CASE STUDY:

EFFECTS OF A SYSTEMATIC METHOD OF VOCABULARY

INSTRUCTION ON A DISABLED LEARNER

THESIS

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Abstract

This descriptive case study examined the effects of instruction in a systematic method of vocabulary instruction which included a mnemonic component on the fifteen-year-old learning disabled female with memory deficits. The researcher and subject met for nine forty-five minute sessions over a period of four weeks. At the end of the study, changes in the subject included increased self confidence about her ability to learn vocabulary independently. She gained the confidence to volunteer vocabulary related answers in another class, a behavior which the subject reported was something she would not have previously done. She was able to write definitions for 21 out of 27 words which were previously unfamiliar to her. The subject was also able to select the correct word for a fill-in exercise for the remaining six words for which instruction time was limited. A post hoc test administered three months after the end of the study revealed that the subject remembered 19 of the 26 words studied. All words for which she had created mnemonic devices were among those remembered.

Instructional implications of this study include a recommendation that time devoted to teaching a method for learning vocabulary may be beneficial for disabled learners. Situational examples of new vocabulary in context were recommended to facilitate faster word learning.

Recommendations for future research in this area included an extended length of time to practice using the system with supervision to increase the likelihood that subjects would be able to use the system independently.

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# CHAPTER I

## Statement of the Problem

One of the goals of effective teachers is to help students develop their potential in a way that allows them to discover how to become self-directed learners. To do this, researchers and educators continually seek new and innovative ways to improve the quality of instruction.

Approaches to reading instruction vary greatly. Debates continue over what type of reading instruction is most effective. While some educators advocate instruction from a contextual framework, others believe in using a linguistic perspective which focuses on acquisition of word knowledge. Many educators believe that effective instruction includes both components. Individual learning styles and teacher preferred techniques influence decisions about instructional methods. Day, Cordon and Kerwin (in McDaniel & Pressley, Eds., 1987) argue that it is difficult to define an "ideal" strategy which can be applied to every student. They suggest that future research should focus on how the characteristics of individual students affect both the outcome and the instruction they receive.

Any endeavor which would provide students with new tools to approach learning has merit. Because what works with one student may not be effective

with another, these tools are often discovered through a process of trial and error. The ultimate goal is to find the method of instruction which empowers the student to become a self-directed learner. As the student takes more personal responsibility for learning, the potential increases because it is not restricted to school subjects or teacher monitored behavior. When the world becomes a student's classroom and the student becomes the teacher, learning can be non-stop and expansive.

Ideal instruction builds on students' strengths while addressing weaknesses. Learning disabled students present a special challenge to educators because they often are unaware of their individual strengths. They seem to lack metacognitive awareness, that is, they do not seem "to know what they know and how they acquire what they learn". Unless a student becomes aware of this process, it will be difficult or impossible for independent learning to occur.

One problem faced by teachers today is how best to instruct the learning disabled students who suffer from language processing difficulties. These students appear to have a language deficit which makes reading a difficult process for them. A common trait among many learning disabled students is a lack of word knowledge. While multiple exposures to a word may be enough for the average student to develop an understanding of a word, it often takes more for the learning disabled student to remember the meaning of new words.

One of the tools often used to expand the ability to remember information is mnemonic strategies. These strategies use such things as rhyming patterns, chunking or paired associations to facilitate learning. One mnemonic device which has been used with learning disabled students with some success is the keyword technique. The keyword strategy uses imagery and/or word association as a "mental hook" to connect unfamiliar information with information that is already stored in memory.

Quantitative research has addressed the efficacy of the keyword strategy to enhance vocabulary instruction. Studies have found positive results when the keyword is provided for the student, however, results have been less promising when the students were required to generate their own mnemonic keywords (Mastropieri, Scruggs & Levin, 1986; Mastropieri, Scruggs, Levin, Gaffney & McLoone, 1985; McDaniel & Pressley, Eds, 1987). An important question may be whether the nature of the quantitative study itself interfered with the student's ability to develop this strategy.

One drawback of quantitative research is that it is often conducted in a contrived setting due to the need to control outside variables. Many students who are learning disabled are sensitive to changes in the learning environment. Placing such students in settings which have been altered to control variables might well have an effect on the students' learning potential.

Frequently the learning disabled student has experienced frustration as a result of repeated failure, and in turn has developed a poor self concept in regards to learning. Since risk taking requires a belief that there is a potential for success, students who lack self confidence about learning might well be resistant about the application of new strategies. Additional factors such as distractibility and lack of metacognition are common characteristics of learning disabled students which could be variables which would negatively affect the outcome of quantitative studies.

Vtgotsky's theory of scaffolding (as cited in Day, Cordon & Kerwin, 1989) suggests that learning has a social origin and the role of a teacher or parent is to "scaffold" for the child. Scaffolding refers to controlling the elements of a learning task which are initially too complex for a learner, hence allowing the student to focus attention on the portions that are within the learner's capabilities. As the student achieves increased competency, more of the task can be assigned to the student. A student/tutorial relationship is ideal for this type of learning because the teacher can direct full attention to monitoring the individual's comprehension, provide immediate feedback about processing and make adjustments to relegate elements of the process to the student as competencies are achieved. A case study setting for a learning disabled student hence could potentially be more comfortable for the student, reduce variables

such as distractibility, increase metacognition and increase risk taking, and subsequently increase the student's independent learning.

Qualitative research such as a case study compliments the philosophy of ecological reading assessments by studying the individual in a naturalistic setting which more closely resembles real life learning. The information gained from such studies can provide valuable insights into the ecological understanding of literacy development in the disabled learner.

## Purpose

The purpose of this case study was to examine the effects of a systematic or keyword strategy of vocabulary memorization on a fifteen year old learning disabled female's attitude and ability to learn new vocabulary with less teacher participation.

## Questions to be Answered

1) What effects, if any, will a systematic method of vocabulary study such as the TOAST method which includes a mnemonic component have on this disabled student's ability to become a more independent word learner?

2) After a period of direct instruction in the development of mnemonic keywords for vocabulary, will this disabled learner be able to develop effective keywords independently?

## Definition of Terms

**Contextual learning** - word knowledge acquired as a result of semantic processing from clues drawn from the surrounding text (Beck, McKeown, & McCaslin, 1983).

**Direct instruction** - instruction which is planned and implemented by a teacher or other instructor (Jenkins, Stein, & Wysocki, 1984).

**Frequency of encounter** - the number of times a word is seen or experienced during a learning session (Stanley & Ginther, 1991).

**Incidental learning** - learning which occurs naturally or unintentionally without the benefit of instruction (Jenkins, Stein, & Wysocki, 1984).

**Keyword mnemonic instruction** - a memory enhancing strategy which involves the use of imagery and/or word association to increase learning and retention (Levin, McCormick, Miller, & Berry, 1982).

**Misdirective context clues** - those indicators within the framework of the text which seem to direct the reader to draw incorrect conclusions about a word's meaning (Beck, McKeown, & McCaslin, 1983).

**Prior knowledge** - a readers' background knowledge which was stored in memory before the reading event occurs. (Stahl, Jacobson, Davis & Davis, 1989).

## Limitations of the Study

1) The length of the treatment may not have been sufficient for transfer to independent learning to occur.

2) Though case study research has merit, information derived from such research may not prove to transfer to larger populations.

3) Individual characteristics of the researcher/instructor or the student, or the interaction of the two could have interfered with the student's ability to develop independent behavior.

4) Early mastery of the original list of words was not anticipated and additional words were added during the course of the study.

5) The subject was absent from school on one of the final scheduled days for a session and therefore there was insufficient time with the last group of words learned.

# CHAPTER II

## Review of the Literature

The role word knowledge plays in achieving effective and fluent communication is seldom disputed. Given the importance of literacy in our society today, it is not difficult to understand why so much research has been devoted to the topics of vocabulary definition, acquisition and instruction.

This review of literature has examined studies which sought to clarify the definition of vocabulary, how it is acquired and which types of instruction have been proven most effective.

