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THE EFFECTIVENESS OF MNEMONIC AUDIO-VISUAL AIDS IN TEACHING
CONTENT WORDS TO EFL STUDENTS AT A TURKISH UNIVERSITY

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A. REHA KILINC
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**T.C. YÜKSEKÖĞRETİM KURULU
DOKÜMANTASYON MERKEZİ**

ABSTRACT

Title: The Effectiveness of Mnemonic Audio-Visual Aids in Teaching Content Words to EFL Students at a Turkish University.

Author: A.Reha Kilinc

Thesis Chairperson: Dr. Susan D. Boshier, Bilkent University,
MA TEFL Program

Thesis Committee Members: Dr. Theodore S. Rodgers,
Ms. Bena Gul Peker,
MA TEFL Program

This experimental study aimed at investigating the effects of mnemonic audio-visual aids on recognition and recall of vocabulary items in comparison to a dictionary using control group. The study was conducted at Middle East Technical University Department of Basic English. The participants were 64 beginner and upper-intermediate level students in four intact classes.

Research questions focused on the differences, if any, between the groups of each level in terms of recognition and recall of vocabulary items, as well as the differences, if any with respect to retention of the learned vocabulary after treatment.

To answer the research questions, four intact classes were chosen from the Middle East Technical University. One group of each level was instructed in the mnemonic audio-visual method. The other groups were asked to learn the vocabulary items by using dictionaries as the control groups. Each group was allowed ten minutes to learn the same 20 target vocabulary items.

Before the treatment, each group was given a pretest, and the same test with items in different places was given as a posttest immediately after treatment to test immediate recognition and recall. To measure long-term retention, that is, delayed recognition and recall, the same test was given to all groups after two weeks. These groups, as well, included separate recognition and recall sections.

Pretest and posttest scores of recognition and recall were compared to measure acquisition of vocabulary items. Later, the posttest and retention test scores were compared to measure long-term retention. For the analysis means and standard deviations were calculated and t-tests were conducted separately for all comparisons. Results did show statistically significant differences between the groups for the tests of immediate and delayed recognition and recall of vocabulary items in favor, in all cases of the experimental treatment groups. The experimental treatment worked equally well for beginner and upper-intermediate groups and for the learning of concrete and abstract words.

Findings suggest that the mnemonic audio-visual technique is highly superior to traditional dictionary look-up technique for both recognition, and recall at both immediate and delayed testing in various university classroom conditions.

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A. Reha Kilinc

has read the thesis of the student.
The committee has decided that the thesis of the student is
satisfactory.

Thesis Title : The Effectiveness of mnemonic audio-
visual aids in teaching content words to
EFL students at a Turkish university

Thesis Advisor : Dr. Theodore S. Rodgers
Bilkent University, MA TEFL Program

Committee Members : Dr. Susan D. Boshier
Bilkent University, MA TEFL Program

: Bena Gul Peker
Bilkent University, MA TEFL Program

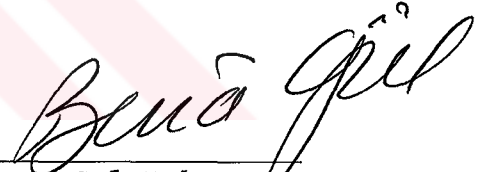
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Theodore S. Rodgers
(Advisor)

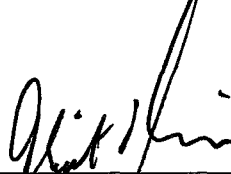


Susan D. Boshier
(Committee Member)



Bena Gul Peker
(Committee Member)

Approved for the
Institute of Economics and Social Sciences



Ali Karasmanoglu
Director
Institute of Economics and Social Sciences

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To KILINC and RODGERS Family

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CHAPTER 1 INTRODUCTION

Background of the Study

Teaching vocabulary is not a new field of interest for teachers in EFL. In the classroom situation, vocabulary teaching/learning plays a major role in language teaching/learning (Gairns & Redman, 1986). For most learners, learning a language means learning its vocabulary (Wallace, 1988). As Krashen (1987) notes, "When students travel, they do not carry grammar books, they carry dictionaries" (cited in Lewis, 1993: P.27). As Lewis comments, "Lexis is the core or heart of language, but in language teaching has always been the Cinderella" (Lewis, 1993: p.89). Moreover, most of the grammar rule violations are, in fact, based on lexical deficiency (Lewis, 1993). Thus, teachers should treat vocabulary learning seriously.

Formal learning typically begins with the selection of some clearly defined elements which are to be learned. What teachers strive to do is to teach those elements in the most effective way. In teaching, teachers seek to present the new item(s) as clearly and memorably as they can (Stevick, 1985). While doing this they may explore a variety of methods, approaches and techniques. As Rubin (1987) states, some teachers present learning tasks in more successful ways than others.

