

**A COMPARISON OF THREE LEARNING STRATEGIES  
FOR ESL VOCABULARY ACQUISITION**

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## **DEDICATION**

This study is dedicated to my husband and parents for believing in my capabilities and for their support.

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## **LIST OF ABBREVIATIONS**

ESL	English Second Language
LLS	Language Learning Strategy
LLSs	Language Learning Strategies
L2	Second Language
PM	Primary Memory
SLA	Second Language Acquisition

**CHAPTER 1**  
**INTRODUCTION**

**1.1 The Problem Defined**

John Carroll (1971:121) pinpoints vocabulary acquisition as one of the most basic objectives of schooling:

"Although a considerable amount of vocabulary learning is associated with primary language learning in the early years, the acquisition of most of the vocabulary characteristic of an educated adult occurs during the years of schooling, and in fact one of the primary tasks of the school, as far as language learning is concerned, is to teach vocabulary".

Students learning English in secondary schools in South Africa, therefore, face a formidable task. It has been estimated that by the last year of high school the typical student has learned 40 000 words, an average of around 3000 words per year. Consequently, it is easy to understand why the need to answer questions like "How does word knowledge develop?" and "How can its growth be promoted?" is of such importance to educators. Though some teachers think vocabulary learning is easy, language learners have a serious problem remembering the large amounts of vocabulary necessary to achieve fluency. Vocabulary is by far the most sizeable and unmanageable component in the learning of any language because of tens of thousands of different meanings.

In recent years there has been a renewal of interest in second language vocabulary acquisition (Pressley et al., 1982; McKeown & Curtis, 1987; Brown & Perry, 1991). This interest has been prompted largely by the early success of the keyword method in facilitating foreign language vocabulary learning from English equivalents (cf. Atkinson, 1975; Ott et al., 1976; Raugh & Atkinson, 1975). Oxford (1986) has argued that a greater

emphasis needs to be placed on identifying effective second language learning strategies and teaching pupils how to use them. A considerable amount of research has taken place since the late 1970s concerning vocabulary learning strategies utilized by native speakers of English. Although several people (e.g., Martin, 1976; Channell, 1980) have proposed various learning strategies for acquiring English vocabulary in a second language environment, to date little research has been carried out regarding the effectiveness of various learning strategies for vocabulary learning in English as a second language.

This study focuses on the following three strategies: keyword (Pressley et al., 1982), semantic processing (Sternberg, 1987), and keyword semantic (Beck et al., 1987). In order to determine the effectiveness of these strategies the following questions need to be addressed:

- \* Will the semantic processing method produce better results in comparison with the keyword method over a longer period of time?
- \* Will the combined keyword-semantic method facilitate longer term retention than either the keyword or the semantic processing methods?
- \* Are there any differential effects for the instructional methods being examined immediately after treatment as compared with longer time spans?

## **1.2 Purpose of this Study**

The aim or purpose of this study is to compare the effectiveness of three memory strategies for learning ESL vocabulary: keyword method, semantic processing method, and the keyword-semantic method.

### **1.3 Hypothesis**

The keyword-semantic processing method produces statistically significantly as well as practically significantly better results with regard to ESL vocabulary retention in comparison with the keyword method and the control group, and slightly better results than the semantic method, as measured by multiple-choice tests and cued-recall tests.

### **1.4 Method of Research**

Relevant literature on the acquisition of vocabulary and also language learning strategies that were investigated in this study were reviewed in detail. A total of 96 Afrikaans-speaking Standard 6 pupils at a High School in the North West Province taking English as a Second Language (ESL) were included in this study. A quasi-experimental nonrandomized control-group design was used in this study (Borg & Gall, 1989). Four intact classes were used; therefore, pupils were not randomly selected. Three experimental groups and one control group was used (classes were randomly assigned) (cf. section 4.2).

### **1.5 Programme of Study**

Chapter 2 gives a brief outline of vocabulary acquisition and provides an introduction to Craik and Lockhart's (1972) depth of processing framework, which forms a basis for the comparison of especially the keyword and semantic methods (i.e., learning strategies used for the acquisition of ESL vocabulary).

Chapter 3 reviews the importance of memory strategies for increasing the vocabulary retention of ESL pupils. This chapter focuses on three different memory strategies, namely the keyword method, semantic processing method and a combined keyword-semantic method.

Chapter 4 focuses on the methodology employed in this study.

In Chapter 5 the collected data are presented and discussed.

Chapter 6 contains a conclusion and recommendations for the teaching of ESL vocabulary learning strategies.

## CHAPTER 2

### ESL VOCABULARY ACQUISITION

#### **2.1 Introduction**

What is the most efficient way of presenting words, of making clear their meaning (semanticizing), and of causing them to be learned (by means of practice and/or memorizing) with a view to (long-term) retention? This central question concerning vocabulary acquisition is still to be answered, despite years of research on the topic (cf. McKeown & Curtis, 1987; Carter & McCarthy, 1988). This chapter gives a brief outline of vocabulary acquisition and provides an introduction to Craik and Lockhart's (1972) depth of processing framework, which forms a basis for the comparison of especially the keyword and semantic methods (i.e., memory strategies used for the acquisition of ESL vocabulary) (cf. section 3.3.1).

#### **2.2 A Review of Vocabulary Acquisition**

It is very daunting to be reminded that the vocabulary of a language like English consists of several hundred thousands of words. How can language teachers and learners approach this vast, seemingly endless store of language and make sense of it? To even attempt to do so, one needs a satisfying answer to the following question: How can anything so vast as the vocabulary of a language, particularly a second language, or even a relatively small part of it, be acquired by the human mind, stored, and made retrievable when required?

##### **2.2.1 The Mental Lexicon**

In any discussion of language and the mind, it should never be forgotten that one's knowledge is relatively scant and that at best one can only create partial models, speculating and using metaphors borrowed from things one does understand considerably better, such as dictionaries, encyclopaedias, libraries, or

computers. But one can observe features of language development and general linguistic behaviour that offer one glimpses as to how the mind might possibly cope with something as vast as the vocabulary of a language. After all, educated adult speakers have knowledge of tense, possibly even hundreds of thousands, of words of their language (Aitchison, 1987:5-7) and can summon up the appropriate word in milliseconds. This has led researchers to believe that the mind must organize words in some way. What one should not necessarily assume is that the mind organizes the lexicon of a second language in the same way as it does its first, nor that the processes of comprehension and production necessarily operate on the same mental bases (Channell, 1988).

#### 2.2.1.1 *Input*

For children learning their mother tongue, virtually all linguistic input in their first years is spoken, that is, nothing but a stream of sounds. For the student of a second language it is likely that spoken and written language will play equally important roles right from the start. Words may well be perceived by L2 learners as much in terms of their orthographic shape as their phonological shape, or they may have a special storage tag which relates oddities between the two, such as silent letters in some English words. The learner, in an ideal world, should come to recognize verbal input in a flash. How learners might achieve this is clearly not unconnected to how native-speakers do it. For native speakers, the general shape of the incoming word is important, not every minute contour of its make-up. When people have a word on the 'tip of their tongue', they can often say quite a lot about the word, yet still be unable to call up the exact word. The language learner may benefit from crucial information about the syllable structure and citation-form stress pattern of a word (i.e., how it is stressed out of context) in assisting the storage and memorization process. Research shows that the 'tip of the tongue' phenomenon is similar in L1 and L2 (Channel, 1988), which suggests that 'general shape' is an important feature of the mental lexicon of L1 and L2 in terms of

matching input to stored patterns and in retrieving specific items from such stored templates.

The input metaphor raises two other key questions: what type of input is best, and just how much new input can the mind cope with? Language teachers could input words in the form of word-lists with various kinds of definition and explanation, or words and translation equivalents in the learner's L1, or else embed input in contexts. All three methods work in the same way, but none is without its problems. People can memorize quite long lists of words, but it is questionable whether these are retained over long periods and to what extent they assist quick recall. Translation equivalents might speed recall by providing a 'path' routed through the learner's highly efficient L1 mental lexicon, but might hinder the development of the internal organization of an efficient and separate L2 lexicon. There is also the question of the 'direction' of learning translation equivalents; does one input a pre-ordained list of L1 words and learn their L2 equivalents, or vice-versa? According to Carter and McCarthy (1988:14) the answer may depend on whether comprehension or production is the more important goal for the learner. Most language teachers feel that contextualized input is vital, even from the earliest stages; arguably, learners do not get any real grasp of a word anyway until they have performed some sort of mental contextualization upon it.

So far, input has been considered as a conscious matter of 'feeding' language to the subject, but, of course, learners are subjected to informal inputs too, where vocabulary may be acquired almost unconsciously. This may be in the form of television and radio, films, pop music, internationally marketed commercial products, etc. Little is known about precisely how much vocabulary is absorbed and acquired in this way, but all language teachers are familiar with groups of 'beginners' who already seem to have some vocabulary. One challenge to vocabulary teaching is to maximize the benefits of these informal inputs.

There are limits as to how many new words the mind can absorb and deal with, and there are no particular answers to the question 'how many new words per text/per hour should language learners be subjected to?' But decisions have to be made on a common sense basis, especially in the matter of grading input such as reading texts. Nation and Coady (1988) note that L1 research shows that comprehension is impeded if one new word occurs in every three words, but the difficulties are relatively slight with one new word in every twelve. Of course, much also depends on the length of text and the purpose of the communication.