## Vocabulary Size and Definition

The study of vocabulary size, acquisition and effective instructional strategies is not as simple as it might appear on the surface. Researchers are bombarded with a number of often asked questions. What criteria should be established to determine when a word is known? Does an individual need to be able to give all the possible definitions of a word or does one dictionary entry suffice? When quantifying vocabulary size, what words qualify for inclusion? For example, should abbreviations, contractions and derivational words qualify as separate entries? Is direct vocabulary instruction beneficial and if so, what

methods of vocabulary instruction are most effective? This is a small sample of the questions facing researchers when they begin investigating the role vocabulary plays in the acquisition of literacy.

Definition of Vocabulary Size

D'Anna, Zechmeister and Hall (1991) sought to clarify the definition of vocabulary size by providing a clear rationale for the word source sampled and by clearly defining operational criteria for what constitutes a word. They argued that previous studies have relied on "very large, poorly defined corpuses" (sic) (pg. 118) and have therefore led to unrealistic estimations of vocabulary size.

Using a population of 62 undergraduate college students from Loyola University in Chicago, ages ranging from eighteen to twenty-two, they calculated that the average number of different words know by a college student was 16,785.

Other research studies have found word numbers to be much greater. Miller and Gildea (1987) estimated that the average child's vocabulary increases by 5,000 words a year. According to Nagy and Herman (1984) a high school senior may have a vocabulary as large as 40,000 words.

How can the radical differences in estimates be explained? Researchers suggest that factors such as differences in definitional sources, sampling techniques used, criteria used to determine word knowledge and definitions of

what constitutes a word, account for the discrepancies in estimates of

vocabulary size. (D'Anna, Zechmeister & Hall, 1991; Jenkins, Stein, &

Wysocki, 1984).

D'Anna, Zechmeister and Hall suggest that vocabulary size and rate of

growth may not be as great as once reported, and that direct vocabulary

instruction may be more important than some have suggested. The next logical

question would be "How does vocabulary acquisition occur?"

## Incidental Learning versus Direct Instruction

### Incidental Learning

Although researchers do not agree on the absolute number of words added

to the average child's vocabulary over time, several researchers agree that a

child's vocabulary doubles between third and seventh grade. Since very little

time in formal instruction is actually devoted to vocabulary acquisition, it is a

logical conclusion that much of this learning is incidental. (Jenkins, Stein, &

Wysocki, 1984).

In a study of one hundred and twelve fifth grade students, Jenkins, Stein

and Wysocki tested the hypothesis that new vocabulary knowledge can be

acquired through incidental learning. Students with two reading abilities were

randomly selected to read either 0, 2, 6, or 10 passages containing unfamiliar

words over a period of several days. The results of this study indicated fifth graders can learn words incidentally during reading. They found that at least two context presentations were necessary to affect vocabulary acquisition and prior exposure to the words resulted in greater learning than when the words were encountered without previous exposure. The researchers also concluded that incidental learning does not come easily or in large quantities (1984).

According to McKeown, Beck, Omanson and Perfetti, (1983) semantic processing may require frequent and varied encounters with words being taught. They contended that for vocabulary instruction to impact reading comprehension, definitional associations, fluent access to the words, and rich semantic network connections are all necessary. They provided frequent and varied student interactions with the vocabulary being taught to eighty-two paired fourth grade students over a five month period. Their analyses showed that the subjects in the experimental group outperformed the control group in acquiring enhanced accuracy of word knowledge, improved lexical access of the instructed words and increased comprehension of stories containing the instructed words.

Vocabulary Development from Contextual Clues

Some researchers believe that much vocabulary development is a result of word knowledge gained from contextual clues. According to Beck, McKeown

and McCaslin (1983), although vocabulary development through the use of the context method has gained wide acceptance, it is possible for this method to be interpreted too broadly. They conducted a study to examine how context can affect a reader's interpretation of words.

For the purposes of this study, they defined two types of contexts, *pedagogical* and *natural.* According to Beck et al., pedagogical contexts are specifically designed for the purpose of teaching word meanings. By contrast, natural contexts, may or may not give clues about a word's meaning, but they do not intentionally convey the definition. Natural contexts fall along a continuum of effectiveness from *misdirective contexts*, which tend to lead the reader to an incorrect definition, to *non-directive contexts* which provide no clues to the reader as to the word meaning. Further along the continuum are the *general contexts* which seem to provide enough non-specific information to allow the reader to place the word in a general category. Finally, the last context on the continuum is *directive,* which are similar to pedagogical contexts in nature. The main difference between these two types is that the pedagogical context deliberately instructs the reader about the word meaning while the directive context conveys the meaning unintentionally.

Beck, McKeown, and McCaslin selected thirteen adult volunteers for this study because they were considered to be more likely to have the word

knowledge necessary to complete the task. Target words in each contextual category were provided with the largest number (13) contained under the directive category and the fewest words (3) included in the misdirective category.

Subjects were provided with a basal text containing the target words which were blacked out of a passage except for morphemes that were common prefixes or suffixes (e.g. unpredictable would become un_____able). Subjects were asked to read the passage and fill in the blank with the missing word or a synonym. All subjects were able to categorize 11 out of the 13 directive contexts correctly, with results dropping drastically along the continuum so that at the opposite end only one subject could identify any word in the misdirective category.

The researchers concluded that if adults with more highly developed word knowledge were unable to complete this task correctly than the likelihood that a child would be able to do it would be even less. Beck, McKeown and McCaslin (1983) added that only highly motivated students would take the time to look up the meaning of unknown words.

Relationship of Word Length and Difficulty to Vocabulary Acquisition from Context

Some researchers have suggested that length and conceptual difficulty of a

word could be factors affecting whether the word is acquired through exposure in context. In three separate studies, Nagy, Anderson, and Herman, (1987); Jenkins, Stein, and Wysocki (1984); and Nagy, Herman and Anderson (1985) all found small but reliable gains in vocabulary knowledge as a result of exposure to context.

Nagy et al (1987) argue that tasks which require the subject to fill in the blank with a known word are not representative of the learning of conceptually difficult words. They conducted a study of 352 students in the third, fifth and seventh grades to investigate incidental word learning from context during normal reading. They found small but reliable gains in knowledge of words within the passages at all grade levels. Among the text properties which affected the subject's ability to learn new words from context in this study, the strongest influences were related to the proportion of unknown words that were conceptually difficult and the average length of the unfamiliar words. There was no learning from context for the words at the highest level of conceptual difficulty, and the conceptual support did not interact with learning from context. In fact, a negative relationship existed. That is, as sentences became longer and words became more difficult, less learning from context occurred.

Impact of Frequency of Encounter

An issue related to the word length and conceptual difficulty of vocabulary

is the number of times a word appears in a text. As with other studies, the

findings in this area are mixed.

McKeown (1985) suggested that frequency of encounter could have a

negative effect on vocabulary learning of low ability readers. Unfamiliar words

which were encountered repeatedly in the text appeared to interfere with the

low ability reader's comprehension.

In a study of one hundred and nineteen sixth grade students conducted to

determine if frequency of encounter and purpose for reading affected the

learning of unknown words from context, Stanley and Ginther (1991) did not

find support for the findings of McKeown (1985). Instead, their results

suggested that both high and low ability comprehenders demonstrated greater

gains in vocabulary when frequency of encounter was increased from four to

ten times. These researchers suggest that one reason for the difference in their

finding was that the unknown words used in their study were limited to ten

percent of total vocabulary.

Prior Knowledge and Vocabulary Acquisition from Context

Some researchers suggest that a reader's prior knowledge will affect the

ability and rate of new vocabulary acquisition. Stahl, Jacobson, Davis and

Davis (1989) conducted three studies of ninety sixth grade students to

investigate the interactive effects of prior knowledge and vocabulary difficulty

on students' recall of social studies text. The researchers concluded that although prior knowledge and vocabulary both appear to affect recall from text, they appear to function independently rather than interactively. Whereas vocabulary difficulty affected the order in which units were recalled, prior knowledge seemed to affect the focus of attention. As a result of these studies, Stahl, Jacobsen, Davis and Davis (1989) recommended focusing prereading discussion on central concepts to be covered in the reading while also providing instruction in the meaning of unknown words.