The importance of learning vocabulary is an idea that both teachers and learners agree on (Allen, 1983). They both know how communication is blocked when learners lack the necessary words. Since vocabulary is basic to communication (Krashen, 1983), helping students learn and retain vocabulary items, is therefore, a central task of language learning. However, many teachers consider vocabulary learning primarily the responsibility of the student learning, not the responsibility of the instructor teaching.

Recognizing and recalling vocabulary appropriately is a task of memory. Thompson (1987) explains that one educational goal must be teaching students to retain information. This is allied to the idea of 'learning to learn'.

There are a variety of proposals as to how to teach vocabulary effectively. These include : 'Pictorial Schemata', 'Definition, Explanation, Examples and Anecdotes', 'Context', (Celce-Murcia, 1991) as well as mnemonic techniques such as; 'Visual Aids', 'Lexical Sets', 'Keywords', and so forth (Nation, 1990). Other mnemonic techniques include : 'Method of Loci', 'Peg Word', 'Story Making', 'First Letter' and 'Chain Type'. (Bellezza, 1981).

'Mnemonic' means something designed to aid memory. However, vocabulary learning in a second language involves a

great deal more than simple memorization (Lewis, 1983). Mnemonic techniques can be adapted to language teaching and can assist in long-term retention of words and word meanings.

In the early stages of language learning, students typically learn the meanings of the words conventionally with paired association such as in the use of flashcards (Carter & McCarthy, 1988). 'Paired associate' learning is typically considered to be an inefficient, rote repetition type of learning. Mnemonic techniques are intended to replace such kinds of mechanical learning with more sophisticated and successful tools for remembering.

Visualization and association are two main factors in most mnemonic techniques (Atkinson, 1975). In his paper, "Are visual aids able to successfully support visualization and association in vocabulary learning?" Atkinson (1975) investigated the role of association and visualization in vocabulary learning. This is the main topic of this study as well.

As a university teacher I have had the experience of teaching not only in different faculties of my home institution, Mersin University, but also at different levels of preparatory classes. At this university, the students are placed in different levels after proficiency and placement tests are given at the very beginning of the academic year.

There are elementary, intermediate and upper-intermediate levels at the preparatory program. Teaching at these levels are supported by textbooks, additional grammar books, skill books and worksheets.

At various meetings, we, as language teachers, constantly hear the complaint that students cannot learn vocabulary items easily, nor do they keep them in mind for a long time and recall them when they need to. This is a problem recognized by teachers and students alike.

Traditional techniques such as guessing from the context, asking the teacher, using dictionaries, and so forth (Celce-Murcia, 1991) are not universally successful in acquiring new words by students. Wallace (1988) explains, eliciting the meanings of new words is a sort of a waste of time process; as he notes "All the words cannot be guessed from the context" (p. 23). Wallace further notes that over-frequent use of dictionaries, or asking the teacher for the meanings of the new words causes distraction from the text and may cause students to concentrate on single words rather than overall meaning which decreases comprehension and interest in reading.

In contemporary language teaching, a dictionary is the most used vocabulary aid. However, a dictionary is only useful in looking up the meanings of unknown words (Lewis, 1993); there is nothing in the dictionary which helps with

keeping the meanings of the words in mind for a long time so that they can be recalled (remembered) when they are needed.

A second set of techniques, the focus of this study, involves using visual aids, lexical sets and keywords (Nation, 1990). It is hypothesized that students can learn and retain vocabulary items more successfully using such non-traditional enriched materials in the classroom (Lewis, 1993). There are a wide variety of teaching/learning strategies based on mnemonic devices. These strategies assist learners to learn items more quickly and recall them more easily since their techniques provide learners with useful retrieval cues (Thompson, 1987).

The quality of mental activity in the brain of the learner during the process of learning is highly important in learning (Craik & Lockhart, 1972; Craik & Tulvig, 1975, cited in Nation, 1994:5). This is one reason that teachers should seriously consider techniques which raise the mental activity level of learners. Such techniques allow learners to improve substantially in acquisition of target vocabulary in association with native language meanings (Nation, 1994).

Ott, Butler, Blake and Ball (1973) explain that mnemonic techniques can make foreign language learning easier when the whole foreign word is transformed into a familiar native language word (cited in Pressley, 1982). Different sorts of mnemonic techniques are used by different

learners, and Levin (cited in Thompson, 1987) explains that many learners enjoy using various mnemonic techniques as they come to understand and master them.

Studies of actual foreign language vocabulary learning have been done by pairing words in the second language with sound-alike words in the first language (Ott et al., 1973, cited in Pressley, 1982). This technique is known as the keyword method which is also widely used in various mnemonic research studies (Thompson, 1987).

The results of various studies in vocabulary learning indicate that the keyword method is more effective than other procedures (Pressley, 1982). This method combines both auditory and visual information (Stevick, 1989). Keyword method researchers caution that this method may be more beneficial for some learners than for others (Cronbach & Snow, 1977, cited in Pressley, 1982).