#### 2.2.1.2 *Storage*

According to McCarthy (1990:38) storage metaphors try to capture the essence of organization in the mental lexicon and to illustrate the ways in which individual items cross-refer to one another. One of the ways in which native speakers of English seem to store words, is according to spelling patterns. Most adult native speakers could fairly quickly call up sets of words with similar spellings - the L2 learner will, it is hoped, develop similar cross-references for spelling.

McCarthy (1990:39) states that it is a truism to say that information about meaning is stored. An important issue is word-association evidence - word-association games seem to suggest that words are organized into semantically related families in the mind. Aitchison (1987:73) reports that co-ordination is the commonest feature of native-speaker word-association responses. If the L1 lexicon seems to associate words according to clearly definable types of relation, it may not be necessarily so for L2. Learners may for a long time lack the ability to make instantaneous associations, and may be more inclined to associate L2 words by sound similarities. McCarthy (1990:40) states that word-association results suggest that words are organized semantically; the mind seems to consist of bundles of related words, united into larger bundles.

McCarthy (1990:42) states that the mental lexicon is never static; it is constantly receiving new input which has to be integrated into the existing store. Not only do new words come in, but information about existing words is added too. The webs of meanings and associations constantly shift and re-adjust; new connections are woven, and old ones are strengthened.

### 2.2.1.3 Retrieval

The statement that the mental lexicon is in constant flux (cf. section 2.2.1.2) raises an awkward question: just what does it mean when one says one knows a word, and, more particularly, when can it be said that a language learner knows a word in L2? The relationship between 'knowing' and the ability to 'retrieve' that knowledge may not be direct. What one knows about words and what one can retrieve for practical use may not be quite the same, and will vary from word to word. If a language learner cannot actively use a particular word when it is needed, without too much mental searching, then one might feel that one is dealing with an incomplete knowledge of the word, or at the very least one will want to distinguish between 'receptive' knowledge and 'productive' knowledge.

Much of one's everyday use of vocabulary is fluent and automatic; one has remarkably fast retrieval skills. 'Receptive retrieval' involves matching spoken or written input to stored sound and orthographic patterns and their associated meanings. The learner may often be slowed down in the retrieval of meaning by over-concentration on word-analysis and may have to re-read or say 'please repeat/speak more slowly' even when the message contains known words.

Retrieving the appropriate meaning depends on matching verbal input with features of the context and going very rapidly to the appropriate meaning. Moore and Carling (1982:196) state that contexts contain 'anchor words' that narrow down the possible search paths so that one goes direct to the meaning; anchor

words are words of low semantic variability which interact with other words in the text to narrow down the meaning options.

'Productive retrieval' follows reverse paths to those of receptive retrieval: meanings have to be given forms; some of the forms will be simple words, some will be derived words and compounds, fixed collocations, and other multi-word units. According to McCarthy (1990:45) the economy in the retrieval process provided by pre-assembled chunks of these kinds is seen as a useful means whereby L2 learners can access such segments of language very quickly and from a very early stage in learning a second language.

In section 2.3 the focus is on how vocabulary is learnt and remembered, and in section 2.4 a discussion of Craik and Lockhart's (1972) depth of processing framework follows.

### **2.3 Learning and Remembering Vocabulary**

The problem lies not just in learning L2 words, but also in remembering them. Harry Bahrick (1984) investigated how well English learners remember Spanish words eight years after they had learnt them. He found that a word that is learnt after only one or two presentations is remembered better than one that takes several presentations to learn. How well people remember something depends on how deeply they process it (cf. depth of processing framework, section 2.4). Repeating words as strings of sounds is low-level processing and badly remembered; working out how words fit in the grammatical structure of the sentence is deeper and leads to better memory; using the meanings of words together within the whole meaning of the sentence is the deepest level of processing and ensures best memory. The research of Bahrick et al. (1987) also suggested that a word is remembered best if it is practised every 30 days rather than at more frequent intervals (Bahrick et al., 1987). It is how the word is practised that is important rather than how often.

Cook (1991:41) states that though frequency may form a logical basis for teaching, L2 learning research has little to say about it one way or another. Frequency means how often something is repeated by the student, the implication being that to learn a word one has to use it several times. Again Bahrick's research suggests something rather different. First of all words are remembered best if they are learnt quickly with few presentations. Hence teachers should make the first occurrence of the word memorable rather than practising it several times. Bahrick's approach also suggests that, if teachers want students to remember something for periods longer than a year or two, they need to space the presentations over quite long intervals of days. In section 2.4 the focus is on the importance of depth-of-processing.

#### **2.4 A Depth of Processing Framework**

According to Benton et al. (1983) how well information is remembered is powerfully influenced "by the perceptual and cognitive operations employed by readers". The depth of processing framework emphasizes the processes that affect memory, especially encoding operations (cf. Craik & Lockhart, 1972). According to this perspective, memory traces are seen as byproducts of perceptual analyses with the levels/depth of analyses as important determinants of memory for information.

According to Craik and Lockhart (1972:675) many theorists now agree that perception involves the rapid analysis of stimuli at a number of levels or storages (e.g., Selfridge & Neisser, 1960; Treisman, 1964; Sutherland, 1968). Preliminary stages of perception are concerned with the analysis of such physical or sensory features as lines, angles, brightness, pitch and loudness, while later stages are more concerned with matching the input against stored abstractions from past learning; that is, later stages are concerned with pattern recognition and the extraction of meaning. This conception of a series or hierarchy of processing stages is often referred to as "depth of

processing" where greater "depth" implies a greater degree of semantic or cognitive analysis. After the stimulus has been recognized, it may undergo further processing by enrichment or elaboration. For example, after a word is recognized it may trigger associations, images or stories on the basis of the subject's past experience with the word. Craik and Lockhart (1972:675) argue that similar levels of processing exist in the perceptual analysis of sounds, sight, smell and so on. Analysis proceeds through a series of sensory stages to levels associated with matching of pattern recognition and finally to semantic-associative stages of stimulus enrichment.

According to Craik and Lockhart (1972:675) one of the results of this perceptual analysis is the memory trace. Such features of the trace as its coding characteristics and its persistence thus arise essentially as byproducts of perceptual processing (Morton, 1970). Specifically, Craik and Lockhart (1972:675) suggest that trace persistence is a function of depth analysis, with deeper levels of analysis associated with more elaborate, longer lasting, and stronger traces. Since the organism is normally concerned only with the extraction of meaning from the stimuli, it is advantageous to store the products of such deep analyses, but there is usually no need to store the products of preliminary analyses. Craik and Lockhart (1972:675) state that it is perfectly possible to draw a box around early analyses and call it sensory memory and a box around intermediate analyses called short-term memory, but that procedure both oversimplifies matters and evades the more significant issues.

Craik and Lockhart (1972:676) state that highly familiar, meaningful stimuli are compatible, by definition, with existing cognitive structures. Such stimuli (for example, pictures and sentences) will be processed to a deep level more rapidly than less meaningful stimuli and will be well-retained. Thus, speed of analysis does not necessarily predict retention. According to Craik and Lockhart (1972:676) retention is a function of depth, and various factors, such as the amount of attention

devoted to a stimulus, its compatibility with the analyzing structures, and the processing time available, will determine the depth to which it is processed.

Thus, Craik and Lockhart (1972:676) prefer to think of memory tied to levels of perceptual processing. Although these levels may be grouped into stages (e.g., sensory analyses, pattern recognition, and stimulus elaboration) processing levels may be more usefully envisaged as a continuum of analysis. Thus, memory, too, is viewed as a continuum from the transient products of sensory analyses to the highly durable products of semantic-associative operations. However, Craik and Lockhart (1972:676) state that superimposed on this basic memory system there is a second way in which stimuli can be retained - by recirculating information at one level of processing. Craik and Lockhart (1972:676) use the term primary memory (PM) to refer to the concept of maintaining information at one level of processing, and endorse Moray's (1967) notion of a limited capacity central processor which may be deployed in a number of different ways. If this processing capacity is used to maintain information at one level, the phenomena of short-term memory will appear. The processor itself is neutral with regard to coding characteristics: The observed PM code will depend on the processing modality within which the processor is operating. Further, while limited capacity is a function of the processor itself, the number of items held will depend upon the level at which the processor is operating. At deeper levels the subject can make greater use of learned rules and past knowledge; thus, material can be more efficiently handled and more can be retained. There is apparently great variability in the ease with which information at different levels can be maintained in PM.

The essential feature of PM retention is that certain aspects of the material are still being processed or attended to. When attention is diverted from the item, information will be lost at the rate appropriate to its level of processing - slower rates for deeper levels. While PM retention is, thus, equivalent to

continued processing, this type of processing merely prolongs an item's high accessibility without leading to information of a more permanent memory trace.

This Type I processing, that is, repetition of analyses which have already been carried out, may be contrasted with Type II processing which involves deeper analysis of the stimulus. According to Craik and Lockhart (1972:676) only this second type of rehearsal should lead to improved memory performance. To the extent that the subject utilizes Type II processing, memory will improve with total study time, but when he engages in Type I processing, the "total time hypothesis" (cf. Cooper & Pantle, 1967), will break down.

According to Pressley et al. (1982:693), the keyword method is a two-stage procedure for improving one's memory for materials that have an associative component. It is implied, in other words, that Craik and Lockhart's (1972:671-684) depths-of-processing theory provides a theoretical basis for comparing the keyword with semantic methods (cf. sections 3.6 - 3.8). It is suggested that retention is dependent on the level at which information is processed. As one moves from the shallow sensory level of processing to the deeper semantic level, memory traces become more permanent (cf. section 2.3). At the sensory level, the stimulus is processed in terms of its visual or acoustic properties. In contrast, stimuli processed at the semantic level are analyzed for meaning and related to existing cognitive structures.