The Impact of Direct Vocabulary Instruction on Reading Comprehension

Several research studies have been done to determine whether direct vocabulary instruction has an impact on reading comprehension (Bos & Anders, 1989; Durso & Coggins, 1991; Medo & Ryder, 1993; Meyer, 1994; Stahl, Brozo, Smith, Henk, & Commander, 1991; Wesche, Paribakht & Sima, 1994.)

Mezynski (1983) reviewed eight studies on vocabulary instruction and reading comprehension in order to determine factors which were related to success in increasing vocabulary knowledge and improving reading comprehension. From the review of these studies, Mezynski identified three common factors for effective vocabulary instruction which also impacted reading comprehension: (a) repeated opportunities for practice in order to speed the lexical access to the newly acquired word, (b) exposure to the new

words in multiple contexts to provide a wider breadth of knowledge and,

(c) actively engaging the learner in the thinking processes.

Stahl and Fairbanks (1986) conducted an extensive meta-analysis of 52 studies done on vocabulary instruction and reading comprehension since 1985. The criteria used for selection were:   (a) the study was suitable for meta-analysis because the appropriate statistical information was available to derive effect size, and (b) the study used one of two types of control groups, a no exposure or a free-study control group.

They found that vocabulary instruction does appear to have a significant effect on the comprehension of passages containing the taught words.  They also concluded that methods of instruction in which a balanced program of definitional and conceptual instruction were combined demonstrated the highest effect sizes.  This finding was supported  by Jenkins, Matlock and Slocum (1989) in a study of 135 fifth grade students. They compared contextual and definitional instructional approaches and found that each type of instruction was effective for the type of learning it was designed to reinforce.  The instruction in deriving meaning from context was effective with medium and high amounts of practice but not with less practice.

Direct Instruction with the Use of Mnemonic Devices

Mnemonic devices are techniques to assist in memorization and are

reported to have been used for centuries (Desrochers & Begg, 1987 in

McDaniel & Pressley, Eds.). The substitution of words for the digits of a

telephone number as in 1-800 CALL ATT is an example of an everyday use of

mnemonics.

Francis S. Bellezza (1987 in McDaniel & Pressley, Eds.) describes the two

main types of mnemonics, *organizational* and *encoding*. Organizational

mnemonics are used to organize new information in a way which relates it to

something already stored in memory. Encoding mnemonics are used to

transform small abstract bits of information such as vocabulary into more

memorable form by creating a high imagery substitute which can be easily

stored in memory.

One form of vocabulary instruction which has been used with some success

is the keyword mnemonic approach. (Levin, McCormick, Miller & Berry, &

Pressley, 1982; McDaniel, M. A., & Pressley, M., (Eds.), 1987).   In the

keyword mnemonic technique, three steps are used to assist the learner in

remembering the unfamiliar word, *stimulus recoding, semantic relating* and

*systematic retrieval*. First the new word is *recoded* into an acoustically similar,

familiar word which can be pictured. Next, the "keyword" is *related* to its

meaning through a pictoral interaction, and finally the learner is asked to

*systematically retrieve* the meaning of the unfamiliar word by following the

retrieval path from the unfamiliar to familiar word to the pictoral representation which links the two words in a meaningful way. (Desrochers & Begg in McDaniel & Pressley, 1987; Mastropieri, Scruggs, Levin, Gaffney, & McLoone, 1985).

Stahl and Fairbanks (1986) evaluated studies which employed keyword mnemonic methods of teaching word meaning in a separate part of their meta-analysis. In their comparison study, they treated these methods separately because they differed from the others in that they were not semantically based.

One major advantage of the keyword mnemonic method is the relatively short study time required, sometimes as low as 10 or 20 seconds per word. (Stahl & Fairbanks, 1986). Since the basis of mnemonics is to make connections with information already stored in memory, the time required to implement this strategy is less than that required to memorize totally unfamiliar information. Another advantage of keyword mnemonic methods is they have proven to have positive results with learning disabled students with mild learning and memory problems. (King-Sears, Mercer & Sindelar, 1992; Mastropieri, Scruggs, Levin, Gaffney, & McLoone, 1985).

Dana and Rodriquez (1992) designed a system of vocabulary study which they labeled with the acronym TOAST. The letters in the acronym stand for the steps within the study system - *test, organize, anchor, say* and *test*. Sixth

grade students were instructed in use of a system to 1) pretest their knowledge, 2) organize words to be studied, 3) anchor them in memory, 4) practice them at prescribed intervals and finally 5) test for retention. Keyword or mnemonics were a possible option under the "anchor" part of the system. Results of the study indicated that the TOAST system was more effective than self-selected study methods but Dana and Rodriquez (1992) suggested that further research using this method in a less contrived setting is needed.

King-Sears, Mercer and Sindelar (1992) conducted a study of thirty-seven sixth, seventh and eighth graders with learning disabilities or behavioral or emotional disorders. The subjects were instructed in one of three conditions: systematic teaching materials, imposed keyword, or induced keyword condition. Students in the systematic teaching condition received flashcards containing the words, definitions and illustrations. In the imposed keyword condition, subjects received two cards one with the vocabulary word and keyword on opposite sides as well as cards which were identical to those provided for the systematic group. In the third condition, students received identical materials to the second group for the first week of instruction but were taught a strategy to make up their own keywords during the second through fourth week of the study. Students in the second group, the imposed condition, were found to outperform the students in the other two groups. Teachers and students reported

that learning was more fun using the keyword method.

Mastropieri, Scruggs, Levin, Gaffney, & McLoone, (1985) examined the feasibility of training learning disabled adolescents to generate their own keywords and interactive images following practice sessions during which the keywords and interactive illustrations were provided. Subjects in the keyword condition statistically outperformed the subjects in a directed-rehearsed condition. The researchers concluded that handicapped learners can be taught to apply effective mnemonic strategies independently. Researchers suggested that further research which focused on development strategy instruction would be productive.

### Summary

Word knowledge obviously plays a key role in the process of reading. In order for a reader to comprehend the meaning of any written text, knowing the meaning of the words involved is central to comprehension. This chapter has reviewed reading research literature related to vocabulary, its definition, acquisition and function in reading as well as various methods of vocabulary instruction.

The learning disabled student presents a special challenge to educators because vocabulary acquisition is often difficult for these students. Some of

the literature reviewed suggests that instruction in the use of mnemonics

techniques can prove beneficial when teaching vocabulary to these students.

# CHAPTER III

## Design

### Purpose

The purpose of this study was to gather observations both from the perspective of the student and the instructor about metacognitive and behavioral changes that might occur as a result of instruction in a systematic method of vocabulary memorization which included a keyword mnemonic component to aid in retention. Pretest and posttest measurements were taken to determine the degree of learning which occurred. A second purpose was to see if the student would adopt the strategy for independent use after the study was completed.

### Questions

This study was designed to address the following questions:

1.) What types of strategies did the learner use before the treatment?

2.) After an initial time of teacher modeling of the strategies used to generate mnemonic keywords, will the subject adopt the strategy and employ it independently?

3.) What will be the subject's attitude towards the strategy?

4.) Will use of the strategy assist the student in learning new vocabulary?

## Method

### Subject

#### Background Information

The subject was a fifteen year old girl in the ninth grade and the youngest of four children. Her parents and family are extremely supportive of her endeavors. Reading has always been difficult for her. She was identified as learning disabled by the school district early in the elementary grades and has received special services in all subjects since that time. Other members of the subject's family have been diagnosed with learning or reading disabilities. The subject's mother has consistently been a strong advocate for her child and often spends long hours after school helping her with her homework assignments. Long term goals for the subject include college and the mother expressed concerns that college would be unobtainable unless the subject developed some independent study skills.

#### Medical History

The subject weighed 10 pounds and 9 ounces at birth and some complications with the pregnancy were reported. She was reported to have a 35 decibel hearing loss in her right ear during elementary school and she wore a hearing aid for a brief time. The mother reported that condition to have changed and more recent tests have revealed the subject no longer needs a

hearing device.

The subject's general health is reported to be good and no chronic medical problems were reported. She is of normal height and weight for her age and her physical conditioning is excellent due to her extensive involvement in athletics.