Consider an example of the keyword method: (1) A word in the second language is to be learned, let us say the English word 'currency' (2) Any like-sounding word or expression is found in the native language let us say the Turkish phrase 'Kor Inci', the association between foreign language 'currency' and native language 'Kor Inci' is the acoustic link. (3) Next, an image is presented (or created) by the learner based on the meaning of the native language word for 'money' and the meaning of the acoustic link 'Kor

Inci'. In this case the image might be of a blind (kor) woman, named Inci, feeling on the ground for money. This is the visual link. Research has shown that the most effective visual links are those are that are odd, comic or taboo. (Atkinson, 1975). The English word, 'currency' summons up the acoustic link 'Kor Inci', which summons up the visual link (blind woman searching on the ground for money) which summons up the Turkish word meaning 'money'. This, then is the basic pattern of the keyword method.

Purpose of the Study

In this experimental study, the effectiveness of keyword audio-visual aids in teaching content vocabulary words to elementary and upper-intermediate EFL university students is compared to the effectiveness of using dictionary look-up. The results will examine short-term and long-term retention in vocabulary recognition and recall tests.

Research Questions

The study anticipates more successful learning and retention of foreign language vocabulary using a mnemonic audio-visual approach. If this hypothesis is confirmed, a re-consideration of existing language teaching techniques are in order. For example, it will suggest that language teacher

training needs to be revised to include learning to learn techniques such as the audio-visual keyword technique investigated here.

This study aims to investigate the following questions:

1. Is using mnemonic audio-visual aids more effective than using dictionaries in language vocabulary learning?
2. Are there any differences between beginner and upper-intermediate levels in recognition and recall vocabulary with the help of mnemonic audio-visual aids?
3. Are there any differences in short-term & long-term vocabulary retention and in recognition and recall processes related to method of study?

Significance of the Study

As mentioned before, vocabulary mastery is a major part of language teaching/learning. For teachers it is important to teach students new vocabulary items in an effective and practical way. Using mnemonic audio-visual aids can be an alternative approach for teachers in helping students learn and recall foreign vocabulary meanings.

For the students, it is important for them to learn not only new words, but also new techniques so that they can help themselves in learning.

CHAPTER 2 LITERATURE REVIEW

As noted in the previous chapter, learning a language means learning its vocabulary (Wallace, 1988). A wide possession of vocabulary items provides learners an opportunity of having a satisfying communication and it also increases self-esteem (Krashen, 1983). The old proverb "What is new is not true, and what is true is not new" exactly describes the history of vocabulary teaching. As Carter and McCarthy (1988) state, linguists, philosophers and pedagogues have been trying to understand vocabulary learning for centuries.

Some of the techniques used in vocabulary teaching/learning are: Pictorial Schemata, Definition, Explanation, Examples and Anecdotes, Context, and so forth. (Celce-Murcia, 1991). There are 'mnemonic' techniques such as: Visual Aids, Lexical Sets, Keywords, Method of Loci, Peg Word, Story Making, First Letter, Chain Type, etc. (Bellezza, 1981).

The meaning of 'mnemonic' is to assist memory. In vocabulary learning in second language using mnemonic techniques is quite helpful and enjoyable for both teachers and learners (Kasper, 1993). Knowing a word means to be aware of its network of associations with other words in the native language (Carter & McCarthy, 1988). Furthermore, research in memory suggests that words are stored and

remembered in a network of associations with auditory and visual cues (Stevick, 1976). In order to make network associations with other words in the native language with the help of auditory and visual cues, imagination is important. As Stevick (1989) explains, "Imagination is the ability to create new things or ideas, or to combine old ones in new forms" (p. 95). Using the imagination and making a network of associations are mental activities that can have a powerful effect on memory (Craik & Lockhart 1972, cited in Carter & McCarthy, 1988). In order to enhance the storage of information, learners can consciously use memory (mnemonic) techniques (Carter & McCarthy, 1988) which are easy to apply and practical to use. The existence of entities that one can see, feel, touch, smell or taste make strong associations for remembering (Joyce & Weil, 1996). As Joyce & Weil (1996) explain, "We remember best those ideas that are presented to several of our sensory channels" (p.6). Torayne & Lucas (1974) quote Aristotle (cited in Joyce and Weil, 1996) : "It is the image-making part of the mind which makes the work of the higher processes of thought possible. Hence, the mind never thinks without a mental picture". Thus, 'to know' a word in a target language consists of; relating the foreign word to an appropriate object or concept in the native language; this supports

awareness of associations and recognizing and recalling the word when it is needed (Wallace, 1988).

In this chapter we will compare use of mnemonic audio-visual aids in vocabulary learning vs. using dictionaries, learning of concrete vs. abstract vocabulary words, short-term vs. long-term vocabulary retention, and the study of vocabulary items in isolation vs. in context. Finally, in this chapter we consider the roles of students and teachers in vocabulary learning and teaching.

