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## Language Education – Vocabulary

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### What Vocabulary?

There are numerous vocabulary counting programs that change texts into frequency lists of vocabulary and show how much text is covered by frequency-ranked lists. What these counts show is that a relatively small number of words account for a very large proportion of text. The 270 function word types (176 word families), such as *one, a, the, because, in, must*, cover about 44% of the running words (tokens) found in most texts. These function words, however, make up a small proportion of the frequent words of English. Among the highly ranked items are words such as *time, say, day*. The most frequent 2000 words of English, which include most of the function words, are the essential widely used words of the language. They are important no matter what use is made of the language, and they cover a large proportion of spoken and written text. They also represent a feasible learning goal for an English course of 800 to 1000 hours.

For learners with academic purposes such as study through the medium of English in senior high school or university, the next important vocabulary learning goal is academic vocabulary. The best researched list of these words is the Academic Word List (Coxhead, 2000), which consists of 570 word families arranged into ten sublists with sublist 1 containing the most frequent widest-range items. There are well-researched tests available (Schmitt *et al.*, 2001; Nation, 2001) called the Vocabulary Levels Tests, which can be used to quickly determine which level of vocabulary learners need to focus on. The main distinction to be made when interpreting the results of the test is between the high frequency words (the first 2000 words and the Academic Word List) and the low frequency words (3000 level onward).

### How Should Words Be Dealt With?

The high frequency/low frequency distinction is an important one when planning a vocabulary program. This is because from a teaching perspective these two groups of words should be dealt with in different ways. The 2000 or 2570 high frequency words deserve classroom time. This is because of their high frequency and wide occurrence. This classroom time can involve direct teaching of these words, doing activities designed to teach and practice these words, and deliberate learning of these words. Low frequency words on the other hand do not deserve classroom time. This is because there are so many of them and because of their low frequency of occurrence. When learners know the high frequency words, they need to begin learning low frequency words. However, the teacher should not be spending valuable classroom time teaching those low frequency words. Instead, the teacher should spend time teaching the four most useful strategies for dealing with these words, namely the strategies of guessing words from context clues, deliberate learning using word cards, helping memory by using word part analysis, and dictionary use.

The opportunities for teaching and learning high frequency vocabulary can be divided into four strands. The meaning-focused input strand involves opportunities for learning through listening and reading where learners are already familiar with 95–98% of the running words in the listening and reading input. The meaning-focused output strand involves opportunities for learning through speaking and writing. The language-focused learning strand involves giving deliberate attention to vocabulary learning through activities such as intensive reading, using word cards, preteaching of vocabulary before doing communicative activities, and the deliberate learning of vocabulary strategies. The fourth strand is the fluency development strand where learners do not learn new vocabulary but practice making the best use of words

they already know. Each of these four strands deserves roughly equal time, and most of the remainder of this description of the role of vocabulary in language education will focus on how each of these strands can be put into practice.

### Learning Vocabulary Through Listening

The conditions needed for the meaning-focused input strand are that learners should be focused on understanding what they are listening to or reading, they should already know at least 95% of the words and phrases in the input, and thus there is a small number of unfamiliar language features that can be understood through context clues. This means that at each level of a learner's language-proficiency development there needs to be material at an appropriate language level. Thus, it is essential to use specially written or simplified material where the vocabulary level is controlled in a planned way. An enormous amount of such material already exists in English, largely in the form of graded readers. Some of these can be used for listening activities in much the same way as a story is presented in weekly or daily installments on the radio. Another important source of listening input is the teacher's classroom instructions and interaction with learners. If these are carried out using high frequency vocabulary, then they become an important opportunity for vocabulary learning.

Most graded readers are fiction, and in addition to these, it is important to have nonfiction text as input. A useful activity that suits nonfiction material and that can help vocabulary learning is information transfer (Palmer, 1982). In such activities, listening input is changed into a diagrammatic or semi-diagrammatic form such as a labeled flow diagram or a completed information table. For example, the teacher describes the journey taken by a group of people and learners mark the route on a map. Similarly, while listening to a physical description of say a flowering plant, the learners complete a four-part table by filling in the names of the parts of the plant, where the parts are located, what they are like, and what job they do.

Another important source of vocabulary learning through meaning-focused input is through conversational interaction, and this will be looked at when we look at vocabulary learning through speaking.

### Learning Vocabulary Through Reading

A well-designed, well-managed extensive reading program is an effective way of building vocabulary knowledge. It is important to realize that there are various kinds of vocabulary learning going on in

extensive reading, representing different strengths of knowledge. An experiment by Waring and Takaki (2003) used three different kinds of vocabulary tests for each of the target words in a graded reader – (1) a recognition test (Which of these words occurred in the text?), (2) a multiple-choice test of word meaning, and (3) a translation test. The most difficult test, the translation test, showed small amounts of learning, but the other two tests showed increasingly larger amounts of learning. Thus, extensive reading provides opportunities for various degrees of learning for different words.