## Attitudes and Interests

The subject has been intensely involved with swimming since elementary school. She is a gifted athlete and spends long hours daily practicing her sport. She is a hard worker who commits all of her energy to whatever she attempts. She is described as somewhat quiet and shy but seems to be able to build strong meaningful relationships with those who have frequent, close contact with her. She is respected and liked by both her teachers and her peers. She is a leader in her sport and has developed a wide circle of friends through her swimming. She will attempt to complete any learning task requested by her instructors but she does not take the initiative to learn new things independently. The subject has suffered a loss of self confidence related to reading because it has been so difficult for her.

Test Data

Scores on IQ tests have declined over the years as evidenced below:

*WISC* scores - 1988 - Verbal IQ - 92, Performance IQ - 108, Full Scale - 100.

*WISC* scores - 1991 - Verbal IQ - 87, Performance IQ - 102, Full Scale -93.

*WISC* scores - 1994 - Verbal IQ - 87, Performance IQ - 89, Full Scale - 86.

*Kaufman Test of Educational Achievement 3/94:*

Reading 3.8; Math 8.8 (Scores indicate grade equivalence).

*Woodcock Reading Mastery Test*

| *Subtest:* | *(Scores indicate grade equivalent range)* |
|---|---|
| Word Identification - | 3.7 - 4.1 |
| Word Comprehension - | 4.5 - 5.4 |
| Passage Comprehension - | 6.1 - 8.4 |
| Total Reading | 4.2 - 4.9 |

An independent evaluation by a center specializing in learning disabilities was conducted at the request of the parents one year prior to this study. The subject was found to have difficulty with expressive language, spelling and grammar as well as significant weaknesses in vocabulary knowledge. Specific phonological weaknesses were identified in addition to weaknesses in retrieval or recall of information from memory. The instructor in this study was employed by the school district following that evaluation to implement a

program to address the phonological weaknesses. The instructor administered a

*Degrees of Reading Power (DRP)* before formal instruction began. Five

months later a second *DRP* was administered at the request of the school

district. Results from those two tests are listed below:

| Date of test | Raw score | DRP | National %ile | NCE | S9 |
|---|---|---|---|---|---|
| October '94 | 35 | 60 | 31 | 39.6 | 4 |
| March '95 | 37 | 62 | 34 | 41.3 | 4 |

Although there had been no change in reading scores for several years,

the above table illustrates the changes which occurred after five months of

individualized instruction. During this initial time of instruction prior to this

study, a rapport was established between the instructor/researcher and the

subject in this study. In addition to the phonological instruction, lessons were

provided in structural analysis as well as the use of flashcards to learn new

vocabulary.

**Materials and Instruments**

A tape recorder was used to record each learning session and interview in

addition to instructor observations made when the subject was dismissed. One

teaching instrument used in this study was the vocabulary learning strategy

developed by Carol Dana and Margaret Rodriquez, (1992) which was labeled

with the acronym TOAST. The letters in the TOAST system stand for the

words *test*, (pretest their knowledge,) *organize* words to be studied, *anchor*

them in memory, *say* (practice them at prescribed intervals) and *test* (posttest to

determine if retention has been achieved.). (See appendix A for a more

complete description.) For the *organize* component of the TOAST system, the

IT FITS strategy adapted from Kings-Sears, Mercer and Sindelar (1992) was

used to help the subject develop mnemonic keywords. (See appendix B.) An

initial set of interview questions was compiled by the researcher, in addition to

a set of questions to be asked on a weekly basis to monitor any changes or

progress. A modified list of questions was developed to be used during the

final session. (See appendix C for interview questions.)

An initial list of ten words selected from a Global Studies text was used

during the first week of instruction. An additional list of eleven words drawn

from the context of read aloud activities was added after the first list was

mastered. When mastery of those words was achieved a third list of six words

from the read aloud activity was added. The subject studied a total of 27 new

words over the course of the study. (See appendix D for a complete word list.)

## .**Procedure**

This was a descriptive study based on a triangulated model of reporting

data in a naturalistic study. An initial interview, weekly questions and a

terminal interview were conducted to gain insight into the attitude and

impressions of the subject. Each session was tape recorded and notes were collected on any significant spontaneous observations made by the subject. The researcher added personal observations after each session. A pretest and posttest instrument was administered when appropriate to determine the amount of learning which occurred.

The subject and the researcher/instructor in this study met every other day for 30 minutes over a period of five weeks for an approximate total of seven hours of instruction. During the first week of sessions most of the time was devoted to learning the steps of the TOAST vocabulary system of vocabulary acquisition (see appendix A) and practicing the steps of the IT FITS mnemonic strategy (see appendix B).

During the first week of instruction the instructor modeled the TOAST system and provided examples of mnemonic or keyword imagery. During the second week of instruction, the student was encouraged to think of her own imagery to associate with words. As time progressed the instructor provided less assistance in imagery development. In the last two weeks of instruction, the TOAST system was implemented more independently by the student and the instructor refrained from offering any mnemonic suggestions during the final week.

Each session and closing interview was tape recorded with personal

observations by the researcher/instructor added after the subject was dismissed.
A final interview included questions to assess the subject's willingness to use
this system independently. Three months after the end of the study a posttest
of vocabulary words was administered to determine whether long term retention
had been achieved. The subject was also given a post hoc interview to
determine whether she had adopted the system as a method of independent
study.

## Analysis of Data

The observations drawn from this study were analyzed from a qualitative
perspective.

# CHAPTER IV

## Analysis of the Data

### Purpose

The purpose of this study was to examine the effects of a systematic mnemonic or keyword strategy of vocabulary memorization on a fifteen year old ninth grade disabled learner's attitude and ability to learn new vocabulary with less teacher participation.

### Procedure

The student and the researcher met for forty-five minute sessions every other school day during school hours over a four week period. Each session was tape recorded for transcription later. Both teacher and student observations were collected. Posttest examinations were given to determine the amount of vocabulary learning that occurred.

### Week 1

#### Session 1

At the beginning of the first session a questionnaire was administered about the attitudes and previous vocabulary learning strategies used by the student. (See appendix C for a complete list of interview questions.)

Student Responses to Vocabulary Attitude Questionnaire

The student indicated that she thought studying new words is fun. She said her system to learn new words was to use flash cards to help with memorization, and she thinks that it took approximately one hour to learn a new word. She also responded that it was easier to review words each day and that the best way to learn a new word was to say it, write it down and read it often.

Introduction of the TOAST Method

The remainder of the session was devoted to teaching the student what each letter of the acronym TOAST represents and the procedure to follow under each step. (See appendix A.) A list of ten words selected from the glossary of a Global Studies text was introduced to the student as the first list of words to study. (See appendix D.) The student examined the list and indicated that all words were unfamiliar to her. Since the student had no prior knowledge of any of these words, no formal pretest was administered.

After definitions were provided and the student was introduced to the *organize* part of the acronym, she was asked to organize the words into categories which had meaning for her. Examples of possible categories were provided. Her category choices were *people, government,* and *things.*

When working on the *anchor* section of the acronym, the student was

given examples of ways which might aid in memory retention. Examples of structural analysis were provided and a sample using the IT FITS model to create a keyword was introduced. (See appendix B for more on IT FITS.)

<u>Teacher Observations</u>

The student seemed stiff and uncomfortable during this session. She blushed easily when asked for a response and was reticent to volunteer any information. She was late arriving and when the session was over, she seemed anxious to leave. It had been observed that when this subject felt intimidated, she seemed to become easily confused.

<u>Session 2</u>

There was an unexpected development when the student came to the second session. She had used her usual methods to study the words at home after the last session. Although it was a positive sign for her to have shown an interest in learning the vocabulary, it was not expected that she would devote time to this vocabulary outside of the study sessions. Because it would have been difficult to measure the length of time spent and procedures used when the student was working at home, she was asked to refrain from studying the words outside of our sessions. It was also decided that the word source needed to be changed because other teachers might help her with her Global Studies vocabulary and it would be impossible to monitor that variable. It was decided

that any vocabulary to be learned during the remainder of the study would be selected by the student from the novel *Pigman.* It was agreed that she would record unfamiliar words as she encountered them and bring the list to each session to use for practice using the TOAST method.