Audio-Visual Aids vs. Dictionary Look-up Techniques

The literature on using audio aids (tape-recorders, reading aloud, etc.) and visual aids (using pictures, realia, etc.) in learning vocabulary includes many research studies (e.g.: Acikgoz, 1992; Brown, 1994; Cohen, 1990; Gairns & Redman, 1986; Gaston, 1968; Stevick, 1982; Yayli, 1995). Some of these studies are based on using pictures as visual aids, and others are based on auditory and/or visual imagery. An audio-visual method is customarily related to learning meanings of concrete nouns since nouns form the vast majority of the words of any language and concrete nouns are easy to represent with audio-visual clues (Lewis, 1993).

As Lewis (1993) notes again in language teaching, pictures and/or tape-recorders have been widely used for

over thirty years. Pictures and audio tapes prepared by teachers for vocabulary teaching are very important and useful for learners. They take the attention of learners and make them enjoy as they learn (Allen, 1983). For example, various colorful pictures on board or slides or transparencies such as a picture of a house, flower, and so forth; various tape-recordings of sound effects such as a car stopping suddenly, a cat's meow, and so forth, are supplied audio-visual aids relating to the subject of the lesson. Moreover, audio aids can be used in combination with visual aids (Stevick, 1982). For example, Alliance Francais has developed and supported a major world-wide methodology for learning French which is called "Methode Audio-Visual" (Renard & Heinle, 1969).

However, the major experiments have all been based on concrete words and taught with the help of visual aids (Stevick, 1982). This study will differ from them by using audio aids as well as visual ones and will include abstract words in addition to concrete words. Studies on the effectiveness of using audio-visual aids for vocabulary learning have been conducted for many years. A great deal of experimentally related evidence on human memory has been compiled as well. Most of these studies have indicated that audio-visual aids are effective in teaching/learning vocabulary. Such aids have been used extensively for helping

to convey meaning and especially have been useful in teaching of content words (e.g.: Cohen, 1990; Gairns & Redman, 1986; Stevick, 1982).

These aids have proved superior to the other vocabulary teaching/learning strategies such as letting students use dictionaries and asking the meaning of the new words of the teacher (Baxter, 1980; Celce-Murcia, 1991; Wallace, 1988). Over-frequent using of dictionaries, or asking the teacher meanings of unknown vocabulary items makes students tired and often is a time-consuming process (Wallace, 1988). Since a word will have more than a single meaning in a dictionary, it can cause trouble for the learner in finding the particular sense that s/he is looking for.

Teaching Concrete Words vs. Abstract Words with the Help of Audio-Visual Aids

A recent study is Yayli's (1995) study that shows the effectiveness of keyword method in vocabulary learning. In Yayli's study, subjects were students from Middle East Technical University (METU) chosen from three intermediate level intact classes. There were two experimental groups (one teacher provided keyword group, and one student provided keyword group) and one control (rote-learning) group. Twenty target vocabulary items were given to the

students in the three groups. These items were chosen according to the criteria which Atkinson (1975) suggested.

The words were concrete nouns with no more than two syllables. The list of words was supported for the experimental groups with keywords and pictorial images in order to help the students make connections between the words and pictures. Yayli (1995) used rote rehearsal techniques for the control group. Vocabulary words and pictorial images were taken from Acikgoz's (1992) study. A pretest and posttest were given with the learning session taking place between these. Results were examined in immediate and long-term retention tests.

However, little research has been done on teaching of abstract words with the help of mnemonic audio-visual materials in classroom setting (Nyikos, 1985). The few studies on abstract vs. concrete word learning are referenced in Rodgers' (1967) study. It appears true that the use of mnemonic techniques in vocabulary teaching should not be limited to concrete words, but could be applied to abstract words, verbs and adjectives as well. This study aims to supply some missing experimental evidence on this subject.

Short-Term & Long-Term Memory

What is as important as learning vocabulary is to have vocabulary words retained to use when they are needed. As Asher (1969) and Postovsky (1974) state, comprehension of vocabulary depends on the strategies that allow one to understand words and keep them in memory. After having understood the meanings of words, the next and more important step is to keep these words in mind in order to use them when necessary. There are various reasons why one forgets things. Fundamentally, there are two theories: The 'Decay Theory' states that information kept in memory falls into disuse if it is not practiced and revised. The other, 'Cue-Dependent Forgetting Theory' explains that the reason for memory failure is lack of retrieval cues (Gairns & Redman, 1986).

When we place word items in Short-Term Memory (STM), we tend to code items acoustically (as sounds); whereas word items in Long-Term Memory (LTM) are usually coded visually (as pictures) (Conrad, 1964; Henning, 1973, cited in Richards, 1976). In order to keep information in Short-Term Memory (STM), we tend to prevent displacement by repeating the new information again and again, this is known as rehearsal (Conrad, 1964).