A good extensive reading program has the following features (Nation and Wang, 1999). It provides plenty of interesting material where each learner can read already knowing about 98% of the running words in the text. It encourages learners to read at least one book every two weeks. It encourages learners to read at least three books at the same level before moving up to the next level. It encourages learners to deliberately learn most of the general purpose unknown vocabulary that is met in the texts. It provides opportunities for learners to talk and write about their reading, being careful not to let reporting activities have the effect of reducing the amount of time spent reading. Extensive reading programs have many beneficial effects in addition to increasing vocabulary knowledge (Elley, 1991).

### Deliberate Vocabulary Learning

All research comparing deliberate, decontextualized vocabulary learning with vocabulary learning from context has found that given the same amount of time, deliberate learning always results in more learning. This, however, should not be seen as an argument against learning from context but as part of the argument in favor of having deliberate learning as a component of a well-balanced course. In this part of a course, learners should study vocabulary using word cards (small cards with the target word or phrase on one side and its first language translation on the back). Although initially this kind of learning can be done in class time, it is best if it is done largely out of class when the learners have a few minutes of free time such as when traveling on the subway, waiting for a bus, or during TV commercials. Research provides useful guidelines for such learning.

1. Use small cards, not notebooks. Using cards allows the word or phrase to be put on one side and the translation on the other, which allows retrieval to occur, that is, looking at the word and then attempting to retrieve its translation from memory. Seeing both words together does

- not allow the possibility of retrieval. Using cards also allows the order of the words to be easily changed to avoid serial learning.
2. Increasingly space the repetitions. That is, go through the pack of cards once and then do something else for five or ten minutes then go through the pack again. Then wait for half an hour before going through them again. Then wait two or three hours, and so on.
  3. Use memory techniques such as the keyword technique (Nation, 2001: 311–314), word part analysis, study of etymologies, and visualization with the words that are difficult to remember. Skillful use of a dictionary to find a word's frequency of occurrence, to work out the core meaning of the word, and to see its range of senses, typical uses, and various forms also helps learning.
  4. Make sure that the words in a pack do not have closely related meanings, that is, that there are not pairs of opposites or synonyms, or members of a lexical set such as articles of clothing, fruit, days of the week, or numbers. Learning such related items together makes learning 50% to 100% more difficult (Nation, 2000).
  5. Say the words or phrases to yourself when looking at the cards and get help with the pronunciation of difficult words. Pronounceability is a major factor affecting vocabulary learning.
  6. It is good to use translations of words when learning their meanings. The first language translation is a simple, clear way of communicating the meaning of a word, and research has shown such translations to be effective. As learners' proficiency develops, they will gain more accurate and elaborated representations of meaning.

Deliberate learning should become the responsibility of each learner, but learners may need encouragement and training in applying the guidelines.

#### **Deliberate Vocabulary Teaching**

The most obvious place for direct vocabulary teaching is as part of intensive reading. Intensive reading involves the teacher and the learners working carefully through a short text looking at a range of language features and content issues relevant to the text. From a vocabulary perspective, dealing with unknown words in intensive reading can involve preteaching some words before reading the text, quickly giving the meaning of some words, ignoring some, spending a lot of time on others, using the text as an opportunity to give training in the strategies of guessing from context, word-part analysis, and dictionary use, and altering the text to get rid of some low frequency

words. The decision about which of these things to do for a particular word should depend on whether it is a high frequency word or a low frequency word, its importance for the message of the text, and the nature of the word itself and its context in the text. For example, preteaching should be done with high frequency words that are important for the message of the text, and that are not easily guessed from context. Low frequency words do not deserve this kind of attention in teaching. Altering the text should be a way of getting rid of low frequency words that are not important for the message of the text.

A small amount of deliberate teaching can occur in listening activities, and this has been shown to have a positive effect on vocabulary learning (Elley, 1989). Feedback on learners' spoken and written output is yet another opportunity for deliberate vocabulary teaching.

Deliberate vocabulary teaching also includes training learners in the use of the vocabulary strategies of guessing from context, learning from word cards, word part analysis, and dictionary use. These strategies require a repeated investment of time over several months so that learners reach the stage where it is easier to use the strategy than not to use it. For the guessing strategy, this can involve focusing one by one on the types of clues that are available from the immediate context and the wider context, having learners work with the teacher, then in pairs, and finally alone, and working with time pressure to develop fluency in using the guessing strategy. These strategies deserve a lot of classroom time because they can be used to cope with thousands of low frequency words

#### **Learning Vocabulary Through Speaking**

The meaning-focused output strand of a course involves learning vocabulary through speaking and writing. One of the most powerful factors affecting vocabulary learning through speaking is negotiation of meaning. Negotiation occurs when learners deliberately explain language items as a result of a breakdown in communication. The likelihood of negotiated words being learned is high, but negotiation still only accounts for a small proportion of the words learned through spoken communication activities. Most vocabulary learning in such activities occurs through guessing from context.