Craik and Tulving (1975:268-294) expanded the framework to suggest that retrieval is also enhanced by elaboration, that is, further processing at a certain depth of memory. For a memory trace to undergo elaboration at the sensory level, additional acoustical or visual processing must occur. For example, elaboration at the sensory level would occur when several phonetic features of a word, such as both its vowels and consonants, are given special attention. Semantic elaboration

would occur if a meaningful response to a question about the meaning of the word was given.

## **2.5 An Evaluation of the Depth of Processing Framework**

Craik and Lockhart's (1972) depth of processing framework provides one possible framework for vocabulary acquisition. This framework has been modified several times in order to accommodate new data or to deal with criticisms of the position (e.g., Craik & Tulving, 1975; Fisher & Craik, 1977; Jacoby et al., 1979; Moscovitch & Craik, 1976).

Most of these researchers criticize the circular nature of this framework (i.e., no independent method of measuring depth has been proposed). The concepts of distinctiveness of encoding (e.g., Jacoby et al., 1979) and elaboration (i.e., further processing at a certain depth of memory) (e.g., Craik & Tulving, 1975) were proposed to deal, in part, with the problem of the circular nature of the depth of processing position. Although the elaboration concept has posed rather difficult theoretical and measurement problems (e.g., Postman et al., 1978) it has been modified to attenuate the problem of circularity (e.g., Johnson-Laird & Bethell-Fox, 1978, Johnson-Laird et al., 1978; Ross, 1981). Johnson-Laird et al. (1978) defined it as the number of decisions made requiring meaningful information about the subject. Although the framework has been criticized, some researchers (e.g., Brown & Perry, 1991) believe that it forms a good platform for the comparison of especially the keyword and semantic methods (i.e., memory strategies used for ESL vocabulary acquisition). Because the purpose of this study was to compare the effectiveness of three memory strategies and not to analyse the effectiveness of the depth-of-processing framework, the framework is only used as a basis for comparing the strategies. However, the shortcomings of the framework are acknowledged.

## 2.6 Conclusion

When it comes to considering the best methods of effectively committing new vocabulary to memory, opinions and research findings vary. Researchers and practitioners have long been interested in understanding how knowledge of word meanings is acquired and how vocabulary learning can be promoted. This interest has resulted in an extensive body of research findings that should be invaluable in guiding the design of vocabulary instruction. However, results have accumulated in the absence of a framework for interpreting them, making it difficult to make sense out of conflicting recommendations for instruction. This chapter brought about a better understanding of the way in which vocabulary is acquired by the human mind, stored and made retrievable when required. It also gave a brief outline of vocabulary acquisition and provided an introduction to Craik and Lockhart's (1972) depth of processing framework, which forms the basis of the comparison of certain memory strategies used for the acquisition of ESL vocabulary (cf. section 3.3.1).

Research has shown that language learning strategies are important when learning a second language. Strategies help learners take control of their learning and become more proficient. The mind can store some 100 trillion bits of information, but only part of that potential can be used unless, for example, memory strategies come to the aid of the learner. In the following section the focus is on memory strategies.

## CHAPTER 3

### VOCABULARY LEARNING STRATEGIES

#### **3.1 Introduction**

Although several researchers (Martin, 1976; Channel, 1980) have proposed various learning strategies for acquiring English vocabulary in a second language environment, to date little research has been carried out regarding the effectiveness of various learning strategies for vocabulary acquisition in English as a second language. Some research exists on Russian (Atkinson, 1975; Atkinson & Raugh, 1975), Spanish (Levin et al., 1979; Pressley, 1977; Raugh & Atkinson, 1975), Latin (Pressley, et al., 1980), and German (Desrochers et al., 1989; Hall, 1988). All of these studies looked at the keyword method in comparison with a no strategy condition. According to Brown et al. (1991:657), Crow and Quigley (1985) have published the only study looking at the effectiveness of ESL vocabulary learning strategies. Their study examined several semantic processing strategies and found them to be superior to no strategy conditions. It remains to be determined how the keyword and semantic processing strategies compare in facilitating acquisition of new vocabulary.

This chapter focuses on a brief discussion of LLSs in general and more specifically on vocabulary learning strategies.

#### **3.2 Definition**

Learning strategies have been broadly defined as any set of operations or steps used by a learner that will facilitate the acquisition, storage, retrieval, or use of information (Rigney, 1978:165-205); Dansereau, 1985:209-240). Oxford (1990:8) feels the need to expand these definitions because of the "richness" of learning strategies. According to Oxford (1990:8) learning strategies are "specific actions taken by the learner to make learning easier, faster, more enjoyable, more self-directed, more effective, and more transferrable to new situations".

In the literature, learning strategies have been referred to as "techniques", "tactics", "potentially conscious plans", "learning skills", "basic skills" and "problem solving procedures" (Wenden, 1987:7). These multiple designations point to the elusive nature of the term. In their discussion of five different views on strategies, Naiman et al. (1975:59) acknowledge that "a consensus on a definition of the term is lacking". Eight years later, Bialystok (1983:100) makes an almost identical statement: "There is little consensus in the literature concerning either the definition or the identification of language learning strategies". Oxford and Crookall (1989:404) state that no matter what they are called, "strategies can make learning more efficient and effective".

### **3.3 A System of Language Learning Strategies**

According to Oxford (1990:14) strategies can be divided into two major classes: direct and indirect. These two classes are subdivided into a total of six groups (memory, cognitive, and compensation under the direct class; metacognitive, affective, and social under the indirect class). For the purpose of this study, the focus is only on direct strategies, (memory strategies in particular), which involve use of the new language. Memory strategies, such as grouping or using imagery, have a highly specific function in that they help students store and retrieve new information.

#### **3.3.1 Memory Strategies**

Oxford (1990:39) states that memory strategies fall into four sets: Creating Mental Linkages, Applying Images and Sounds, Reviewing Well, and Employing Actions. Memory strategies reflect very simple principles, such as arranging things in order, making associations, and reviewing. These principles all involve meaning. For the purpose of learning a new language, the arrangement and associations must be personally meaningful to the learner, and the material to be reviewed must have significance.

Though some teachers think vocabulary learning is easy, language learners have a serious problem remembering the large amounts of vocabulary necessary to achieve fluency. According to Oxford (1990:39) memory strategies help language learners to store verbal material and then retrieve it when needed for communication.

Although memory strategies can be powerful contributors to language learning, some research shows that language students rarely report using these strategies. It might be that students simply do not use memory strategies very much, especially beyond elementary levels of language learning. However, an alternative explanation might be that they are unaware of how often they actually do employ memory strategies. In the following section a brief explanation of each of the main categories of memory strategies are mentioned (cf. Oxford, 1990).

### **3.3.1.1** *Creating Mental Linkages*

In this set there are three strategies that form the cornerstone for the rest of the memory strategies: grouping, associating/elaborating, and using context.

#### **3.3.1.1.1** Grouping

According to Oxford (1990:40) this means "classifying or reclassifying language material into meaningful units, either mentally or in writing, to make the material easier to remember by reducing the number of discrete elements". Groups can be based on type of word, topic, practical function, linguistic function, and so on.

### 3.3.1.1.2 Associating/Elaborating (Semantic Processing)

Oxford (1990:41) states that this means "relating new language information to concepts already in memory, or relating one piece of information to another, to create associations in memory". These associations must be meaningful to the learner.

### 3.3.1.1.3 Placing New Words into a Context

Oxford (1990:41) states that this means "placing a word or phrase in a meaningful sentence, conversation, or story in order to remember it". This strategy involves a form of associating/elaborating, in which the new information is linked with a context.

### 3.3.1.2 *Applying Images and Sounds*

Four strategies are included here: using imagery, using keywords, semantic mapping, and representing sounds in memory. These all involve remembering by means of visual images or sounds.

#### 3.3.1.2.1 Using Imagery

"Relating new language information to concepts in memory by means of meaningful visual imagery, either in the mind or in an actual drawing" (Oxford, 1990:41).

#### 3.3.1.2.2 Semantic Mapping

"Making an arrangement of words into a picture, which has a key concept at the center or at the top, and related words and concepts linked with the key concept by means of lines or arrows" (Oxford, 1990:41).

### 3.3.1.2.3 Using Keywords (Keyword method)

According to Oxford (1990:41) this means "remembering a new word by using auditory and visual links". The first step is to identify a familiar word in one's own language that sounds like the new word - this is the auditory link. The second step is to generate an image of some relationship between the new word and a familiar one - this is the visual link. Both links must be meaningful to the learner. To use a keyword to remember something abstract, such as a name, associate it with a picture of something concrete that sounds like the new word.

### 3.3.1.2.4 Representing Sounds in Memory

Oxford (1990:42) states that this means "remembering new language information according to its sound".

### 3.3.1.2.5 Reviewing Well

Structured Reviewing: reviewing in carefully spaced intervals, at first close together and then more widely spaced apart.

### 3.3.1.2.6 Employing Action

\* Using Physical Response or Sensation: Physically acting out a new expression (e.g. going to the door), or meaningfully relating a new expression to a physical feeling or sensation (e.g. warmth).