One of the best known methods of retaining (to keep in mind) and recalling (to bring to surface) information or

knowledge in LTM is through 'Sensory Images' such as sounds or pictures (Hayes, 1994). Use of imagery as a LTM aid is one form of mnemonic. "Mnemonic techniques involve physically transferring to-be-learned materials into a form that makes them easier to learn and remember" (Hayes, 1994 cited in Weatherford, 1990).

Since some learners are more auditory and some are more visual (Nyikos, 1985), audio-visual mnemonics are likely to be useful in learning vocabulary items for both types of learners (Brown, 1994). One of the most used mnemonic techniques is the 'Keyword Mnemonic' which was refined experimentally by Atkinson and Raugh (1975). "This technique is based on the observation that cognate or other orthographically similar words from one's native language can act as verbal mediators between the written representation of a word and its target language pronunciation (Nyikos, 1985: p.56).

Atkinson (1975) first showed experimentally that the link word method was 50% more effective than conventional rote methods. In later studies keyword methods have been shown to be twice as effective as alternative methods in both short-term and long-term information recall (Joyce & Weil, 1996).

In order to further strengthen LTM, a visual link is added to the auditory link. This is called 'Imagine Link'.

Students can imagine a picture as they pronounce a word. What is important is to establish a meaningful interaction between a target language word and an acoustically similar keyword in the native language using an imagine link. The audio-visual mnemonic technique is highly useful and beneficial for language learners (Carter & McCarthy, 1988). With this technique, by associating a word in the target language with its audio-visual transformation in the native language, students correctly learn new vocabulary items. The critical keywords and images can be invented by learners or provided by teachers (Carter & McCarthy, 1988).

Vocabulary in Isolation or in a Context

Words do not exist in isolation and word meanings are defined through their interaction and network associations with other words. These associations may be in specific text associations or in psychological network associations (Richards, 1976). Many language educators feel that vocabulary items only occur meaningfully in the context of text and therefore should be learned in the context of text. However, such contextual learning is difficult to organize pedagogically and may be highly idiosyncratic and inefficient. Vocabulary items can be given directly in a planned (de-contextualized) way in order to help students acquire the necessary vocabulary items in a logical manner

(Judd, 1978). Furthermore, de-contextualized learning of vocabulary items supplies linguistic resources in a psychological satisfying manner (Lewis, 1993). Therefore, recent language educators have supported the principle " De-contextualized vocabulary learning is a fully legitimate strategy" (Lewis, 1993 :p.194).

Roles of the Students and Teachers

"Vocabulary cannot be taught, it can only be learned" (Rivers, 1983 cited in Gonzales, 1990: p.113). This sweeping statement actually implies that the teacher's role in helping the student to learn vocabulary is minor. A more active teaching role consists of offering students some patterns for the organization of words in memory, so that the students may retrieve the word they have learned whenever they need it (Gonzales, 1990). What are these patterns for the organization of words in memory? In order to help students find the most effective ways to learn the meanings of new vocabulary items, we, as teachers should examine the best way "to offer patterns in the organization of words". The purpose of this study is to explore teacher roles in supplying 'memory patterns for the organization of words'. We see this as a first step and look for other support techniques to go further. In this study we examine

some techniques for further teaching support in student learning of target language vocabulary. This includes examining audio and visual aids in vocabulary learning, support for learning abstract as well as concrete vocabulary words, techniques for increasing short-term and long-term vocabulary retention, and teacher roles in vocabulary learning by beginning and more advanced language learners.



CHAPTER 3 METHODOLOGY

Introduction

This study is an experimental study focusing on the effectiveness of alternative methods of teaching second language vocabulary. A mnemonic technique using 'sensory images' and 'sound effects' with the help of audio-visual materials is compared to one using a dictionary look-up technique. The experiment was conducted at Middle East Technical University (METU). The 'sensory image' and 'sound effect' techniques were used in a university class condition in Turkey for the first time. As mentioned in the previous chapter, Yayli (1995) conducted a similar study but focusing only on concrete nouns. This study also differed from all others because it included 'sensory images' together with 'sound effects' as part of the mnemonic technique.

The study considered several different conditions; there were two different levels of students (Beginner & Upper-Intermediate) who were chosen randomly. Abstract and concrete words were compared on short and long term retention. Learning measures involved recognition tests (multiple-choice tests with one target and three distracter words) and recall tests (subjects required to write the Turkish equivalents of the English words). Control groups at each level, involved subjects using dictionaries in a traditional dictionary word look-up method. Experimental

groups were treated by using mnemonic audio-visual aids ('Keyword method' supported with sound effects and pictures linking L2 and L1 words used synchronously).

Research Design

In this experimental study, the differences between mnemonic audio-visual and using dictionary look-up methods were compared. In order to observe the effectiveness of the mnemonic audio-visual method several conditions were included: Two different levels of students (Beginner & Upper-Intermediate) were subjects of the study. Each level had one experimental and one control group (totally, two control and two experimental groups for both levels). Groups were chosen randomly and tested in pretest, posttest and long term retention (delayed) tests (two weeks after the posttest). All above mentioned tests were administered using both recognition and recall tests. The recognition test was a multiple-choice test of 40 items with a target and three distracters for each item. The recall test required subjects to write the Turkish equivalents of 40 English (target) words.