The way speaking tasks are designed can have a major influence on what and how much vocabulary is learned through such tasks. Vocabulary learning is helped if the written input to the task contains the target vocabulary, if performing the task requires the

use of that vocabulary, if there are repeated opportunities in the task for the vocabulary to be used, and if the task requires the learners to use the vocabulary in at least a slightly different way from the one in which it occurred in the written input to the task. It is not difficult to design speaking tasks that meet these requirements.

### Learning Vocabulary Through Writing

Communication through the Internet has increased the opportunities for learning vocabulary through writing. There is evidence that written Internet discussion can include negotiation of vocabulary.

Productive information-transfer activities where learners turn diagrammatic representations such as graphs, plans and maps, and lists into connected written text provide good opportunities for vocabulary learning. The same design features described for speaking also apply in the design of writing tasks. Other writing activities that make use of written input such as synthesizing information from several texts can also be important sources of vocabulary learning.

In general, useful writing activities will involve the use of written or spoken input in getting information to write about.

Feedback on written work may also be an effective way of expanding vocabulary knowledge and collocational knowledge (which words go with which words). This feedback can be directed toward vocabulary choice and collocations.

### Fluency Development

The fourth strand of a course is its fluency development strand. The vocabulary goal of this strand is to help learners make the best use of the vocabulary that they already know. Activities that fit within this strand do not aim to teach new words but aim to strengthen and enrich knowledge of words that are already partially known. Fluency activities have the following characteristics. They involve no unknown vocabulary, grammatical features, or discourse features. There is pressure or encouragement during the activity to perform at a faster than typical speed. The activities are message focused in that the learners aim to produce or comprehend messages, and, finally, they involve a large quantity of language use. Fluency activities are needed in each of the skills of listening, speaking, reading, and writing.

At the word or phrase level, fluency activities can focus on numbers, time sequences (yesterday, tomorrow, last week), greetings, and any set that needs to be used without a great deal of thought. In such

activities, the teacher says words or phrases quickly while the learners point to what is being said. Such activities can also be done productively with the teacher pointing at pictures or symbols and the learners having to quickly produce the appropriate phrase. Other more advanced fluency activities include the 4/3/2 activity (giving the same talk in a decreasing timeframe to a new listener), speed reading, and ten-minute writing where learners write each day for ten minutes concentrating on quantity of writing rather than on quality.

### Monitoring and Encouraging Progress

The learning of any individual word needs to be seen as a cumulative process with both strength of knowledge and richness of knowledge of each word growing with repeated receptive and productive encounters with a word. Because there are many aspects to learning a word and many degrees of strength of knowledge, there is a wide variety of vocabulary measures available, and each one needs to be seen as a means of providing at least a slightly different view of learners' vocabulary knowledge (Read, 2000). The choice of a vocabulary test item needs to be based on a careful consideration of what kind of knowledge needs to be measured. Factors to consider when choosing a particular test format include, (1) the kind of knowledge that needs to be tested, (2) the likely strength of the knowledge (using a demanding test to test knowledge that is likely to be partial or weak will not provide a useful measure), (3) the time available and the number of items that there should be in the test, and (4) the language proficiency and test-making skills of the test makers and test markers. To reach an adequate degree of reliability, most vocabulary tests need to have at least 30 items.

Well-researched vocabulary measures include a variety of vocabulary-richness measures which look at the range of vocabulary used in a piece of writing (Malvern *et al.*, 2004), interview measures that explore knowledge of the meanings of words and their use (Nagy *et al.*, 1985; Wesche and Paribakht, 1996), multiple-choice depth measures which look at collocations and meaning components (Read, 1998), and multiple-choice, matching, and translation items which focus on word meanings.

Vocabulary testing can have a variety of goals. Because vocabulary knowledge is such a fundamental part of language proficiency, vocabulary tests have often been used for wider goals.

1. Placement in a language program. Measures such as the Vocabulary Levels Test (Schmitt *et al.*,

2001), the Eurocentres 10KA (Meara and Jones, 1990), and the vocabulary levels dictation test (Fountain and Nation, 2000) have often been used as part of a wider battery of tests to assign learners to the appropriate proficiency level group in an intensive English program.