During the remainder of this session, we continued using the words selected from the Global Studies text. The student made flashcards for each word and suggestions were offered by the instructor on ways to remember the words. It was suggested that a keyword drawing might be especially helpful with words such as *daimyo* and *haiku* because they are words of foreign origin with no obvious English connections. Teacher generated examples of keyword drawings for *daimyo* and *haiku* were presented. Some examples of haiku poetry were provided and the remainder of this session was devoted to the composition of original haiku poetry.

Student Observations

The student was asked if she thought she could rate this method of learning vocabulary, and she said it was too early to know. When asked for any further comments or observations, she said, "It gets easier as we go along." When asked if she would recommend this method to a friend, she said she wasn't ready to recommend it because she still wasn't sure whether it was going to work for her.

<u>Teacher Observations</u>

The subject seemed more comfortable than at the first session. She smiled more frequently, her body posture was more relaxed and she didn't blush when questions were asked. Overall, she appeared more confident. A possible explanation for this change could be that her anxiety level was reduced by the fact that she felt more familiar with the words after studying them at home.

**Week 2**

<u>Session 3</u>

The session began with review of the letters in the acronym TOAST. The student was able to name the word represented by each letter without prompting. A posttest of the list of words from her Global text revealed she was able to provide simple two or three word phrases which indicated some knowledge about the meaning of the word. For example, for the word *samurai* she wrote "Japanese warrior", for *feudalism* she wrote "government system" and for *pacifism*, she wrote "refuse to fight". (See appendix E for copies of this posttest.)

She provided a list of five words selected from the novel *Pigman*. The words selected were: *supercolossal, avocation, undernourished, incandescent* and *commemorative.*

Because some instruction in affixes had been provided for the student

prior to this study, the instructor made the suggestion that the student check for familiar affixes to see if she could figure out at least part of the meaning with that information. She was able to extrapolate the meaning of undernourished using that technique. The student was asked if there were any words she knew which she could connect with *supercolossal*. She decided the words *colony* and *colonist* reminded her of the word colossal and therefore selected them as the keywords she would use for *supercolossal*. She decided to imagine a "supercolossal colonist" and drew a fort with giant colonists standing next to small trees and houses.

### Student Observation

When the student was asked if there were any observations she would care to make she said it seemed to help her to remember words when she wrote them down. She gave the system a rating of average and said that she still wasn't ready to recommend this method to a friend.

### Teacher Observations

The student yawned frequently throughout the session. This may have been because she was tired or it may have been a reaction to stress associated with working with a new group of word. She seemed to struggle with the task of generating ways to make associations for new words.

<u>Session 4</u>

At the beginning of this session, a posttest of the five words from the last session indicated that Dawn could remember *supercolossal* and *undernourished.* She was unable to give definitions for the other three terms. When asked how she remembered them, she said she remembered the drawing for *supercolossal* and that she made a mental connection between *nourished* and *nutrition* to remember *undernourished.*

The instructor suggested that she might connect *avocation* with the word *vacation* because they look similar and many people spend their vacations doing their avocation. Simply worded definitions of *incandescent* and *commemorative* were provided by the instructor to help her to make connections with her personal experience. By the end of the session, she was able to write one sentence definitions for all six words.

The next group of words selected by the subject were: *amoeba, epic, hoarding, marathon, sanitarium,* and *paranoia.* The second half of the session was devoted to finding definitions for that group of words.

<u>Student Observations</u>

No incidental observations were volunteered and no formal questions were administered during this session.

Teacher Observations

The student seemed more comfortable with the process. She had begun to generate her own mnemonic connections as evidenced by her choice of *nutrition* to remember *undernourished* and her selection of *colony* to remember *supercolossal*.

**Week 3**

Session 5

A posttest of the words, *supercolossal, avocation, commemorative, incandescent* and *undernourished* was given. (See appendix E for copy of this posttest.) The subject was able to provide accurate definitions of all five words. She began working on the next group of six words she had chosen to learn. Because she was given oral definitions for this new word group last time, she took a pretest to see how many of these words she could remember. She was able to give a partial definition of *paranoia* but she could not remember any of the other five words in the group. Most of the time remaining for this session was used to look up these words in the dictionary. Once that was completed, she began looking for strategies to remember them.

Student Observations

No observations were made during this session.

## Teacher Observations

Since it was a lengthy process for the subject to look up each word independently, it was considered at this time that it might be more productive for the student if the definitions were provided for her. A negative factor related to this strategy was that she would be relying on an instructor for support.

## Session 6

The student was asked if she was working on the words outside of the study sessions and she responded that she had not. A pretest of the new word list from last time was given and she remembered four of the six words. The words she remembered were: *hoarding, marathon, paranoia,* and *sanitarium.* The remainder of the session was devoted to looking for connections which would help her remember *epic* and *amoeba.* The teacher suggested that the student draw a picture and select a keyword to use for association. She selected *abstract* as the keyword. When asked what the word abstract meant to her she said "out of the ordinary". A more comprehensive definition for the word *abstract* was given to be sure the student fully understood the word.

## Student Observations

No voluntary observations were made during this session and no formal questions about observations were asked.

Teacher Observations

The student seemed to be much more comfortable with the TOAST method. She moved automatically into categorizing the words as soon as she was given the definitions. The researcher was not convinced that the word "abstract" would prove to be a suitable mnemonic device for "amoeba". However, if the meaning of the word abstract was clear, perhaps combined with a drawing of an amoeba, it could suggest something that is so small it can't be seen. The student seems to struggle when asked to generate a mnemonic component to be used for imagery. A relaxed body posture and more frequent smiles and laughter seemed to suggest that the student was comfortable with the process.

Session 7

Before this session began, the instructor had some concerns that the subject would continue to have difficulty with the words *epic* and *amoeba*. It was feared that the keyword chosen for amoeba would not be effective. The pretest administered at the beginning of the session proved those concerns to be unfounded. The student was given a posttest which combined the two groups of words from *Pigman* which she had previously studied. She was asked if she studied the words between sessions and she said no. She completed the test quickly and confidently with adequate and complete definitions for all eleven

words. (See Appendix E for a copy of this posttest.)

<u>Student Observations</u>

The student was asked to respond to the interview questions for week

three. When asked to give her impressions of the TOAST method in a few

words, she said, "It is a good system, better than what I used to use." When

asked how she felt when she is asked to come up with a keyword to help with

the mnemonic part, she responded that she had no strong emotional reaction

one way or the other.

When asked how she felt about using the TOAST method independently

she said, "I know I can do it by myself now". When asked how she felt about

making up keywords independently her response was that she was confident

that she could do it without help. In response to the question, "How helpful is

the keyword when you are trying to remember a difficult word?", she said that

she found the keyword to be very helpful. It made the vocabulary word come

to mind automatically.

<u>Teacher Observations</u>

There was a sharp contrast between the student's behavior at this session

and the way she behaved at the beginning of the study. During this posttest, it

seemed like her fingers couldn't write as quickly as the responses were coming

to her. Instead of laboring over each response, she rattled off the definitions as

if she had always known them. Her confidence level was evidenced by her immediate and unwavering responses to the student observation questionnaire.

**Week 4**

The first session for this week was cancelled because the student was ill. This reduced the number of total possible sessions from ten to nine.

Session 8

The teacher explained to the subject that the goal during the last two sessions was to see how well the method worked for the student when the teacher provided as little input as possible. The subject was asked to explain what she was doing during each step as she went along. The words the student had selected for this session were: *schizophrenia, syndrome, compensation, prevarication, philanthropy,* and *distorts.*

Student Observations

The student said she had become aware of some of the memory strategies she had unknowingly been using before the study began.

Teacher Observations

This group of words seemed to be difficult for the student. The definitions the student found on her language master appeared to be inadequate. She was unable to understand the definitions without some clarification from the instructor. She seemed to need some concrete examples of things she could

identify with in order to make the definitions meaningful for her. In some cases, she would misspell the word when she transferred it to the flashcard. She seemed less sure about how to proceed independently. She appeared insecure with the concept that she was doing this without assistance.

Session 9

The student was given a posttest of all the words covered during the study. (See Appendix E for copy of this posttest.) The first three groups of words were tested in the usual manner which was to have the student generate one or two sentence definitions. A modified posttest was created for the last group of words because the amount of time she had to work on them was reduced due to the unanticipated absence. For the last group of six words, the student was given a fill in the blank type test which tested her ability to match the vocabulary word with the appropriate definition. She successfully matched all six words with the correct definition.

