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ABSTRACT
                This article discusses second language vocabulary
learning strategies and includes an analysis and classification of
possible strategies and the report of a study conducted among second
language learners in Japan. Research on vocabulary learning
strategies is synthesized into two lists of strategies: 14 methods
for initial learning of a new word's meaning (use of reference
materials, working with others, analyzing words from available
information, creating systems to analyze words, using knowledge of
other languages, and avoidance) and 28 strategies for studying and
remembering a word's meaning once it is known (repetition, study of
formal and grammatical aspects, creation and use of study aids,
perseverance, physical actions, manipulation of meaning, association
systems, working with others, imaging, and use of knowledge of other
languages). The study reported used these lists of strategies to
determine how 600 Japanese subjects, ranging from junior high school
students to adults, ranked their use and the utility of various
strategies. Strategies considered to be most helpful and least
helpful are listed and discussed briefly. Contains 11 references.
(MSE)

Identifying and Assessing Vocabulary Learning Strategies

Norbert Schmitt and Diane Rae Schmitt

IDENTIFYING AND ASSESSING VOCABULARY LEARNING STRATEGIES

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The last twenty years has seen a change in language pedagogy from Audiolingualism, mainly based on grammar practice and drill, towards a more communicative style of teaching. This evolution has brought with it a change in the way both teachers and learners are viewed. Where before teachers were considered the sole source of knowledge and students passive recipients, learners are now increasingly encouraged and expected to take an active role in their own learning. In addition to this paradigm shift in teaching methodology, realization of the importance of several other factors has helped lead to a new emphasis on the learner. First, the amount of time most students can spend in the L2 classroom is limited and usually amounts to only a few hours a week at best. In an ESL situation, the potential opportunities for learning in the community at large can outweigh those in the classroom. Second, since learners may have the best awareness of their own strengths, weaknesses, and personal preferences in individual and cultural learning style, they should have some voice in how their learning is achieved. Third, the language teaching field has moved away from searching for a perfect teaching method and towards a focus on how successful learners actually achieve their goals. Fourth, research from cognitive psychology has shown that language learning "requires learners to actively assimilate new information into their existing mental structures, thus creating increasingly rich and complex structures" (Oxford 1986, emphasis mine). A combination of these factors pointed to the necessity of learners having the skills to help manage their own learning, leading to an interest in learner strategies.

This interest in learner strategies generated empirical research which generally tended to validate their usefulness. Bialystok (1981) found that four strategies (formal practice, monitoring, functional practice, and inferencing) correlated positively with language achievement. Zimmerman and Pons (1986) observed that high achievement track students reported using significantly more strategies than the lower track students. O'Malley and Chamot (1990) have done considerable research on learning strategies and have found that effective students used a greater variety of strategies, including both top down and bottom up types than noneffective students. In a survey of second language learning strategy research, Oxford (1986) concludes that learning strategies "improve language performance, encourage language autonomy, are teachable, and expand the role of the teacher in significant ways."

Most of this strategy research has focused on vocabulary learning strategies, in large part because discrete point tasks (such as learning a word) are both easier to empirically validate than more global tasks (making an invitation politely), and because they are amenable to either classroom or laboratory research techniques. Unfortunately, studies have almost exclusively concentrated on a limited number of vocabulary learning strategies, particularly mnemonic techniques, such as the keyword approach, and guessing word meanings from reading context. So paradoxically, although the bulk of general learning strategy research has focused on vocabulary, vocabulary strategies taken as a group have been extremely under-researched. There have been few studies which have approached vocabulary learning strategies as a set, either seeking to identify or analyze them (For an exception, see Ahmed, 1989).

Creating a List of Vocabulary Learning Strategies

As a first step in addressing this deficiency, a project was undertaken to compile a list of vocabulary learning strategies. Various sources were used to ensure that the list would be as comprehensive as possible. First, a number of vocabulary reference books and textbooks were examined, providing the majority of the strategies listed. Second, Japanese intermediate-level students were asked to write a report on how they studied English vocabulary words. Several additional strategies were gleaned from these reports. Third, several teachers were asked to review the list and add any strategies they had gained from their experience.

These sources together yielded 36 strategies. Since then, one additional strategy has been included. The list as presented in this paper should not be considered comprehensive, but rather a working inventory to which additional strategies will almost certainly be added in the future. However, considering the multiple sources consulted, the most commonly used strategies are likely to be covered.