\* Using Mechanical Techniques: Using creative but tangible techniques, especially involving moving or changing something which is concrete, in order to remember new target language information.

In the next section a review of research on ESL vocabulary learning strategies is given.

### 3.4 A Review of Research on ESL Vocabulary Learning Strategies

In most studies concerning vocabulary learning strategies the emphasis has mainly been on three strategies: keyword (Pressley et al., 1982), contextual (Sternberg, 1987), and semantic processing (Beck et al., 1987). Of these three, the keyword method has received most attention and has been shown to be superior to contextual and no-strategy conditions (Pressley et al., 1987). Sternberg (1987:89) claims that "most vocabulary is learned from context," but adds that "what the claim does not imply is that teaching specific vocabulary using context is the most effective, or even a relatively effective, way of teaching that vocabulary".

McDaniel et al. (1987) assessed long-term retention of new vocabulary meanings acquired through keyword or semantic processing methods in two experiments. In the first experiment twenty-two subjects were randomly assigned to the keyword condition of the study, and 20 were randomly assigned to the context condition. Subjects were introductory psychology students attending a selective medium-sized midwestern university. Thirty obscure English words (from McDaniel & Pressley, 1984) were selected as the to-be-learned vocabulary items. For the keyword condition, each word was presented with a short definition and an acoustically similar keyword. For the context condition, each word was presented in the context of a three-sentence paragraph designed to convey the meaning of the word without explicitly stating it. After the paragraph was presented (for 9s), the word's definition was briefly presented (for 3s). Consistent with past research on retention (Underwood, 1983), original learning was equated in this study by requiring subjects to learn the vocabulary list until they could provide correct definitions for all the words when provided with the vocabulary items (i.e. cued-recall). Each word and the appropriate accompanying material was presented on a cathode-ray tube for 12s. After presentation of the entire list, subjects

were given a cued-recall test for each word's meaning. Subjects repeated the acquisition procedure for the entire list of words until they could provide correct definitions for all the words in the list. Subjects were then instructed to return to the laboratory in one week. When they returned to the laboratory, subjects attempted to recall the definition for each target word. All subjects required at least two study-test trials before meeting the learning criterion. On both of these first two learning trials, keyword subjects recalled significantly more definitions than did context subjects.

The results of the first experiment showed that the semantic processing method of learning new vocabulary produces less efficient acquisition than does the keyword method. The inefficiency in acquisition of the semantic-context method is particularly telling because one would expect that if the context method were efficient for anybody, it should be so for high-verbal-ability students such as those in McDaniel et al. (1987). Despite differences in the rate of learning, the different instructional methods produced nearly equivalent degrees of retention. The average number of definitions correctly recalled on the delayed-cued-recall test was 22,9 for the keyword group and 24,7 for the context group. These values did not differ significantly,  $F(1,40) = 1,13$ . One possible limitation to this pattern of findings is that the target words' definitions were provided for the entire study period for keyword subjects but not for semantic processing subjects. Although some vocabulary-learning theorists appear to advocate a learning-from-context method in which the word's definition is not directly available for inspection (e.g., Sternberg et al., 1983), McDaniel et al. (1987:88) state that an initial reviewer of the article suggested that not presenting semantic processing subjects with a definition for the entire study period placed the semantic-condition participants at a disadvantage relative to the keyword-condition participants. Consequently, in a second experiment, McDaniel et al. (1987:87-89) implemented a semantic condition in which the definitions were presented for the entire study period.

According to McDaniel et al. (1987:88) the results were strikingly similar to those obtained in the first experiment. After two study-test trials keyword subjects recalled significantly more definitions than did context subjects for Trial 1.

The results from both experiments converge to suggest that if people learn the definitions of vocabulary from context, the meanings will be retained as well as when vocabulary are learned with the more efficient keyword mnemonic. This pattern occurs regardless of whether the semantic method involves presenting definitions along with illustrative semantic contexts or whether the semantic processing method allows the learner to try to discover the meaning from the context prior to being instructed with the definition. McDaniel et al. (1987:89) state that it is still possible, however, that differences in retention could emerge on tests other than cued recall.

Learners adopt a number of strategies for coping with new vocabulary, but not all learners are equally good at maximizing their strategic resources. Some aspects of the learner's makeup, like general learning style or personality traits are very difficult to change. In contrast, learning strategies are easier to teach and modify. This can be done through strategy training which, according to Oxford (1990:12) is an essential part of language training. Strategy training helps guide learners to become more conscious of strategy use and more adept at employing appropriate strategies. In the next section the importance of language learning strategies is investigated.

### **3.5 The Importance of Language Learning Strategies**

Language learning strategies are steps taken by students to enhance their own learning. Oxford (1990:1) states that "strategies are especially important for language learning because they are tools for active, self-directed involvement, which is essential for developing communicative competence".

According to most researchers (e.g. O'Malley et al., 1985:21-46; Wenden, 1987:103-115; Oxford & Nyikos, 1989:291-297) appropriate use of language learning strategies results in improved proficiency and greater self-confidence.

Wenden (1985:1-7) provides four explanations for the significance of learning strategies. First, learning strategies are the key to learner autonomy. Second, one of the goals of L2 training should be to facilitate learner autonomy, although this facilitation might require overcoming the learner's belief that learning is classroom-dependent or teacher-dependent. Third, learning strategies are a source of insight into the difficulties of unsuccessful learners, whose learning problems are often related to not having an appropriate repertoire of learning strategies. Fourth, teachers should become attuned to their students' learning strategies through observation and formal strategy assessment.

Several facts gleaned from existing research can be used to support Wenden's arguments for the importance of learning strategies. First, studies show that learning strategies can be improved or modified through training (Dansereau, 1978; O'Malley, Russo & Chamot, 1983; O'Malley et al., 1983, Weinstein et al., 1984). According to Mayer (1980:770-784) instructional manipulation is often most effective for low-ability students. Second, successful language learners tend to use "good" strategies more often than unsuccessful language learners (Naiman et al., 1975; Rubin & Thompson, 1982; Reiss, 1981; 1985). Third, awareness of the strategies which are most relevant to an individual's own set of L2 needs is likely to enhance the L2 learning of the individual. Oxford (1990:2) states that learning strategies are highly individualized and personalized.

Language learning strategies have certain features which also contribute to their importance. Communicative competence is an aim all language learners strive for. In order to develop communicative competence, realistic interaction among learners,

using meaningful, contextualized language is required. Learning strategies can help learners to participate actively in such authentic situations.

Oxford (1990:8) states that language learning strategies can stimulate the growth of communicative competence in general. For example, metacognitive strategies help learners to regulate their own cognition and to focus, plan and evaluate their progress as they move toward communicative competence. Affective strategies develop the self-confidence and perseverance needed for learners to involve themselves actively in language learning, a requirement for attaining communicative competence. Social strategies provide increased interaction and more empathetic understanding, two qualities necessary to reach communicative competence. Certain cognitive strategies are highly useful for understanding and recalling new information. Compensation strategies aid learners in overcoming knowledge gaps and continuing to communicate authentically.

As the learner's competence grows, strategies can act in specific ways to foster particular aspects of that competence: grammatical, sociolinguistic, discourse and strategic elements. For example, memory strategies, such as using imagery and structured review, and cognitive strategies, such as reasoning deductively and using contrastive analysis, strengthen grammatical accuracy. Compensation strategies, such as guessing when the meaning is not known, or using synonyms or gestures to express meaning of an unknown word or expression, are the heart of strategic competence (Oxford, Lavine & Crookall, 1989:29-39).

Language learning strategies are tools. They are used because there is a problem to solve, a task to accomplish, an objective to meet, or a goal to attain. For example, a learner uses one of the reasoning or guessing strategies to better understand a second language reading passage. Memory strategies are used because there is something that must be remembered. In the next section the three strategies that are investigated in this study

are reviewed.

### **3.6 The Keyword Method**

The keyword method was first described by Atkinson (1975) and his associates (Atkinson & Raugh, 1975; Raugh & Atkinson, 1975; Raugh, Schupbach & Atkinson, 1975). They have developed a mnemonic method for rapidly teaching college students foreign language vocabulary. The keyword technique is a two-step mnemonic procedure: "The first requires a student to associate the spoken [foreign] word to an English word (the keyword) that sounds like some part of the foreign word; the second stage requires the student to [use an] image of the keyword 'interacting' with the English translation" (Raugh et al., 1975:1). Thus, to remember a new word's definition, a keyword is chosen which is acoustically similar (auditory link) to the new word, yet has a meaning of its own independent of the new word's meaning. A visual association (visual link) through an image is then made between the keyword and the new word's meaning. To remember that "brook" means a stream, a subject might use the keyword "soek", and imagine someone looking for fish in the stream.

According to McDaniel et al. (1987:87) the "keyword method is a mnemonically based technique whereby the learner selects an acoustically similar word (the keyword) whose meaning is known". (The keyword is usually a short word embedded in the to-be-learned vocabulary word.) The learner then forms an interactive image of the meaning of the keyword with the meaning of the new vocabulary item. According to Pressley et al. (1982:693) in a number of recent studies, subjects using the keyword method have been better able to recall the definitions of vocabulary words than have subjects in two types of control conditions.