Student Observations

An exit interview was conducted during which the following questions were asked:

*Q: Do you think that learning the TOAST system has made a difference in how you study vocabulary?*

A: Yes, I spend more time with them now.

*Q: Compared to before you used TOAST, how would you describe studying words now? For example is it more difficult, about the same, easier, faster, slower?*

A: It is easier now.

*Q. What do you think about the time required to use this method - is it the same as other methods, more time, or less time?*

A. I think it takes less time over all. It seems to take more time at the beginning but once I have learned the words, they stay with me longer.

*Q: When you see an unfamiliar word now, what is the first thing that comes to your mind? Is there anything that has changed since we have been doing this?*

A: Usually, I look it up now so I can understand what I am reading better.

*Q: When you have difficulty with a vocabulary word now do you ever chose to use the imagery technique on your own?*

A: Yes, sometimes I do.

*Q: How is the process of finding your own keywords working for you?*

A: Sometimes it takes longer than others, but I usually come up with one.

*Q: Do you think having the ability to learn these words without as much help has had any effect on how you feel about yourself?*

A: Yes, in Global when we are going over vocabulary, I have volunteered

answers since we have been doing this.

*Q: Is that a change for you?*

A: Oh, yes. I never raised my hand in class before. I was always afraid I

would be embarrassed because I wasn't sure of the answers.

Teacher Observations

There were obvious differences in the subject's behavior since the

beginning of the study. At the beginning, she blushed easily and would get

flustered or confused when asked to think of a memory strategy she could use.

With time and practice, she became more relaxed physically with more frequent

smiles and laughter and she would complete her posttests in less time. Though

she made noticeable progress toward becoming more independent, she often

needed clarification of the definitions beyond the dictionary or language master

entry.

## Summary

This case study was conducted over a four week period with a total of nine

forty-five minute sessions. The subject was instructed in the use of the

TOAST vocabulary learning method. The middle letter of this acronym stands

for the *anchor* segment and during this part of the system the student was

taught how to use a mnemonic strategy for the more difficult words.

At the beginning of the study, the instructor provided clarification for definitions and multiple suggestions for memorizing strategies. As the study progressed less assistance was given at each session and by the end of the study, little assistance was provided except for clarification of the dictionary definitions.

A total of 27 words were introduced during the course of the study. By the end of study, the student was able to provide one or two sentence definitions of 21 of those words and was able to correctly complete a fill in the blank exercise which required her to match the vocabulary word with the correct definition for the remaining 6 words which she had had less time to work with.

The subject was self-conscious and nervous at the beginning of the sessions and by the end of the study had gained enough confidence to enable her to volunteer answers to vocabulary questions in another class.

# CHAPTER V

## Purpose

The purpose of this study was to examine the effects of a systematic mnemonic or keyword strategy of vocabulary memorization on a disabled learner's attitude and ability to learn new vocabulary with less teacher participation.

## Questions

This research was designed to address the following questions:

1.) What strategies did the learner use before the treatment?

2.) After an initial time of teacher modeling of the strategies used to generate mnemonic keywords, would the subject adopt the strategy and employ it independently?

3.) What would be the subject's attitude toward the strategy?

4.) Would use of the strategy assist the student in learning new vocabulary?

## Conclusions

It is obvious that any conclusions drawn from this study might not necessarily transfer to a larger population. The merit in this case study lies in its similarity to a real life learning environment. Although the subject and the researcher had been working together for several months before the study, the

subject displayed some general confusion and anxiety about the process at the first session. It is this very sensitivity to even the most subtle change in the learning environment, so often seen in the learning disabled population, which may support the premise that studies involving this population must be very carefully constructed. The closer a study can be designed to simulate real life learning experiences, the more likely it will be that the results will transfer to real life situations.

The strategy employed by this subject at the beginning of the study was mainly repetition through the use of flashcards. As time passed she gradually adopted other ways to reinforce memory such as making connections between words she already knew and the word to be learned through the use of structural analysis. She learned how to create a mnemonic image which she associated with a keyword to help her with words that were more difficult for her. She also learned to use a dictionary as a resource with more frequency and in a few cases was able to develop a keyword mnemonic imagery to help her with vocabulary retention. She discovered that it is helpful for her if she writes the word to be learned frequently. This type of personal information about how she learns should prove valuable in areas beyond instruction in vocabulary.

Her attitude about this method at the beginning was one of skepticism.

After the first session, she went home and studied the words using her old method. It was necessary to modify the design of the study to try to eliminate this outside factor. As time passed, she gradually became more comfortable with the TOAST method and as she became more familiar with it, she began to move smoothly and easily through the progressive steps with very little prompting. The only area where she appeared to need addition support was during the initial stage when she was trying to develop an adequate understanding of the word's meaning. Frequently, the dictionary definitions failed to provide sufficient information for her to understand the meanings. She increasingly gained confidence in the method, until by the end of the study, she not only said she felt confident that she could use it independently, she was also willing to recommend it to a friend.

Three months after the study ended, the subject was asked if she had continued to use the TOAST method. The subject said she was still using it because she likes the system and it works for her. In a post hoc test to see how many definitions she retained, she remembered 8 out of 10 words from the Global list. Ironically, one of the words she didn't remember was a word for which the instructor had created a keyword drawing as an example. Of the remaining 17 words, she remembered a total of 11. All of the words for which she generated her own mnemonic devices were among the list of words she

was able to recall. This indicates that her own system of creating meaningful connections was working for her.

Learning disabled students tend to be passive or inactive learners compared to their skilled counterparts because they lack awareness of how they think and which learning strategies work for them. (Short & Weissberg-Benchell, 1989). The subject chosen for this case study had problems retaining information in long term memory which ultimately had impacted her personal vocabulary. She also had developed an dependency on teachers or other supportive adults. She had learned to depend on them either to interpret or simplify the incoming information for her. Although this is ultimately necessary especially in the case of the learning disabled student, it was hoped that a higher level of independent learning could be achieved. The goal of this instruction in a vocabulary learning system was to help this student to become a more independent learner.

The results of this case study seemed to indicate that the disabled learner adopted this system of vocabulary learning as a strategy to be used independently. She was able to apply the system with increased speed as she became more familiar with it. As she discovered that she was able to remember the words for longer periods of time, she gained the confidence to take the risk necessary to volunteer information in a class which was separate

from the study.

Her overall attitude about vocabulary learning seemed to change, as indicated by her statement that she found herself looking up unfamiliar words more frequently after she learned this method. This seemed to indicate a heightened interest in words and their meaning. This awareness is valuable because it should foster more vocabulary acquisition in the future.

When the study was designed, the source chosen for words to be learned was the student's Global Studies textbook. A factor which was overlooked was that the student sometimes needed to get outside help from other teachers while studying these words in order to be prepared for those classes. This factor created a problem with the study because it was impossible to monitor the time involvement, activities and input from outside sources. After the first two sessions, the researcher decided to change the word source to one which would be helpful in another subject but not part of the other course's learning objectives.

Although the student did study the Global words outside of the sessions, this researcher believes that the TOAST method had an impact on the subject's ability to remember the list of vocabulary words originally selected from the Global Studies text. If the methods used by other teachers to help her with these words were the reason she gained the confidence to contribute in class,

why hadn't she done that before and why would she credit the TOAST system for that change in attitude?

Margaret McKeown (1993) suggested that learners need more than a current dictionary definition to be able to understand a new word and to produce text in which the word is used correctly. Her study found that subjects frequently were unable to use the new word appropriately in a sentence. This case study seemed to support those findings. Although the student often found the entries in her language master to be better than traditional dictionary entries, she frequently needed additional information from the instructor to develop a full understanding of the new words. She seemed to benefit most when the instructor provided everyday relationships or clearly worded examples to which the student could easily relate. Throughout the study, the student remained dependent on the instructor to provide such information. Although by the end of the study she appeared confident about her ability to apply the method independently, she continued to need instructor input in this area.