Between the pretest and posttest were the treatments. Experimental groups at both levels were treated using the mnemonic audio-visual method, and control groups of both

levels were treated with a traditional dictionary look-up method.

Subjects

Subjects were from Middle East Technical University, preparatory classes. Two elementary and two upper-intermediate classes were used; one as an experimental group and one as a control group at each level. Totally, there were 64 randomly chosen students (16 for each group). The classroom setting was made as authentic as possible as suggested in the study of Brown and Berry (1991).

Instruments

Vocabulary items were chosen in the following way: First, standard student textbooks at beginning and upper-intermediate levels were examined. From among the approximately 200 vocabulary items in student textbooks, lists at each level of mixed 50 concrete and abstract nouns were chosen. A screening test was conducted with five randomly selected students at each level. This was in order to determine the most unfamiliar 40 nouns in the list of 50. The screening tests were of the recall type requiring students to write the 50 Turkish equivalents of the English words on the lists.

The selected 40 vocabulary items were divided into two word groups of 20 vocabulary items each including on equal

amount of concrete and abstract nouns in each list. List one included the 20 least-known items from the screening test. This was the learning test for the two treatment groups. List two included the other 20 vocabulary items from the screening test. These were non-treatment words used in order to provide non-treatment base-line data. All tests included all 40 treatment/non-treatment vocabulary items. The last 10 words (from the original list of 50) were the most known vocabulary items and were discarded from the experiment but were used for pilot-testing and procedural demonstration. In the procedural demonstration session three L2 (the target language, English), to L1 (the native language, Turkish) items were used to demonstrate the mnemonic audio-visual method to the experimental group. These three items were not tested or further used.

For the pretest session 40 target language (English) items were given in recognition and recall tests. For the treatment session the 20 target language (English) vocabulary items (List 1) were presented using the mnemonic audio-visual treatment method (experimental group) and the dictionary-look-up method (control group). The previously mentioned 20 non-treatment items (List 2) were not presented. Then, in the immediate posttest session, 40 vocabulary items with treatment (List 1) and non-treatment (List 2) items were given in recognition and recall formats.

In this test the order of the items were different from the ones in pretest condition. Finally, for the delayed posttest (long-term retention) tests the same 40 vocabulary items (List 1 plus List 2) were given in recognition and recall formats. Recognition and recall data for all tests and all items were compiled and compared and means, standard deviations of 20 target treatment items were calculated and t-tests were administered.

All the selected vocabulary items were content words (concrete and abstract nouns). In order to present the words colorful pictures on over-head transparencies (OHT) were used, one for each word. On each OHT, there were the target (English) words on the left hand side, and the native translation (Turkish words) of the target words on the right hand side of the OHTs. The top of each OHT consisted of a label sentence with a keyword which made an imagery link and an acoustic link between the L1/L2 target words. Just below the label sentence, between the target and native words, was a colorful picture representing the keyword. A simultaneously presented audio-tape supported the picture by providing a sound effect remindful of the keyword. Sound effects were pre-recorded by the experimenter. Both the visual and auditory effects were presented synchronously for 30 seconds for each OHT. OHTs were presented on the board of the class and sound effects were presented with the help of

a tape-recorder. Only the experimental groups were provided with a practice session to become familiar with the new technique. The dictionary look-up group used their own bilingual dictionaries and were assumed to be familiar with and proficient in use of these dictionaries for unknown vocabulary look-up. Similar procedures and instruments were used for both beginner and upper-intermediate groups. Sample OHTs for both the beginner group and the upper-intermediate groups are shown in Appendix L and M.

Testing Material

The vocabulary testing materials were taken from the 40 L2 'learning material' items. The tests were:

1. Pretest; Recognition 20 target items, 20 'dummy' items; Recall 20 target items, 20 'dummy' items.
2. Posttest; Recognition 20 target items, 20 'dummy' items; Recall 20 target items, 20 'dummy' items.
3. Long-Term Retention Test; Recognition 20 target items, 20 'dummy' items; Recall 20 target items, 20 'dummy' items.

Similar treatment and tests were provided for the subjects at the beginning and upper-intermediate levels. One set of testing materials for each level was developed and used for the three tests. Words were presented in different orders in the posttests for both recognition and recall at each level. The pretest aimed at measuring the existing recognition and recall of the 20 target vocabulary items in

order to be able to insure equivalence of the control and experimental groups. The posttest intended to measure immediate recognition and recall of the vocabulary items directly after the treatment. The long-term retention (delayed) tests were administered to measure two-week recognition and recall of the target vocabulary items as well. The tests and procedures were pilot-tested on three students of the Middle East Technical University from each level.

