japanese textbooks of English, newspapers, business letters, science abstracts, broadcast English, weekly magazines, and women's speech. The combinations were also checked by native speakers of English who have intuition about word combinations. As a consequence of the analysis with a corpus study and checking by native speakers of English, the frequency of the combinations, the examples, the sentence patterns and sentence structure were all presented in this dictionary. Thus, the compilers of this dictionary aim to have learners acquire basic collocations to improve their listening ability based on the theory that it is difficult to attain considerable listening skill without a knowledge of collocations as well as that of words.

Collocations in many English-Japanese dictionaries in Japan used to be treated as one of the most important factors with word meanings and usages, appearing in bold face. However, some new English-Japanese dictionaries published or revised in 2000s have consciously introduced frequently used word combinations as collocations and treated them as more remarkable factors in more highly visible ways.

The Lighthouse English-Japanese Dictionary (fourth edition, 2002), which

consists of 62,000 words, highlights collocations in bold face. Moreover, of the many collocations, verb-noun collocations are taken special notice of and introduced in the distinct section to have learners recognize them. *The Luminous English-Japanese Dictionary* (first edition, 2001), which is published by the same publisher as *The Lighthouse English-Japanese Dictionary* but which consists of 99,000 words for more advanced learners, also utilizes the same treatment for collocations as *The Lighthouse English-Japanese Dictionary* does.

While the two English-Japanese dictionaries mentioned above focus on verb-noun collocations among lexical collocations, *The Super Anchor English-Japanese Dictionary* (third edition, 2003), which comprises 66,300 words, seems to treat each lexical collocation to be equally important. In it, grammatical collocations are written in bold face, but lexical collocations such as adjective-noun collocations, verb-noun collocations and verb-adverb collocations are added in a special section.

The Lexis English-Japanese Dictionary (first edition, 2003), which consists of 98,000 words, has an original special section for English usage including collocations. As a whole, the relation between verbs and prepositions is focused on and appears in bold face. However, the sections which are called *planet board* show the acceptability of expressions judged intuitively by 103 native speakers of English who live in the US (41), the UK (41), Canada (9), Australia (7) and New Zealand (5). For example, those who live in the US and the UK chose *get* to the question, answered the question, "If you don't [do / get / have / take] more exercise, you'll get fat" (p. 611). While the other verbs are used much less than *get*, *do* and *take* are also frequently used in the UK. The *planet board* is intended to show that data from corpus and data from the native speakers' intuition are both complementary to each other in selecting important expressions for Japanese learners of English.

3. Conclusion

In lexicographic studies, researchers have been discussing some questions of collocations in a dictionary: Should collocations be regarded as

separate dictionary entries? If so, which collocations and how many should be dealt with in the restricted space of a dictionary? General purpose English dictionaries have recently made an attempt to give as much collocational information as possible, but they still have to provide other information such as grammatical information about the word. They have also seemed to have no consensus on important collocations. In order to overcome the shortcomings of general purpose dictionaries, collocation dictionaries including electric versions have been compiled based on high-frequency collocations extracted from large corpora and development by computer technology.

However, there are only two collocation dictionaries, *The Kenkyusha Dictionary of English Collocations* (1995) and *The Dictionary of English Basic Words' Usage* (1999), specific for Japanese learners of English. These dictionaries are compiled to have learners acquire collocations based on the theory that it is difficult to attain considerable communication skill without a knowledge of collocations as well as that of words, but not compiled based on high-frequency collocations extracted from large corpora and development by computer technology. Moreover, they are not compiled in a pedagogical point of view: in the order of the importance of words to be acquired and in the order of the difficulty of collocations to be acquired. This is because empirical research and corpus-based research conducted so far are not enough to clarify what the mechanism of acquisition of collocations is like, how many collocations should be taught and so on. More pedagogical and scientific research is to be done to compile new collocation dictionaries in the light of effective collocation acquisition for Japanese learners of English.

Notes

This paper is based on the Chapter 2 from the author's PhD dissertation submitted to the Graduate School of Education, Waseda University, in 2005, under the title "The Acquisition of Basic Collocations by Japanese Learners of English."

[1] As *commit* collocates with not only nouns with negative meanings (*crime* and *wrongdoing*) but also ones with positive meanings (*money* [for example, *The council has committed large amounts of money to housing projects.*]), this argument of Benson et al.' s is a little bit too strong.

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