The keyword method is applied by presenting a subject with a series of spoken foreign words. Each foreign word is pronounced; while the word is being pronounced, a keyword and the English

translation are displayed. During the presentation of each item the subject must associate the sound of the foreign word to the keyword and then generate a mental image relating the keyword to the English translation. Because of the similarity in sounds, the acoustic link is formed easily; the imagery link is like learning to associate a pair of unrelated English words by using imagery as a mnemonic aid. The keyword need not always be a single word; for some items it may be a brief phrase if that phrase is particularly salient.

Oxford (1990:241) states that unlike many memory techniques for foreign and second languages, the keyword has benefited from a good deal of research, all of which shows that it is remarkably successful for vocabulary learning. One caution with the keyword is that some of the auditory links may not be perfect. That is, the new word in the target language may not sound exactly like the familiar word in one's own language.

### **3.7 The Semantic Processing Method**

Semantic processing is just beginning to receive attention in the research literature. The semantic processing method or semantic-context method involves the presentation of sentences or paragraphs illustrating how the word is used. Presumably, these semantic contexts afford an elaborative encoding of the word's meaning that promotes definition memory.

Two defining characteristics of semantic processing are used in this study: Focus must be on the meaning of the new word, and the learner must act upon the meaning of the new word in a way that is considered integrative in relation to already existing semantic systems. This goes beyond merely associating a word with its definition. Beck et al. (1987:149) state, "students should be required to manipulate words in varied and rich ways, for example, by describing how they relate to other words and to their own familiar experiences". The primary emphasis in the semantic processing method for learning L2 vocabulary is on the

semantic association between the new word and its definition.

Some vocabulary theorists still advocate the semantic processing method for vocabulary acquisition. Briefly, the argument is that people spend considerably more time reading than they do receiving direct instruction on new vocabulary. Consequently, if learners are able to extract meanings of unfamiliar words from context, then the relative inefficiency of learning from context might be more than offset time spent interacting with linguistic material. That is, new vocabulary items would presumably be encountered frequently enough that their meanings would eventually be learned.

### **3.8 The Keyword-Semantic Method**

This method is a combination of the keyword- and semantic processing methods. Subjects are provided with a keyword, the definition, a sentence in which the new word is used, and a question whose answer necessitates the use of the new word (cf. section 4.6). This combined method was used to determine if this method would not enhance recognition as well as retrieval.

Memory strategies often involve pairing different types of material. In language learning, it is possible to give verbal labels to pictures, or to create visual images of words or phrases. Linking the verbal with the visual is very useful to language learning for four reasons. First, the mind's storage capacity for visual information exceeds its capacity for verbal material. Second, the most efficiently packaged chunks of information are transferred to long-term memory through visual images. Third, visual images may be the most potent device to aid recall of verbal material. Fourth, a large proportion of learners have a preference for visual learning (cf. Goleman, 1986). While many language learners benefit from visual imagery, others have aural, kinesthetic or tactile learning style preferences and therefore benefit from linking verbal material with sound, motion, or touch. In memory strategies, as in other

kinds of learning strategies, "different strokes for different folks" should be the cardinal rule.

### **3.9 An Evaluation of the Memory Strategies**

Why are mnemonic techniques so much more powerful vocabulary-remembering strategies than externally cued context approaches? McDaniel et al. (1987:87) state that there are several reasons why the keyword method might produce less forgetting than the semantic processing method. First, the keyword method aids learners in forming a direct link between a new word and its definition, and this direct link provides a straightforward retrieval path from the vocabulary word to the definition. Second, in studies of delayed retention, the keyword method has produced higher memory performance than no-strategy controls or semantic-context conditions.

A case can also be made for the semantic processing method, especially if the learner encounters the vocabulary word in a series of text passages that provides a well-elaborated or highly variable encoding of the word's meaning. McDaniel et al. (1987:87) claim that the extensive elaboration provided by several contexts would permit encoding of a number of interrelated propositions and, thus, the creation of multiple retrieval routes for use at testing. The keyword method, on the other hand, by focusing on only one link, may lead to an encoding that does not contain the multitude of elaborations or the variability of encoding that learning from context may produce. McDaniel et al. (1987:88) say that researchers have suggested that extensive elaboration is especially critical for good long-term retention. Thus, keyword mediators may be more forgettable than semantic processing mediators.

A priori, then, it was not clear how the two vocabulary-learning methods, as well as a combination of the two, would compare and/or contrast in terms of increasing recognition/retention/retrieval of ESL vocabulary items. The

present experiment was conducted to address this issue.

### **3.10 Conclusion**

In this chapter central concepts were defined, key features of strategies explained and a system of strategy classification presented. The importance of language learning strategies, in particular direct strategies, was also explained since it directly involves use of the new language. The focus was on memory strategies (especially the keyword- and semantic processing strategies and a combination of the two), which according to researchers (cf. Oxford, 1990) help students store and retrieve new information.

Oxford (1990:16) states that it is important to remember that "any current understanding of language learning strategies is necessarily in its infancy, and any existing system of strategies is only a proposal to be tested through practical classroom use and through research", this quotation then, provides ample reason for investigating and comparing three of these strategies, namely keyword strategies, semantic processing strategies, and keyword semantic strategies.

## CHAPTER 4

### METHOD OF RESEARCH

#### **4.1 Introduction**

The methodology employed in this study is discussed under four main headings: design, subjects, instrumentation, data collection procedure and analysis. The aim of this chapter is, therefore, to discuss:

- \* the design used,
- \* the characteristics of the subjects,
- \* the various instruments that are used in this study
- \* how the data were collected and administered, and
- \* the statistical analysis techniques used in this study.

#### **4.2 Design**

A quasi-experimental nonrandomized control-group design was used in this study (Borg & Gall, 1989). In this study a control group and three experimental (i.e., treatment) groups were used. Intact classes were used and they were randomly assigned to the various treatment groups. However, the subjects within the classes were not randomly assigned. This design was chosen for two reasons. First, the instructional programme used in this study could not tolerate the disruption of classes to facilitate random assignment of subjects. Second, in order to make more ecologically valid generalizations to real classroom environments, authentic classroom situations were used with authentic pupils who were presumably learning English with genuine motivation to pass the standard.

One could argue that an experimental design with random assignments of pupils to treatment and control groups would make the findings more generalizable from the point of randomization of individual differences. Borg & Gall (1989) have argued that fully randomized experimental designs often lack ecological

validity due to the inauthentic environments in which studies are carried out. The quasi-experimental design was selected because the intention of this study was to provide the practitioner with findings that are closer to their own classroom settings.

#### **4.3 Subjects**

The accessible study population comprised 110 Standard 6 pupils in a High School in the North West Province.. In this study four intact classes were used (cf. section 4.2). The subjects were all Afrikaans speaking pupils taking English as a second language. A total of 110 pupils received at least some instruction and testing. However, only pupils who received all instruction and testing were considered, leaving a total of 96 subjects.

#### **4.4 Variables**

In this study the dependent variable is the ESL learner's vocabulary ability as measured by a multiple-choice test and a cued-recall test. The independent variables are the three strategies used for vocabulary acquisition, namely keyword, semantic, and keyword-semantic methods.

#### **4.5 Instrumentation / Materials**

To ensure that the words were unfamiliar to the pupils they were given a pretest containing 60 words presented in short sentences with minimal contextual clues several days before instruction to eliminate words that pupils already knew. Pupils were asked to rate how well they knew the words on a five-point, Likert-type scale. The 20 words with means greater than 3,5 were eliminated, leaving 40 words for instruction.

Both recognition and cued-recall instruments were used to measure effects of vocabulary acquisition both one day and nine days after treatment. A 40-item, four-choice multiple choice test was

constructed to test retention (cf. Appendix A). Each item consisted of a sentence requiring the use of one of the target words. The distractors were chosen from among the 40 words to be studied and were the same part of speech as the correct answer (i.e. noun or verb). To test ability to retrieve the target words, a cued-recall measure was used (cf. Appendix B). Subjects were asked to write the definition of each of the 40 target words which were listed on a test paper.

#### **4.6 Data Collection Procedure**

The four ESL classes were divided into three treatment groups: keyword, semantic, and keyword-semantic and one control group.

##### **4.6.1 The Keyword Class**

The keyword class was presented with the new word, its definition, and a keyword, for example:

- \* "dapple"
- \* mark with spots or rounded patches of colour
- \* "appel"  
{ a rotten apple marked with spots}

##### **4.6.2 The Semantic Class**

The semantic class was given the new word, its definition, two examples of the use of the word in sentences, and a question which they were required to answer using the new word, for example:

- \* "slacker"
- \* a loafer; dawdler; good-for-nothing
- \* Don't count on that slacker to do any of the work.
- \* What do you call a person who dawdles all day long?

#### 4.6.3 The Keyword-Semantic Class

The keyword-semantic class received the new word, its definition, the keyword, and the examples of sentences and question, for example:

- \* "lair"
- \* den, hideout, resting place
- \* "lê"  
{ A lion lying in its den}
- \* The Bible tells of Daniel in the lion's lair.
- \* What do we call the resting place of a lion?

#### 4.6.4 The Control Group

The control group merely received an explanation of the words.

- \* "tremor"
- \* a trembling, or shuddering or shivering

#### 4.6.5 Procedure

The pupils in each class received a day of instruction on how to use their method as well as a second day of instructional practice testing. Instruction and testing took about 15 minutes each day. For the following four days, each class was given five minutes to learn 10 new words followed by an additional 5 minutes to do a cued-recall test. The day after instruction ended, a comprehensive cued-recall test was given. On the following class day, all pupils took a comprehensive multiple-choice test. Nine days later, the cued-recall test was repeated and the following day, the multiple-choice test was repeated.