Once the list was compiled, it was analyzed to see if naturally occurring categories could be found. The first aspect considered was the distinction between 'discovering' a new word's meaning and 'practicing' that meaning, a recurring theme in articles dealing with lexis. Cook and Mayer (1983) mention several similar categorizations, such as "storage encoding/ retrieval encoding" and "addition of new information to memory/assimilation of the new information to existing knowledge". Nation (1990) formulates this distinction as "increasing vocabulary" and "establishing vocabulary" It was found that this distinction of mental processing was reflected in the gathered list of vocabulary learning strategies, which are really the outwardly visible facilitators of those processes. The strategies generally applied to one of two major areas:

1. Initial learning of a new word's meaning
2. Studying and remembering the word's meaning once it is known

There were a few strategies that seemed to 'cross over' and have value in both areas. For example, analysis of roots and affixes can be useful both during the guessing process of learning a new word's meaning, and in helping to remember and use that meaning later.

The next step involved dividing the list into smaller categories within the two major areas. This preliminary categorization was done intuitively, grouping strategies together which seemed to have aspects in common. In the future, a more-detailed analysis may yield different or improved categorizations.

VOCABULARY STRATEGY LIST

Initial Learning Of New Word's Meaning

USE REFERENCE MATERIALS

Bilingual dictionary
Monolingual English dictionary

ASK OTHERS FOR INFORMATION / WORK WITH OTHERS

Ask classmates
Ask teacher for English paraphrase or synonym
Ask teacher for translation
Ask teacher for a sentence using the new word
Learn meaning during group work

ANALYZE WORDS FROM AVAILABLE INFORMATION

Look at pictures or gestures to understand meaning
Check part of speech (noun, verb, etc.)
Guess meaning from reading context
Check prefixes, suffixes, and word roots to discover meaning

CREATE SYSTEM TO ANALYZE WORDS

Attempt to guess where a new word's meaning lies along a 'scale' of gradable adjective meanings
(burning-hot-warm-cool-cold-freezing)

USE KNOWLEDGE OF OTHER LANGUAGES

Cognates
AVOIDANCE

Skip or pass new word

Studying And Remembering The Word's Meaning Once It Is Known

REPETITION

Written repetition
Verbal repetition

STUDY THE FORMAL AND GRAMMATICAL ASPECTS OF A WORD

Study the spelling of the word
Study the way the word sounds
Study the word's part of speech
Study the word's root, prefixes, and suffixes

(MAKE AND) USE STUDY AIDS

Take notes in class about new words
Use Word Lists to study new words
Use Flash Cards to study new words
Use the vocabulary section in your textbook
Use the configuration technique to remember word form:

[graphics]   elephant   (from Smith, 1971)

5

PERSEVERANCE STRATEGY

Continue to study the word often over a period of time

USE PHYSICAL ACTIONS

Use physical action when studying words
(do throwing action when studying the word 'throw')
Say the new word aloud when studying it

MANIPULATION OF MEANING

Use the new word in sentences
Paraphrase the meaning of the new word

CREATE SYSTEM OF ASSOCIATIONS

Study the word's synonyms and antonyms
Learn the new words in an idiom together at the same time
Connect the new word to some situation in your mind
Use 'scales' to study gradable adjective sets
Associate the word with others in the same topic
(furniture: table, chair, bed)
Associate the word to others which are related to it
(water: swim, drink, wet, blue)

WORK WITH OTHERS

Have your teacher check your word lists and flash cards for correctness
Study words with a group of students

IMAGING

Make an image of the word's meaning
Imagine the word form and its spelling in your mind
Use the Keyword Approach   (Think of a L1 word that sounds
similar to the new L2 word. Then make a single mental
image combining the meanings of both words. When you hear
the new L2 word, this linking image can be remembered,
bringing with it a prompt for the L2 word's meaning)

## USE OF KNOWLEDGE OF OTHER LANGUAGES

Cognates

Assessing the Strategies for Effectiveness

It would be extremely helpful if these strategies on the working list could be ranked for intrinsic
effectiveness. Unfortunately, research has shown that strategy effectiveness in general largely
depends on an individual's personality and study traits, the type of task being attempted, and the
learning environment. Oxford (1989) surveyed the available literature and identified several factors

which affect a strategy's usefulness: the target language being learned; the degree of a learner's self awareness of his or her strengths, needs, study style, etc.; the learner's sex; the learner's attitudes and motivation; the learner's personality type, especially his or her lack of inhibition; the learner's learning style; the learner's national origin; and the language teaching methods being employed. Even though strategy effectiveness is largely dependent on these outside factors, a principled way is being sought to assign the vocabulary strategies to at least broad characterizations of greater or lesser utility. Such information could give teachers of culturally and individually diverse classrooms some guidance as to which strategies are most advantageous to teach when it is difficult to personally tailor a strategy program for each individual group of students.