2. Diagnosis of vocabulary strengths and weaknesses. The Vocabulary Levels Test was designed to see what levels of vocabulary learners already knew and to indicate the next level to focus on in teaching and learning.
3. Encouragement of learning. Some programs use weekly vocabulary tests to encourage learners to do deliberate vocabulary learning. These tests can involve each learner giving the teacher a list of ten of the new words they have been working on, and then the teacher writes a symbol next to each word indicating what the learner has to do with each word in the test. For example, S can mean write a sentence containing that word, C can mean write two collocations for the word, M can mean explain the meaning of the word, and so on (Smith, 1996).
4. Monitoring progress. Vocabulary tests that are focused on the learning done in a course (achievement tests) may be used to measure progress through the course.
5. Measuring proficiency. Measures of total vocabulary size, and measures of particular vocabulary levels such as the Academic Word List, may be used to see where learners are in their vocabulary growth.

### Encouraging Autonomy

Like most learning, vocabulary learning will be most effective if learners take control of and responsibility for their learning. This involves knowing what to learn, knowing how to learn it, and being motivated to do this learning and to put it to use.

This is not easy to achieve, and the few studies on vocabulary in this area indicate that most learners do not take an organized approach to their learning (Moir and Nation, 2002). One way of encouraging autonomy is to introduce a negotiated syllabus where the teacher and learners share the decision making about the various aspects of the course on a continuing basis. These aspects may include what vocabulary to learn, what vocabulary activities to do in class and how much time to spend on them, what vocabulary tests to use, and what homework to set. The goals of a negotiated syllabus are to make the course as sensitive as possible to the changing needs of the learners and to get the learners to feel ownership of the course.

### Principles of Vocabulary Learning and Teaching

The vocabulary component of a language course will be more effective if it is based on well-supported principles that are clearly known by both teachers and learners. A short list of such principles should include the following.

1. The sequence of vocabulary learning should move from high frequency vocabulary and special purposes vocabulary to low frequency vocabulary.
2. High frequency vocabulary and special purposes vocabulary should get attention across the four, roughly equal, strands of teaching and learning vocabulary: meaning-focused input, meaning-focused output, language-focused learning, and fluency development.
3. With low frequency vocabulary, teachers should focus on the strategies of guessing from context, learning word cards, using word parts, and using the dictionary.
4. Learning activities should be designed to encourage thoughtful processing of vocabulary through retrieval, generative use, and the use of mnemonic devices where needed.
5. Learners should be helped to take responsibility for their own vocabulary learning.

Vocabulary growth is a critical aspect of second language proficiency development, and as such it needs to be properly supported by a principled, well-thought-out component in a language course.

*See also:* Corpus Studies: Second Language; Lexical Acquisition; Second and Foreign Language Learning and Teaching; Second Language Listening; Second Language Reading; Second Language Speaking; Second Language Writing; Vocabulary: Second Language.

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## Language Families and Linguistic Diversity

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### Linguistic Diversity

'Linguistic diversity' refers to several interrelated phenomena:

1. phylogenetic (genetic, genealogical) diversity: the number of language families in a geographic area;
2. intrafamilial and intralinguistic variation: differences among the languages of a family and among the variants of a language;
3. language density: the number of languages in a geographic area;
4. typological diversity: differences among the structures which make up languages.

The focus of this article is on (1), (2) and (3) (see also *Variation and Language: Overview*). More conventional approaches to these topics are discussed first, then a recent alternative.

Although (4) will not be discussed further here, the relationship between phylogenetic and typological diversity should be mentioned. It is quite common for the members of a language family to be typologically similar, but there is no necessary reason why they should be so. There is, for example, considerable typological variety among the grammars of the Austronesian family, some of it the result of contact with non-Austronesian languages, but much of it the outcome of language-internal changes. Conversely, languages belonging to different language families

may be typologically quite similar, either as the result of contact or as the result of independent parallel innovation.

### Language Families

#### Definitions and Problems

A language family is conventionally defined as a set of languages that share a common ancestor. The family metaphor captures two insights: that languages are systems that are transmitted from one generation to the next (generational continuity) and that these systems change over time so that when a community of speakers divides into, say, three separate communities, the speech of each of the three will change in different ways from the others, leading eventually to mutual unintelligibility, i.e., three languages descended from a shared ancestor. The basis of the metaphor is biological evolution, where one species divides into two or more new species (McMahon, 1994: Chap. 12), even though linguists often use the term 'family tree,' which otherwise denotes trees drawn to represent human family relationships.

Identifying a language family in the first place depends on finding individual-identifying evidence (Nichols, 1996, 1997), patterned similarities between a set of languages that could not have arisen by chance and must be the outcome of shared inheritance. The Indo-European family, for example, was first definitively identified by Sir William Jones in 1786 on the basis of similarities between the verb paradigms of Sanskrit, Greek, and Latin. Recently, the Trans-New