#### 4.7 Statistical Analysis

The data were analysed by means of the Statistica software package. In this study various statistical techniques were used to assess the data.

Analysis of Variance (ANOVA) was used to determine if there were any statistically significant differences between the means of variables under discussion when comparing more than two groups of subjects. Follow-up Tukey multiple comparison tests were conducted to determine which groups differed statistically significantly from each other.

A relationship can be regarded as statistically significant if the results are significant at the specified alpha (i.e., probability of chance occurrence). Alpha is established as a criterion, and the results either meet the criterion or they do not. In behavioural research, alpha is frequently set at  $p < 0,05$  or  $p < 0,01$  (i.e., the odds that the findings are due to chance are either 5 in 100 or 1 in 100) (cf. Thomas & Nelson, 1990:100-102). A relationship can be regarded as practically significant if the results are of practical value to the researcher, language practitioner or teacher. Cohen (1977:20-27) has established various scales according to which a relationship or difference between means can be regarded as practically significant. Cohen's (1977:20-27) effect size  $d$  was used to calculate the difference between two means. Cohen uses the following scale for the  $d$  values:

Small effect - 0,2

Medium effect - 0,5

Large effect - 0,8

#### **4.8 Conclusion**

According to researchers (cf. Abraham & Vann, 1987; Bachman, 1990) the design of a study is very important, because many studies have "failed" as a result of methodological failure (e.g. inappropriate use of statistical techniques, failure to define concepts, inappropriate data collection procedures). Various statistical techniques, to be used in this study, were discussed briefly, in order to facilitate the logical explanation of the results in chapter 5.

## CHAPTER 5

### DISCUSSION OF RESULTS

#### **5.1 Introduction**

This chapter is devoted to the presentation of the analysed data. The aim with this chapter is to attempt to answer the questions posed in chapter 1:

- \* Will the semantic processing method produce better results in comparison with the keyword method over a longer period of time?
- \* Will the combined keyword-semantic method facilitate longer term retention than either the keyword or the semantic processing methods used alone?
- \* Are there any differential effects for the instructional methods being examined immediately after treatment as compared with longer time spans?

#### **5.2 Results**

Table 1 presents the descriptive statistics for test type by experimental group and control group.

Table 1: Descriptive Statistics for Test Type by Experimental Group and Control Group

Group		Test Type							
		Cued-recall						Multiple Choice	
		Daily				Day1	Day9	Day 1	Day 9
		1	2	3	4				
<b>Control</b> (N=25)	M	5,44	5,80	6,76	5,84	10,72	11,08	21,12	20,80
	SD	3,11	2,97	2,97	2,42	8,52	9,88	8,48	8,79
<b>Keyword</b> (N=23)	M	4,73	4,56	3,60	4,95	7,04	7,60	17,73	19,73
	SD	3,10	3,02	2,96	2,60	8,13	9,20	8,16	7,77
<b>Semantic</b> (N=22)	M	6,59	7,40	6,50	8,22	13,72	14,36	23,77	25,09
	SD	2,78	2,64	2,38	1,95	6,82	8,92	7,32	7,72
<b>Keyword-Semantic</b> (N=26)	M	6,30	7,19	6,26	7,46	14,96	16,42	25,96	27,50
	SD	2,83	2,19	3,09	2,23	7,93	9,88	8,81	9,11

M = mean

SD = standard deviation

N = number of students in group

The descriptive statistics reveal that the combined keyword-semantic strategy had higher mean values on the daily tests as well as on the recognition and cued-recall tests when compared to the control group, the keyword strategy group and the semantic strategy group. The semantic strategy group also had higher mean values on all three test types when compared to the control group and the keyword strategy group. This seems to indicate that the keyword-semantic strategy group performed better on these tests than either of the other groups.

Table 2 presents the results of an analysis of variance performed

on the data in order to determine if the mean performance of the different strategy groups differed statistically significantly from each other. Follow-up Tukey pair-wise comparisons were also conducted to determine where the differences occurred (i.e., between groups 2 and 3 or between 2 and 4 etc.)

**Table 2: ANOVA, Tukey and Effect Size Analyses**

Tests	F-ratio	Tukey	d
Daily 1	(3,92)=1,87, p = 0,14	-	-
2	(3,92)=5,54, p < 0,01	3-2 * *	d= 0,87+
		4-2 * *	d= 0,94+
3	(3,92)=6,01, p < 0,001	2-1 * *	d= 1,06+
		3-2 * *	d= 0,86+
		4-2 * *	d= 0,97+
4	(3,92)=9,55, p < 0,001	4-1 * *	d= 0,98+
		3-2 * *	d= 0,96+
		2-4 * *	d= 1,25+
Day 1 (C-R)	(3,92)=4,74, p < 0,01	3-2 * *	d= 0,97+
		4-2 *	
Day 9	(3,92)=4,45, p < 0,01	3-2 * *	d= 0,89+
Day 1 (M-C)	(3,92)=3,97, p < 0,05	3-2 * *	d= 0,93+
Day 9	(3,92)=4,60, p < 0,01	3-1 *	d= 0,73+
		3-2 * *	d= 0,83+
<b>Statistical Significance</b>		<b>Practical Significance</b>	
* p < 0,05		+ d > 0,8	
* * p < 0,01		(i.e. large effect)	

C-R = cued-recall

M-C = multiple choice

The results revealed a statistically significant difference ( $p < 0,01$ ) between the combined keyword-semantic strategy group and the keyword strategy group on the daily tests as well as on the cued-recall and multiple-choice tests administered one day after treatment and nine days after treatment. A statistically significant difference ( $p < 0,01$ ) was found between the semantic

strategy group and the keyword strategy group on the daily tests and on the cued-recall test administered one day after treatment. A statistically significant difference ( $p < 0,01$ ) was also found between the combined keyword-semantic strategy group and control group on the multiple-choice test administered nine days after treatment. No difference was found between the semantic strategy group and the combined keyword-semantic strategy group on any of the administered tests. This seems to indicate the superiority of the combined keyword-semantic strategy group and the semantic strategy group over the keyword strategy group and the control group.

Cohen's (1977) effect size  $d$  indicates that the differences found between the combined keyword-semantic strategy group and the keyword strategy group on the daily tests as well as on the multiple-choice and cued-recall tests were also practically significant ( $d > 0,8$ ) (cf. Table 2). A practical significant difference was also found between the keyword strategy group and the semantic strategy group on the cued-recall test administered one day after treatment. The keyword-semantic group also differed from the control group with a very high medium effect size (i.e., this indicates that it can also be regarded as being practically significant).

If assumptions that recognition tasks (multiple-choice tests) measure information stored in memory and cued-recall tasks reflect facility in retrieving information from memory are warranted (cf. Richardson-Klavehn & Bjork, 1988), then the results of this study seem to indicate that the combined keyword-semantic strategy produced both stronger memory traces and better retrieval paths than if used alone.

The effects on retention by the combined keyword-semantic strategy was found in authentic classroom situations. This is important for a strategy to be useful, research must demonstrate that certain learning strategies are not only effective in the laboratory but in the classroom as well.

### 5.3 Conclusion

Recently attention has turned to ways in which learners can be trained to take more responsibility for how and what they learn, and organizing vocabulary learning is a particularly productive area for the encouragement of learner autonomy. Learners adopt a number of strategies for coping with new vocabulary, but not all learners are equally good at maximizing their strategic resources.

No one knows everything about how people learn vocabulary or language for that matter, but there is strong support for sharing, through strategy training, what we do know. Research shows us that learners who receive strategy training generally learn better than those who do not.

With regard to the questions posed in chapter 1 and the beginning of this chapter the results of this study indicate the following:

- \* A practical significant difference between the semantic strategy group and the keyword strategy group on the cued-recall test administered 1 day after treatment.
- \* A practical significant difference between the combined keyword-semantic strategy group and the keyword strategy group on daily tests as well as on multiple-choice and cued-recall tests.
- \* The differential effects for the instructional treatments reveal that the combined keyword-semantic strategy group differed statistically significantly as well as practically significantly from the keyword strategy group, both immediately after treatment and nine days after treatment on the cued-recall as well as the multiple choice tests.

This study has provided some evidence, which supports and improves that of Brown and Perry (1991), to suggest that the

combined keyword-semantic strategy promotes more vocabulary acquisition on both the recognition and cued-recall tests (1 day and nine days after treatment) than the keyword strategy and the no strategy (i.e., control group) condition. These are not the only strategies to be considered, however. Other strategies need to be compared as well, in order to gain an overall picture of the optimal use of learning strategies for vocabulary acquisition.

## CHAPTER 6

### CONCLUSION AND RECOMMENDATIONS FOR ESL VOCABULARY LEARNING

#### 6.1 Introduction

It is the experience of most language teachers that the single, biggest component of any language course is vocabulary. No matter how well the student learns grammar, no matter how successfully the sounds of an L2 are mastered, without words to express a wide range of meanings, communication in an L2 just cannot happen in any meaningful way. And yet vocabulary often seems to be the least systematized and the least well catered for of all the aspects of learning a second language.

The results of this study have shown that learners who receive strategy training generally learn better than those who do not (cf. Table 1). The results indicate the following: the differential effects for the instructional treatments reveal that the combined keyword-semantic strategy group differed statistically significantly as well as practically significantly from the keyword strategy group, both one day after treatment and nine days after treatment on the cued-recall as well as the multiple choice tests. This would therefore seem to indicate that the combined keyword-semantic strategy promotes more vocabulary acquisition on both the recognition and cued-recall tests than the keyword strategy and the no strategy condition (i.e., control group).