Procedure

The experimental procedure had six stages for each of the two groups: (a) information about the experiment and solicitation of consent, (b) pretests, (c) procedural practice, d) treatment, (e) immediate posttests, and (f) long-term retention tests.

Information and Consent

Before giving the pretest, all students were informed that an experiment would be conducted in their classrooms and their willingness to participate was asked for. They were asked to participate in an experiment about 'vocabulary learning', and the importance of vocabulary in language learning was emphasized by the experimenter. They were given consent forms to be read, filled out and signed. Everyone in all groups agreed to participate.

Pretests

Two pretests of 40 L2 vocabulary items were given to both control and experimental groups at both beginner and upper-intermediate levels of students within the same day by the experimenter. The pretests included a recognition test that was a multiple-choice type of test with one target and three distracter items and a recall test for which the students were asked to write the Turkish equivalents of L2 words with a pencil. Time limit was 20 minutes for each of the tests (for a total of 40 minutes for the entire pretest session) for both levels of groups.

Procedural Practice

Just after the pretest and on the same day for the experimental groups at both levels, the students were told that they were going to learn a new technique for learning vocabulary. Practice sessions were given to both levels of experimental groups by the researcher just before the study sessions in order to teach subjects how to make associations. The two control groups had no practice sessions. They were told the importance of vocabulary learning with the help of dictionaries.

Treatment

The treatment sessions focused on 20 target vocabulary items comprising 10 concrete and 10 abstract nouns. For the experimental groups, the words were presented using colorful

pictures on over-head transparencies (OHT) accompanied by simultaneous sound effects as previously described.

The control groups at each level were asked to use their standard English-Turkish bi-lingual dictionaries to look up the 20 target vocabulary items. The study session for both groups at both levels was ten minutes, (30 seconds for each vocabulary item in the list).

Immediate Posttests

The study session was followed by immediate vocabulary tests of recognition and recall. The order of the vocabulary items was different from that in the pretests. Time limit for the immediate recognition and recall tests was again 10 minutes for each test.

Long-Term Retention Tests

The same tests given as immediate posttests were given to both groups at each level after a two-week period to measure long-term (delayed) retention. For the long-term retention tests, the time limit was again 10 minutes for each test. All the training sessions and tests were conducted in the original classrooms of the students by the experimenter.

Data Analysis

The recognition and recall tests were analyzed separately. The recognition and recall pretest scores were

used as baseline data. The results of recognition and recall posttests were intended to indicate learning increments credited to treatments.

Data were collected for pretests of recognition and recall before the treatment, posttests of recognition and recall immediately following the treatment and two-week delayed tests of recognition and recall to test long-term retention. Mean scores and standard deviations of each test result were calculated and t-tests were conducted in order to determine group equivalence and learning increments credited to the treatments. Data analyses compared learning difference between control and experimental groups, between short and long term recall, between concrete and abstract words and between beginner and upper-intermediate levels.

CHAPTER 4 RESULTS OF THE STUDY

Summary of the Study

This study aimed at investigating the effects of teaching vocabulary with the help of audio-visual memory techniques. Subjects were Middle East Technical University (METU) preparatory students at both beginner and upper-intermediate classes. At each class level experimental and control groups comprised of 16 students were randomly selected.

The study consisted of several different conditions; there were two different levels of students (Beginner & Upper-Intermediate) who were chosen randomly. On short term and long term retention, abstract and concrete words were compared. Learning measures involved recognition tests and recall tests. Control groups at each level, involved subjects using dictionaries in a traditional dictionary word look-up method. Experimental groups were treated by using mnemonic audio-visual aids.

Summary of Analytical Procedures

The statistical analysis for this study was carried out in three stages. The first stage consisted of scoring of the recognition and recall tests of the twenty target vocabulary items among the forty-word list. For each correct answer of a target word, one point was given for a range of 0-20 for

each test. The other 20 vocabulary items placed in the tests were ignored and not taken into consideration in any analysis or calculation.

In the second stage, means and standard deviations were calculated for each group for each test. Recognition and recall of vocabulary items were analyzed separately in this study.

In the third stage, means of experimental and control groups for all tests were compared using t-test analysis.

Aside from the vocabulary item screening tests, there were three sets of tests given to control and experimental groups over time. One set of tests recognition and recall was given before treatment, the same type of tests with the items in different order were given immediately after the treatment, and the same set of tests were given as long-term retention tests two weeks after the treatment. Tests and groups are shown in Figure 1.

A secondary analysis split the list analysis of 20 items into concrete nouns (10 items) and abstract nouns (10 items). Long-Term Retention data of concrete and abstract nouns were computed separately and compared.