Previous research on mnemonic strategies indicated that learning disabled students were able to make connections between keyword imagery and a new vocabulary word when the imagery was provided for them, however, they had difficulty generating their own mnemonic keywords to aid in memory retention. (King-Sears, Mercer & Sindelar, 1992). Although the subject had some

difficulty generating her own keywords, she was more successful using those that she generated than she was when she used those provided by the teacher. During the course of the study, the instructor emphasized the importance of finding keywords that were personally significant to the learner. It is possible that with time and practice, she was able to become more proficient at this task.

## Classroom Implications

Some implications for the classroom as a result of this study would be that teachers working with learning disabled students need to search for ways to help these students develop strategies to facilitate their own learning. This type of independence not only will increase learning but it also will help to bolster the confidence level of these students. Too often teachers working with this population tend to spend the majority of their time modifying or interpreting for these students when the student needs to learn to become more independent in order to achieve any lasting progress.

Although this type of instruction appears to take more time initially, it would eventually be worth the expended effort because it would make the student more autonomous. Helping these students achieve a higher level of self awareness and metacognition - that is knowing what they know and how they learn - should be a primary goal.

A second implication is that teachers need to be aware of the possibility

that there may be a need for some mediation in the area of first time exposure

to a new vocabulary word. Too often the assumption is made that a student

can extrapolate the meaning of a word from the context of a sentence or from a

formal dictionary entry. This assumption could lead to inadequate or

inaccurate interpretations by the student. It is important that teachers check

with students about their interpretation of word meanings when in doubt, and

secondly, that they provide supplementary information when a dictionary entry

is confusing, ambiguous or incomplete as is sometimes the case.

## Implications for Future Research

The subject seemed to have some difficulty when asked to generate her

own mnemonic keywords. It is possible that with a longer period of time with

teacher created examples, the student would have become more comfortable

with this activity. During the time the teacher was providing examples, it would

be important to provide explanations about the thinking processes the instructor

used when developing the example. Future research which is designed to

increase the length of the study would help to answer this question.

Another research area could be one which applied a modified version of a

test of Miller's analogies to subjects before the study began. The purpose of

such information would be to determine what types of relationships a student

was able to make with ease before instruction began. This information could

be valuable to the teacher because instruction in how to develop the mnemonic

strategies could then focus on the areas of natural strength for the student.

It was noticed during this study that some words naturally lend themselves

to the development of a mnemonic keyword while others seemed to be much

more difficult to work with. It would be helpful for teachers who intend to use

mnemonics instruction if they could know in advance which types of words

would be most appropriate. Some empirical data collected on this would be a

valuable resource.

## Summary

This case study was designed to gather observations as a ninth grade

learning disabled student learned a systematic method for learning new

vocabulary. The researcher and subject met for forty-five minute intervals in a

total of nine sessions over a four week period. The subject displayed increased

confidence in her ability to use the system by the end of the study and was

able to write accurate definitions for 21 new words and accurately complete fill

the blank exercises for an additional six words. Instructional implications of

the study included a recommendation that teachers provide situational examples

of new vocabulary in order to assure that the student comprehends the word's

meaning. Future research which spans a greater period of time was indicated in

order to allow subjects extended opportunities to practice the new word learning strategy which could increase the likelihood that the student would be able to complete all tasks independently. Such research could provide valuable insights into ways in which educators could assist learning disabled students to become more independent.

One case study of the process involved in teaching a learning disabled student a systematic method for learning new vocabulary is not conclusive enough to make generalizations to larger populations. It does provide, however, a groundwork upon which future research can build. Some educators think of learning disabled students as incapable of developing the skills required to function independently. It is important that teachers guard against such a negative attitude. Standardized tests administered nine months after the end of this study revealed that this student's reading level had jumped to the mid-sixth grade level. Since this student received continuous reading instruction over this period of time, it is unclear how much of that progress can be attributed to this study. It is clear that it is important for educators to continue to seek new ways in which to address the special characteristics learning disabled students exhibit.

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Appendices

Appendix A

## Appendix A - Toast Vocabulary System

**(modified from TOAST, by Carol Dana and Margaret Rodriquez, 1992)**

T - Test

Students pretest themselves on vocabulary to be learned to determine which words they already knew and which words would require additional time. During instruction they make vocabulary cards with the target word on one side and the definition and contextual sentence on the other side. At the pretest phase, students attempt to spell, define and use the word in the sentence without referring to the definition side. Students self check opposite side of card for accuracy.

**O** - organize

Students organize vocabulary cards into categories which are semantically related, then arrange words into categories which are structurally or functionally similar - e.g., same parts of speech, or according to difficulty.

**A** - anchor

Although the author of this system suggests three or four options for this step, for the purposes of this study, the main focus was on the mnemonic element for difficult words. (See appendix B for a description of the keyword mnemonic method). Students anchor words in memory with the goal of being able to accurately use the words in original sentences.

**S** - say

This step represents the review stage of the TOAST study system. Students are asked to review definitions orally five to ten minutes after the anchor session. (For the purposes of this study, weekly reviews were also be conducted during the tutoring sessions.)

**T** - test

Immediately after the first review, students take the posttest. For the self-administered posttest, students review all words from the original vocabulary group.

# ANCHOR

Questions to ask yourself when thinking of a keyword:

1.   Does this word remind me of anything else?

2.   Say the word over a few times and listen for similarities to other words.  Ask yourself: **Does this word sound like another word?**

3.   Look at the word carefully.  Are there any parts of the word which are familiar? Ask yourself: **Does it look like another word?  Do any parts of the word give you a clue about what it means?** Try to come up with a trick to help you remember the word.

4.   Read the definition.  Is there a way you can connect the meaning with the word by the way it looks or sounds?
     Think about the meaning and try to create an image of the meaning in your mind.

5.   Do prefixes or suffixes give you any clues for remembering the word?

Appendix B

# IT FITS

### Identify the term.

As you look at a vocabulary list, decide which words you will need to study. The "test" part of the TOAST system will help with this part.

### Tell the term.

Use whatever resources you have to find the meaning of the word you want to study. This is the time to ask yourself if you understand the definition. IT IS VERY IMPORTANT THAT YOU UNDERSTAND THE DEFINITION. If you are not sure you understand, use another resource or get help. It is hard for anyone to remember something when they don't understand it. Try writing the word in a sentence.

### Find the keyword.

Look at the word carefully. Ask yourself these questions to help find the right word:

Does it look like another word you know?

Say the word out loud, does it sound like another word to you?

Is there anything about the definition that makes you think of something you know?

### Imagine the definition doing something with the keyword.

CLOSE YOUR EYES. Create an image in your mind which combines the definition with the keyword. THIS PART CAN BE FUN - GO FOR IT! It can be silly, or crazy - it doesn't have to make sense to anyone else if it truly helps you remember the word. You are using **what you know** to make sense of new information.

### Think about the definition doing something with the word.

Draw a picture or write down what you imagined. Tell someone your idea. Spend a little time developing your image so it will stay with you.

### Study what you imagined until you know the definition.

Make flashcards with the word on one side and the definition on the other, practice with them. Close your eyes and see if you can remember the definition. Try writing it down from memory. Test yourself to see how well you remember. Use the word in a sentence. You can do this with a friend and test each other.

# IT FITS

**Identify the term** - Choose a word from the list to create a keyword card.
**Tell the term:**
 Write the word in this space_____.

**Find a keyword** - use your imagination to find a keyword that "fits" this word.
 Write the keyword in this space_____.

**Imagine the keyword doing something with the definition.**

Describe what you imagined here_____

_____

**Think about the definition doing something with the word.**
 Draw a picture of what you described.

**Study what you imagined until you know the definition.**

Appendix C

## Appendix C - Interview Questions

<u>Initial interview questions</u>:

1.) Which of the following describes what you do when studying a word you want to remember?

    a) I try to remember what the word looks like.

    b) I try to memorize the definition the way it is written in the book.

    c) I try to connect it with another word I know so I can more easily remember its meaning.

    d) I repeat it over and over until I can remember it.

    c) I write it down several times.

    e) I have someone help me by asking me the definitions.

    f) I test myself using flashcards that I have made up.

    g) I use a different system I will explain to you.

    h) I never study words unless the teacher makes me.

