

classroom or generated through self-study, can only provide some elements of lexical knowledge. Even lexical information amenable to conscious study, like meaning, cannot be totally mastered by explicit study because it is impossible to present and practice all creative uses of a word that a student might come across. Other types of lexical knowledge, such as collocation or connotation nuances, can only be fully grasped through numerous exposures to the word in various contexts. Explicit and incidental approaches, therefore, are both necessary in learning vocabulary.

7. Explicit teaching

A number of principles for the explicit teaching of vocabulary have been suggested, such as the following:

- Build a large sight vocabulary.
- Integrate new words with old.
- Provide numerous encounters with a word.
- Promote a deep level of processing.
- Make new words "real" by connecting them to the student's world in some way.
- Encourage independent learning strategies.
- Diagnose which of the most frequent words learners need to study.
- Provide opportunities for elaborating word knowledge.
- Provide opportunities for developing fluency with known vocabulary.
- Examine different types of dictionaries, and teach students how to use them.

In addition to these principles, a few other points are worth remembering. The list mentions integrating new words with old, which is often done by grouping similar words together. If two or more similar words are initially taught together, however, learning them might be more difficult. This is because students learn the word forms and the meanings, but confuse which form goes with which meaning, a phenomenon known as *crossassociation*. As a beginning teacher, I often confused my students in this way by teaching *left* and *right* together in the same class. After extensive drilling, I would ask the students at the end of class to raise their left hands. To my consternation, a large number always raised their right. The problem was that the meanings of the words *left* and *right* were the same except for "direction."

Research shows that crossassociation is a genuine problem for learners. Perhaps as much as 25 percent of similar words initially taught together are crossassociated (Nation, 1990). Antonyms are particularly prone to crossassociation, because they tend to be taught in pairs like *deep/shallow* or *rich/poor*, although synonyms and other words from closely related semantic groupings (e.g. days of the week, numbers, foods, and clothing) are also at risk.

One way of avoiding crossassociation is to teach the most frequent or useful word of a pair first, such as *deep* in the previous example, and only after it is well established, introduce its partner, which in this case would be *shallow*.

Another principle is teaching the underlying meaning of a word. Many words are polysemous in English; that is, they have more than one meaning sense. The word *bank*, for example, means "a financial institute," "the side of a river," or "tilting when turning." In addition, some of these different meaning senses often have a common underlying trait. The word *chip*, for example, is "a small piece of something," "a computer chip," or "a potato chip," all of which have the underlying trait of being small, flat, and thin.

As another example, let's examine the word *fork*, which can be a *fork* to eat with, a *fork* in a road or river, a *tuning fork* for use with music, a *pitch fork* farmers use to throw hay, or several other things. The meaning sense of "implement used for eating or in gardening" comprises the vast majority of occurrences of the word *fork*, while "anything so shaped," like a *fork in the road* makes up a minority. This would suggest that an "eating fork" is the most important meaning sense, but in this case, we can capture all of the meaning senses by defining the word with a drawing shaped like a "Y." By defining the underlying meaning, we maximize the effect of the teaching because we enable students to understand the word in a much wider variety of contexts.

We can also maximize vocabulary learning by teaching word families instead of individual word forms. When teachers introduce a new word, they should mention the other members of its word family. In this way, learners form the habit of considering a word's derivations as a matter of course. To reinforce this habit, teachers may eventually ask students to guess a new word's derivatives at the time of introduction. Including a derivation section as part of assessment also promotes the idea that learning the complete word family is important.

My research in Japan indicates that most people tend to think of vocabulary learning as an individual pursuit, unaware that cooperative group learning promotes active processing of information, enhances the motivation of the participants, and prepares participants for team activities outside the classroom. And, because there is less instructor intervention, students may have more time to actually use and manipulate the vocabulary. One study found that about half the words required by the tasks in the class were known by at least one, though not all, members in the student groups (Nation and Newton, 1997). Furthermore, the students were generally able to negotiate unknown vocabulary successfully, indicating that learners can be a useful vocabulary resource for one another. Thus, teachers may well find it useful to set up