However, one possible factor that could have been instrumental in affecting the results of this study was the level of concreteness of the target words. Many of the new vocabulary words themselves were fairly abstract and difficult to image. As a consequence, the use of abstract academic vocabulary may

have encouraged the use of semantic strategies by keyword subjects. If students systematically have difficulty in generating images, this circumstance would restrict the keyword method to concrete words, limiting its usefulness in ESL classrooms. The findings of this study suggest combining the two strategies in order to provide the pupil with more versatility in mastering heterogeneous vocabulary.

An additional factor that could have played a role in the results of this study is the format in which the treatments were given. In many non-English L2 keyword studies, the subjects were native English speakers. Consequently, the foreign word was presented, an English keyword supplied, and an English definition given. In this study, an English word was given to nonnative English speakers, an Afrikaans keyword supplied, and an English definition given. The mismatch comes in the last step. To make this study more comparable, an Afrikaans definition could have been given. Future research should take this into consideration. However, the format used in this study is often the one used in the ESL classroom and therefore might be considered to have more ecological validity.

## **6.2 Recommendations for ESL Vocabulary Learning**

The purpose of this study was not to propose a classification of vocabulary teaching techniques. Most teachers will have their own preferred techniques or styles for teaching vocabulary. This study suggests that one should begin with a rich concept of vocabulary - the goals of vocabulary teaching must be more than simply covering a certain number of words on a word list. One must look to how teaching techniques can help realize one's concept of what it means to know a word. As in all areas of the syllabus, an understanding of the nature of what one is teaching should be reflected in the way one sets about teaching it. The issue of ease and difficulty in vocabulary learning, interesting as it may be in its own right, is therefore also of importance to the English teacher, who has to make various decisions about

ways of enriching learners' vocabularies. When left to their own devices and if not overly pressured by their environment to use a certain set of strategies, students typically use learning strategies that reflect their basic learning style (cf. Ehrman & Oxford, 1989). They can, however, learn to develop additional strategies and to test the value of the ones they ordinarily use. Students are not always aware of the power of consciously using vocabulary learning strategies for making learning quicker, easier, more effective and even more fun. Teachers, therefore, need to help their students develop an awareness of vocabulary learning strategies and enable them to use a wider range of appropriate strategies.

Strategy instruction includes demonstrating when a given strategy might be useful, as well as how to use it, how to evaluate its usefulness, and how to transfer it to other related tasks and situations (Scarcella & Oxford, 1992:64). In strategy instruction, students learn more than a set of gimmicks for learning vocabulary; they develop academic techniques that help them learn the language or any other subject.

### **6.2.1 Recommended Activities**

The following activities can be used to help students acquire memory strategies needed to enhance vocabulary acquisition.

#### **6.2.1.1 *Make Your Own Groups***

This exercise gives learners the opportunity to create their own groups of words and consider the best criteria for doing so, as a way of remembering vocabulary. Give your students 50 to 100 small cards containing vocabulary words in the new language. Let them work in pairs to group the cards and then label their groups. To do this, they should lay the cards out on a table, putting them into as many groups as necessary and then devising labels for each group. Suggest that they transfer this information onto a large sheet and then draw lines between any



### 6.2.1.2 *Yes/No Game*

This exercise helps learners to improve their perception and discrimination of sounds in the new language. The exercise involves the strategy of formally practicing with sounds. Call out two words to the students. Tell them to indicate if the words are the same (if so, write YES) or not the same (if they are not the same, write NO). Each pair of words will have a number, and YES or NO will be written next to the appropriate number. Give students an example on the board, like this:

WORD PAIR NUMBER	YES or NO
1. (book/look)	NO
2.	
3.	
4.	

OR

Call out a series of several words and ask students to indicate which, if any, is not the same as the others. For the set FAR, BAR, FAR, FAR, learners would write down 2 to show that the second word in the series is not like the others (cf. Oxford, 1990:106).

### 6.2.1.3 *Grouping and Labelling*

These tasks help learners see the value of grouping and labelling. Learners get practice with both of these as they learn vocabulary. Tell your students the following in your own words: Grouping information helps you remember it. Putting a label on the groups you have made can also help you recall it later. Both of these techniques are really organizational functions, which help you sort information and reduce it to smaller, more cohesive units.

Let's show how grouping helps you. First, try to memorize List A after reading through it a few times. (Give learners the list).

**List A**

cocoa	Indian	bed	soda
post office	hello	soap	what
able	that	registration	personality
rigidity	loop	disk	yellow

Now put the list away and then try to write down as many of the words in the list as you can remember. Then count the number of words you have recalled. (Take a few minutes here to do an informal survey of how many of the 16 words were recalled; get a rough average for the group.) These are your results when you do not use any special kind of grouping - that is, when the information in a list is completely unorganized.

Now let's try another experiment. Try to memorize List B. Read through it a few times now. (Give learners the list.)

**List B**

**Office Supplies and Equipment**

Desk-related:           pens   pencils   rubber bands   stapler  
                          tape   desk       paper clips

Computer-related:    paper   ribbon   hard disk  
                          floppy disk    VDT

Telephone-related:   telephone   notepad   phone book  
                          answering machine

Now put the list away and again write down as many of the listed words as you remember. Count the number of words you have written down. (Take time to survey the students again and obtain an average of the number of words. It is likely that students

remembered more from List B than they did earlier from List A.) This is how you perform when the information is more organized - that is, grouped and labelled so that it is easier to remember.

We will now try List A again, but this time you'll organize the words and use any labels you want to use. (Give students time, say 3 to 5 minutes, to organize the words from List A into groups of their own making.) Be sure to write down the words as you group them and then put labels on the groups. Put away the list now. Try to write down as many of the words you recall from your "organized List A." (Check how many words have been recalled; it will probably be far more than students remembered the first time they dealt with List A, partly due to having a second encounter with the material.)

Though List B was already grouped, you might find it useful to regroup and relabel the words in List B in a way that suits you better personally. Take a few minutes to think of a different grouping system. Jot the words down in their groups, and give each group a name. Now remember the words. (Do another survey about the words remembered from List B, and see if the average is any better than it was with the original List B.) Now let's discuss grouping and labelling. How does grouping help you remember? What functions does it serve? What does labelling do for you? Is it better to create labels before or after the groups are formed? Is it better to generate your own groups and labels, or have the groups and labels given to you, or does it make any difference? What role does structured review play, and what role does grouping play? (Let students have time to discuss these questions, possibly in small groups or pairs, reporting to the larger group at the end.) (cf. Oxford, 1990:102.)

### **6.3 Conclusion**

Learners adopt a number of strategies for coping with new vocabulary, but not all learners know how to use these strategies when introduced to new words. Both teachers and learners have

to work hard to 'construct' meaning; meaning is not just lying on a plate, waiting to be picked up and instantly digested. The teacher has to present meaning in a way that is comprehensible to learners, and learners have to relate new meanings to ones already known. They should signal to the teacher if they feel that meaning cannot be grasped unless more information is given and, ideally, try out newly acquired words in class to provide feedback for both themselves and the teacher, who has to be reasonably confident that word and meaning have been successfully transmitted.

In conclusion, then, remember that the mind may close off fruitful options to learning vocabulary based on justifications such as, "I have so many words to learn that I don't have time for gimmicks." The reality is that some of these activities - like learning words through association - can save an enormous amount of time. As has been pointed out, "the mind remembers what the mind does" (Rivers 1981). Thus, if the vocabulary learner gives the mind only a meager embedding for a new word, that is what the mind will store and then attempt to retrieve. If, on the other hand, the mind concocts an elaborate web of associations around the word, the extra mental activity will most likely facilitate subsequent recall and retrieval of that word.

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## SUMMARY

Vocabulary acquisition has been pinpointed as of the most basic objectives of schooling. In this regard, students learning English in secondary schools in South Africa face a formidable task. It has been estimated that by the last year of high school the typical student has learned 40 000 words, an average of around 3 000 words per year. Consequently, it is easy to understand why the need to answer questions like "How does word knowledge develop?" and "How can its growth be promoted?" is of such importance to educators.

The purpose of this study was to compare the effectiveness of three memory strategies for learning ESL vocabulary, namely, the keyword method, the semantic processing method, and the keyword-semantic method. Four intact ESL classes were divided into three treatment groups (keyword semantic and keyword-semantic) and one control group. These students then received four days of instruction. Both recognition and cued-recall instruments were used to measure effects both 1 day and 9 days after treatment. The results of this study indicated the following:

- \* A statistically significant as well as a practically significant difference between the semantic strategy group and the keyword strategy group on the cued-recall test administered 1 day after treatment.
- \* A statistically significant as well as a practically significant difference between the combined keyword-semantic strategy group and the keyword strategy group on daily tests as well as on multiple-choice and cued-recall tests.
- \* The differential effects for the instructional treatments revealed that the combined keyword-semantic strategy group differed statistically significantly as well as practically significantly from the keyword strategy group, both

immediately after treatment and nine days after treatment on the cued-recall as well as the multiple choice tests.