2.) Which best describe how you feel about learning new words?

    a) I think it is fun.

    b) I hate it because it is hard for me.

    c) I could care less because words don't seem important to me.

    d) I wish it was easier because I want to know more words.

    e) It seems like a waste of time to me.

    f) It is boring and it takes too much time.

    g) If I knew how to do it, I would probably do it on my own.

3.) Have you ever tried to use a system for studying vocabulary?

4.) How much time do you think it takes to learn a new word?

5.) Which of the following statements do you think is most accurate?

   a) If you study correctly, one practice session is enough.

   b) It is easier to learn a word if you review each day for several days in a row.

   c) The best way to learn a word is to say it, write it and read it often.

   d) When I really know a word, I use it in my everyday vocabulary.

   e) Sometimes I know the meaning of words but I can't pronounce or spell them.

   f ) When I don't know a word, I really don't know how to study it.

Interview questions for week 2 and 3:

   1.) What are your impressions of this system for learning vocabulary so far?

   2.) Have you discovered anything new that seems to help you remember?

   3.) Are you willing to try to get to know this system better if it seems to work?

   4.) How would you rate this system compared to the way you used to study vocabulary? Example: Easier, harder, more interesting, less interesting, difficult to understand, faster, more time consuming?

   5.) Would you recommend this system to a friend who needed help studying words?

<u>Interview questions for week 4:</u>

1.) In a few words, tell me your impressions of the TOAST system this week.

2.) If I asked you to describe how you feel when you are asked to think of a keyword for a new vocabulary word, which of these words best describes your response?

a) excited                d) anxious

b) cooperative            e) frustrated

c) neutral                f) dread it

3.) How are you feeling about using the TOAST system independently?

a) confident that I can handle it easily.

b) fairly certain I could do it if I had the information sheet to guide me.

c) fairly comfortable but I still need help sometimes.

d) unsure that it will work for me.

e) I don't think I will use it because it seems to hard and I don't like it.

4.) How are you feeling about making up keywords independently?

a) confident that I can do it easily.

b) fairly certain I could do it if I had the information sheet to guide me.

c) fairly comfortable but I still need help sometimes.

d) unsure I will work for me.

e) I don't think I will use it because it seems too hard and I don't like it.

5.)When you try to recall one of the words you have had difficulty remembering, describe how helpful the keyword you learned was:

    a) very helpful, it made it come to mind automatically.

    b) somewhat helpful, when I concentrated on it, the keyword helped me recall it.

    c) not very helpful, I had to think hard to remember the connection.

    d) not helpful at all, I couldn't even remember the word.

    e) no connection, even when I was given the keyword, I couldn't remember the meaning of the word.

Exit Interview Questions:

1.) Do you think learning to use TOAST has made any difference in how you study vocabulary?

2.) Compared to before you learned TOAST, how would you describe studying new words now?

3.) When you see an unfamiliar word now, what is the first thing you think of?

4.) When you are having trouble with a word, do you think using imagery helps you remember it?

5.) How would you rate the task of coming up with keywords?

6.) Do you think this system saves you time?

Appendix D

## Appendix D - Word List

### Global Studies Words - first words studied:

| | |
|---|---|
| samurai | shogun |
| feudalism | daimyo |
| militarism | pacifism |
| trade imbalance | reparations |
| haiku | bushido |

### Group 1 - words from *Pigman*

| | |
|---|---|
| supercolossal | commemorative |
| avocation | incandescent |
| undernourished | |

### Group 2 - words from *Pigman*

| | |
|---|---|
| amoeba | epic |
| hoarding | marathon |
| sanitarium | paranoia |

### Group 2 - words from *Pigman*

| | |
|---|---|
| schizophrenic | syndrome |
| compensation | prevarication |
| philanthropy | distorts |

Appendix E

# Vocabulary List for Chapter 18 & 19
## Pretest and Posttest form

**Samurai** – Japanese warror

**Shogun** – ~~general leader~~ chief general leader.

**Feudalism** – government system

**Daimyo** - [pronounced DI myoh]. – a leader of the Japanese worrors,

**Militarism** – a group of people that are ready for battle

**Pacifism** – refuse to fight

**Trade Imbalance** – an ~~coati~~ country export more than they import.

**Reparations** – payment to damages

**Haiku** [pronounced HI koo] – a sort Japanese peom,

**Bushido** [pronounced BOO shee doh] – code of ~~behaveyour~~ behavor

Session 5
=st of words
: last session.

**Words from Pigman**

**Supercolossal** _Very big, larg, extrimly larg, ~~huge~~_

**avocation** ~ Something you do for fun, ~~Hobby~~ a hobby.

**commemorative** something you do TO remember an event or someone by celerabing it on a day.

**incandescent** When you light a ligh boublle and The light comes from eletric heating the wire, not gassed

**undernourished** unhealthy, when you don't treat you bodly well got become ~~go to~~ undernourisher

ssion 7 posttest

**Words from "Pigman"**

**supercolossal** - very larg, big, enormous

**avocation** - something you do for fun in your spare time. A hobby.

**commemorative** - something you do to celerbrate an even or someone.

**incandescent** - when eletric go to the wire of a bulb and heats it so it gaves of light. Not by heating gases.

**undernourished** - when someone is unhealthy because they didn't tread their body right for a Peroid of Long time.

**amoeba** - a small animal that you olny can see under a microsope. It changes shape to move.

**epic** - a long poem that is written about a hero ore heros. Play, story ect.

**hoarding** - takeing more than you need and putting in a secret spot so you line you have enough.

**marathon** - a long march that people walk. sometimes they do this to rise money for something.

**sanitarium** - a hospital were people go to when they need help or want to rest.

**paranoia** - A illness that someone has, making them think that someone is talking about them, or that they have emdomes all the time. (enemies)

*Session 9 Posttest*
*Word group #1*

# Vocabulary List for Chapter 18 & 19
## Pretest and Posttest form

**Samurai** - a worrair

**Shogun** - a chief general one step under the ~~the~~ Daimyo.

**Feudalism** - a ~~fty~~ typ of government they had a long time ago ~~the~~ when nothing was in order.

**Daimyo** - [pronounced DI myoh] - a chief ~~gener~~ gerral leader that you wouldn't question

**Militarism** - a belife in being reaty for war at all times

**Pacifism** ~~#~~ a belife in not fighting at all cosed,

**Trade Imbalance** when a country exports more than they import or import more nen they export.

**Reparations** payments to domages.

**Haiku** [pronounced HI koo] a short Japanese poem that has 17 syibol broken down into 5 in the firs line 7 in the second and 5 in the last line.

**Bushido** [pronounced BOO shee doh] — a code of behavor, honor

Session 9 Posttest
Word groups 2 and 3

## Vocabulary from Pigman

**supercolossal** - very big, larg, enormous

**avocation** - something you do in your spare time for tu a hobby.

**commemorative** - something you do to rember an event or to celebrate what someone else did.

**incandescent** - when heat gos into a light balb cand light it by the heat going into the wire

**undernourished** - unhealthy, when you don't take care of you self for a peroid of time then you become unhealth

**amoeba** - a mircosopic animal that moves by changing sha

**epic** - a short peom, story, play ect.

**hoarding** - taking more than you need and hiding it so you be feel sacre. (secure) (tike a Squail dose) (squirrel)

**marathon** - a long march sometimes use for chority or to raise money.

**sanitarium** - a hospital that you go to when you are sick and you need help or to rest.

**paranoia** - you think that people are always talking about you, laugh, wispering, ect.

Session 9 Posttest
Word group # 4

**Choose a word from the list below to fill in the blank in the definitions:**

schizophrenic

syndrome

compensation

prevarication

philanthropy

distorts

**When someone tends to stray from or evade the truth is said to be a**

_prevarication_ .

**The word used to describe a person who has a mental illness in which he/she is sometimes unable to distinguish between what is real and what is fantasy is** _Schizophrenic_ .

**When a group of symptoms are found to occur together to indicate some sort of physical or psychological disorder the term used for all these terms together is** _syndrome_ .

**When someone makes reparations by paying back a service or debt, it is called a** _compensation_ .

**The term used to describe generous acts or donations intended to benefit mankind in general is called** _philanthropy_ .

**To twist something out of a proper relation of parts, or to misrepresent or change something in a misleading way is called to** _distorts_ .