One promising line of analysis employs Craik's Levels of Processing Model (1972, 1975). Greatly simplified, the model states that the quality of learning directly depends upon how involved the mental manipulation of the new information is. If new material is given to a learner and it is only superficially processed, even for a considerable length of time, it is unlikely to become embedded in the mind and may be easily forgotten. Conversely, if the new material has to be analyzed, synthesized, reworked, or associated with other already-known information, the processing will be more involved (deeper), giving the new material a better chance to become integrated with existing knowledge in the learners mind.

Using this reasoning, a "depth of processing" continuum can be derived, such as the following:

Superficial Processing /   Deeper Processing /
Shallow learning   Greater learning
<-->
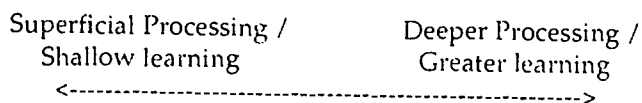
Although empirical validation is still lacking, some strategies from the list seem likely candidates for one end of the continuum or the other. For example, written and verbal repetition, use of word lists, and studying the part of speech of a word would intuitively involve relatively less processing, while the strategies involving association of new information with old, imaging, and manipulation of meaning imply the kind of mental activity that leads to deeper processing. This "depth of processing" continuum was applied to the results of the vocabulary study described next.

Vocabulary Strategy Ratings by Japanese Subjects
A study was recently completed in Japan utilizing the preceding vocabulary strategy list. Six hundred Japanese subjects, ranging from junior high school students to adults, were asked to complete a survey asking them to consider each strategy, checking if they used it or not and whether they thought it helpful. They were also asked to rate the five most helpful strategies. Preliminary analysis of the data concerning the "Studying and Remembering the Word's Meaning Once it is Known" strategy group suggest the following results:

Strategies considered to be the most helpful:
        #1 Written repetition
        #2 Verbal repetition
        Others:Continue to study the word often over time
        Say the new word aloud when studying it
        Study the spelling of the word
        Take notes in class about new words
        Study the word's synonyms and antonyms
        Learn the new words in an idiom together at the same time
        Study the way the word sounds

Use the new word in sentences

Strategies considered to be the least helpful:
Have teacher check word lists and flash card for correctness
Use Cognates
Associate the word to others which are related to it
Use the Keyword Approach
Use physical action when studying words
Associate the word with others in the same topic
Image the word form and its spelling in your mind
Make an image of the words meaning
Study the word's root, prefixes, and suffixes
Use 'scales' to study gradable adjective sets
Study words with a group of students

From these lists, it seems that many of the highly regarded strategies fall at the 'superficial' end of the processing continuum, while most of the poorly regarded strategies belong at the more effective 'deeper processing' end of the continuum. There are several possible explanations for this. First, 'superficial processing' type strategies can be easier to understand and use. Learners may learn some 'simpler' learning strategies initially and never go on to more advanced ones. Second, many learners may be unaware of the existence of any alternative strategies. If this is so, teachers need to become more aware themselves of the possible vocabulary strategies available, and choose several options to teach their students. Third, some cultures favor certain strategies, perhaps because those strategies are stressed in the culture's school systems. Politzer and McGroaty (1985) found that Orientals prefer strategies involving rote memorization and language rules as opposed to more communicative strategies. In some cases the cultural preferences may be so strong that teachers may have to "camouflage" new strategies under the guise of old familiar ones (Sutter, 1987). For whatever the reason, these results indicate that there is a need for teachers to help their students develop a greater range of vocabulary learning strategies, even if it requires first convincing them of the utility and effectiveness of the 'deeper processing' type.

The reader should not get the impression from this discussion that all of the strategies at the 'superficial processing' end of the continuum are necessarily bad. For example, word lists can be used to introduce learners to a large number of words in a short period of time. However, it is unlikely that they can lead to permanent learning by themselves. Some 'deeper' processing is likely to be necessary to stabilize the knowledge and make it available for use in real time. A combination of strategies, beginning with more superficial ones and leading to deeper ones, may promote the best balance between speed of learning and long term retention (For more on this see Nation, 1990).

Language teachers will surely be served by having a comprehensive list of possible vocabulary learning strategies to consult when teaching. If the strategies on such a list could be ranked in some principled way for effectiveness, it would be all the more helpful. The work reported in this paper is just a fledgling step in that direction, but it can point to the type of research that needs to be done in order to give teachers some guidance when they are trying to show their students how to help themselves learn vocabulary.

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