It would, therefore, seem as if the combined keyword-semantic strategy promotes more vocabulary acquisition on both the recognition and cued-recall tests than the keyword strategy and the no strategy conditions (i.e., control group). However, these are not the only strategies to be considered. Other strategies need to be compared as well, in order to gain an overall picture of the optimal use of learning strategies for vocabulary acquisition. Students are not always aware of the power of consciously using strategies for making learning quicker, easier, more effective, and even more fun. Teachers need to help their students develop an awareness of vocabulary learning strategies and enable them to use a wider range of appropriate strategies.

Keywords: memorization; second language learning; mnemonics; vocabulary; learning strategies; semantics; word recognition.

## OPSOMMING

Die aanleer van woordeskat word uitgewys as een van die mees grondliggende doelwitte van onderwys. In Suid-Afrikaanse hoërskole word leerlinge wat Engels moet aanleer met 'n ontsaglike taak opgesaal. Daar word geskat dat die deursneë leerling aan die einde van sy hoërskoolloopbaan sowat 40 000 woorde aangeleer het, dit wil sê sowat 3 000 woorde per jaar. Dit is dus te verstane waarom vrae soos "Hoe ontwikkel woordkennis?" en "Hoe kan woordeskatuitbreiding bevorder word?" so belangrik is vir opvoeders.

Hierdie studiestuk poog om die doelmatigheid van drie leerstrategieë vir die aanleer van woordeskat in Engels as tweede taal met mekaar te vergelyk, te wete die sleutelwoordmetode, die semantiese verwerkingsmetode en die sleutelwoord-semantiese metode. Vier bestaande klasse vir Engels as tweede taal is in drie proefgroepe plus kontrolegroep verdeel (sleutelwoord, semanties en sleutelwoord-semanties). Hierdie leerlinge is toe vir vier dae lank intensief onderrig. Op die eerste dag na die afloop van die onderrig en toe weer op die negende dag is beide herkenninginstrumente sowel as skakelwoord geïnspireerde herroepingsinstrumente gebruik om die uitwerking van die spesiale onderrig te meet. Die resultate van bogenoemde studie is soos volg:

- \* Daar is 'n prakties betekenisvolle verskil gevind tussen die semantiese strategiesgroep en die sleutelwoord strategiesgroep met betrekking tot die sleutelwoord geïnspireerde herroepingstoetse op Dag 1 na die onderrig.
- \* Daar is 'n prakties betekenisvolle verskil gevind tussen die gekombineerde sleutelwoord-semantiese strategiesgroep en die sleutelwoordstrategiesgroep in daaglikse sowel as in

veelkeusige en skakelwoord geïnspireerde herroepingtoetse.

- \* Die resultate van die verskillende onderrigmetodes dui daarop dat die gekombineerde sleutelwoord-semantiese strategiesegroep statisties sowel as prakties betekenisvol verskil van die sleutelwoord-strategiesegroep op die eerste - sowel as die negende dag na onderrig. Bogenoemde geld vir sowel die skakelwoord geïnspireerde herroepingstoetse as die veelkeusige toetse.

Met betrekking tot beide herkenningstoetse en die skakelwoord geïnspireerde herroepingstoetse wil dit dus voorkom asof die gekombineerde sleutelwoord-semantiese strategie 'n beter woordeskatuitbreiding as die sleutelwoordstrategie of die geen-strategie (kontrolegroep) tot gevolg het. Daar moet egter op gelet word dat daar talle ander strategieë ook bestaan en dat hulle ook in ag geneem sal moet word voordat 'n geheelbeeld gevorm kan word ten opsigte van die optimale benutting van leerstrategieë met die oog op woordeskatuitbreiding. Leerlinge is nie altyd bewus van hoe 'n kragtige instrument die doelbewuste gebruik van leerstrategieë is om die leerporses vinniger, makliker, doelmatiger en selfs prettiger te maak nie. Onderwysers behoort hul leerlinge te help om 'n groter gewaarwording te ontwikkel met betrekking tot woordeskatleerstrategieë sodat hulle uiteindelik in staat sal wees om 'n breër spektrum gepaste leerstrategieë toe te pas.

Sleutelwoorde: Memorisering; tweedetaalleerproses; geheuebrug; woordeskat; leerstrategieë; betekenisleer; woordherkenning.

## APPENDIX A

Complete the following sentences by choosing the correct word at each number. Mark the correct symbol on the answer sheet with an X.

1. The plane carries \_\_\_\_.  
A. bale  
B. freight  
C. sill  
D. baton
2. I \_\_\_\_ whether I was right in refusing the offer.  
A. spate  
B. ponder  
C. ferry  
D. vapour
3. He owned his success to his \_\_\_\_.  
A. menace  
B. mentor  
C. moat  
D. baton
4. Polluted air is a \_\_\_\_ to health.  
A. freight  
B. swindle  
C. fret  
D. menace
5. The knight levelled his \_\_\_\_ at his opponent.  
A. spar  
B. spate  
C. lance  
D. baton
6. We pack groceries in the \_\_\_\_.  
A. moor  
B. larder

- C. spar  
D. vapour
7. Cross the river on the \_\_\_\_.
- A. ferry  
B. mentor  
C. abyss  
D. larder
8. Use the \_\_\_\_ to repair the fur coat.
- A. ferry  
B. baton  
C. pelt  
D. bale
9. The \_\_\_\_ was taken to the SPCA.
- A. stray  
B. villain  
C. martyr  
D. heir
10. The ship ran aground during the \_\_\_\_.
- A. vapour  
B. spate  
C. swindle  
D. tempest
11. The bird is sitting on the \_\_\_\_.
- A. pane  
B. sill  
C. lair  
D. knoll
12. The \_\_\_\_ from his office window was one of crawling traffic.
- A. freight  
B. stare  
C. trench  
D. vista
13. Use the \_\_\_\_ to shred the vegetables.
- A. grater  
B. trench  
C. tremor

D. spat

14. She is in a \_\_\_ about some little thing.

A. tempest

B. stray

C. fret

D. haunt

15. Lower the drawbridge over the \_\_\_, we want to enter the castle.

A. tempest

B. ferry

C. sill

D. moat

16. Carpets are packed in a \_\_\_.

A. freight

B. kelp

C. bale

D. moor

17. His offer to sell diamonds cheaply turned out to be a \_\_\_.

A. swindle

B. spat

C. knell

D. menace

18. The jackal returned to its \_\_\_.

A. vista

B. lair

C. lance

D. wart

19. I was woken by a severe earth \_\_\_.

A. tremor

B. vapour

C. haunt

D. fret

20. Clouds are really masses of \_\_\_.

A. martyr

B. vapour

C. tremor

- D. lament
21. Climb to the top of the \_\_\_\_.
- A. knoll  
B. pane  
C. bale  
D. larder
22. The sail is tied to a \_\_\_\_.
- A. mentor  
B. spar  
C. wick  
D. pane
23. The hunters trudged across the \_\_\_\_.
- A. kelp  
B. moor  
C. abyss  
D. wick
24. My uncle's will made me his \_\_\_\_.
- A. moat  
B. pane  
C. freight  
D. heir
25. That coffee-bar is the \_\_\_\_ of teenagers.
- A. knoll  
B. pelt  
C. haunt  
D. wart
26. The climber slipped into the \_\_\_\_.
- A. abyss  
B. grater  
C. moor  
D. trench
27. David's \_\_\_\_ over the death of Saul and Jonathan was intense.
- A. menace  
B. lament  
C. martyr  
D. ponder

28. He has the \_\_\_ of getting old cars to work.
- A. tremor
  - B. menace
  - C. fret
  - D. knack
29. The doctor removed the \_\_\_ from her finger.
- A. kelp
  - B. knoll
  - C. wart
  - D. pelt
30. Light the \_\_\_ of the candle.
- A. knack
  - B. knell
  - C. wick
  - D. jib
31. On our farm is a \_\_\_ teeming with fish.
- A. brook
  - B. spate
  - C. larder
  - D. knack
32. He died a \_\_\_ for the sake of his religion.
- A. tremor
  - B. villain
  - C. martyr
  - D. lair
33. The stone shattered the \_\_\_.
- A. sill
  - B. wick
  - C. pane
  - D. vista
34. Iodine is extracted from \_\_\_.
- A. abyss
  - B. spate
  - C. kelp
  - D. lance

35. The \_\_\_ billows in the gusty wind.
- A. jib
  - B. fib
  - C. moor
  - D. spar
36. The labourers dug a \_\_\_.
- A. moor
  - B. trench
  - C. moat
  - D. pelt
37. The \_\_\_ of the church bells warned them.
- A. knell
  - B. sill
  - C. pelt
  - D. jib
38. The \_\_\_ was foiled by the hero.
- A. villain
  - B. martyr
  - C. tempest
  - D. lair
39. Since the storm the river is in full \_\_\_.
- A. swindle
  - B. spate
  - C. brook
  - D. vapour
40. The conductor uses a \_\_\_ to conduct the orchestra.
- A. baton
  - B. wick
  - C. lance
  - D. bale

## APPENDIX B

Write down the definitions of each of the following words:

### Vocabulary

1. moat 2. haunt 3. martyr 4. pane
5. brook 6. abyss 7. bale 8. ponder
9. freight 10. fret 11. heir 12. kelp
13. jib 14. lament 15. swindle 16. menace
17. mentor 18. grater 19. moor 20. trench
21. knell 22. knack 23. lair 24. lance
25. larder 26. vista 27. spar 28. spate
29. villain 30. wart 31. tremor 32. pelt
33. ferry 34. sill 35. knoll 36. baton
37. wick 38. vapour 39. stray 40. tempest