LEVELS	TREATMENTS & TESTS GIVEN				
	Grps	Pretest Rec. & Rcg.	Treatment	Posttest Rec. & Rcg.	LTR Test Rec. & Rcg.
Begin. Level	Con.	List A (20)	Dictionary	List A1(20)	List A1(20)
Begin. Level	Exp.	List A (20)	Mne. AV	List A1(20)	List A1(20)
Up.-Int.Level	Con.	List B (20)	Dictionary	List B1(20)	List B1(20)
Up.-Int.Level	Exp.	List B (20)	Mne. AV	List B1(20)	List B1(20)

Figure 1. Graphic Display of Study Elements.

(Note. Begin. Level = Beginner Level; Up-Int. Level = Upper-Intermediate Level; Con. = Control Group; Exp. = Experimental Group; Rec. = Recall Test; Rcg. = Recognition Test; LTR Test = Long-Term Retention Test; Mne. AV = Mnemonic Audio-Visual; Grps = Groups; List A1 (See App. C and E) = Exactly same items of List A (See App. B and D) within different places and orders for Beginner Level; List B1 (See App. G and I) = Exactly same items of List B (See App. F and H) within different places and orders for Upper-Intermediate Level.)

Figure 1 explains that both groups (control and experimental) of each level (beginner and upper-intermediate) were given pretests, immediate posttests and retention tests two weeks after the posttests. All the tests were administered in both recognition and recall formats.

Results of the Study

The results of recognition and recall tests for each group were analyzed separately. In the vocabulary recognition test, means and standard deviations of both groups' (control and experimental) pretest results were compared to their posttest results. Then posttest results

were also compared to long-term retention test results. In the vocabulary recall test, the same procedure was applied for both groups. A parallel set of analyses was done for the beginner group and the upper-intermediate group.

Vocabulary Recognition of Beginner Group

Table 1 presents the mean scores and standard deviations for pretest and immediate posttest scores for each group at the beginner level.

Table 1

Means and Standard Deviations for Pretest and Immediate Posttest Scores for Each Group of the Beginner Level for Vocabulary Recognition

Group	n	<u>Pretest</u>		<u>Posttest</u>	
		<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>
Dict. Using Gr.	16	5.56	0.12	10.18	0.41
Aud.-Vis. Gr.	16	5.31	0.41	18.56	0.25

Note. Dict. Using Gr. = Dictionary Using Group; Aud.-Vis. Gr. = Audio-Visual Group.

Pretest mean scores (Control : M = 5.56; SD = 0.12, Experimental : M = 5.31; SD= 0.41) showed no significant differences indicating that group selection was truly random and that neither group was advantaged at the start of the study.

Comparisons of posttest mean scores indicated that treatment made a difference in vocabulary recognition (Control : M = 10.18; SD = 0.41, Experiment : M = 18.56; SD = 0.25) between control and experimental group. To test the differences between the scores of the two groups a one-tailed t-test was administered. This analysis aimed at investigating whether or not there were statistically significant differences between recognition scores of the two groups. The summary of all effects of the two-tailed t-test for the pretest and one-tailed t-test for immediate posttest recognition of vocabulary items of both groups of beginner level student is presented in Table 2.

Table 2

Results of T-Test : Pretest and Immediate Posttest Scores for Each Group of Beginners in Vocabulary Recognition

(N = 32)

	<u>Pretest</u>		<u>Posttest</u>	
	<u>df</u>	<u>t</u>	<u>df</u>	<u>t</u>
Between Groups	30	2.5	30	15.81*

*p < .0005

According to the results of a two-tailed t-test, there was no significant difference between the two groups' recognition of the vocabulary items in the pretest.

Treatment caused a striking difference in recognition of the vocabulary items for both groups. Both experimental and control groups improved immediate vocabulary recognition between pretest and immediate posttest. The experimental group recognized almost twice as many test vocabulary items as did the control group (Experiment Recognition : $M = 18.56$; Control Recognition : $M = 10.18$) Differences in recognition $t = 15.81$ $p < .0001$.

A second analysis was carried out to measure the long-term vocabulary recognition of the two different groups and to see whether the experimental treatment caused subjects to be able to better retain the test vocabulary items after a two-week period. Means and standard deviations of the immediate posttest and the long-term recognition test of both groups were first calculated to compare differences.

Table 3 presents the mean scores and standard deviations for immediate posttest and long-term retention test scores for vocabulary recognition of each group at the beginner level.

Table 3

Means and Standard Deviations of Immediate Posttest and Long-Term Retention Test Scores of Both Groups at the Beginner Level for Vocabulary Recognition

Group	<u>Posttest</u>			<u>Retention Test</u>		
	<u>n</u>	<u>M</u>	<u>SD</u>	<u>n</u>	<u>M</u>	<u>SD</u>
Dict. Using Gr.	16	10.18	0.41	14	9.14	0.24
Aud.-Vis. Gr.	16	18.56	2.15	16	16.93	1.18

Note. Dict. Using Gr. = Dictionary Using Group; Aud.-Vis. Gr. = Audio-Visual Group.

According to Table 3, there was some forgetting in the recognition of vocabulary items for both groups. Both the Dictionary Group and the Audio-Visual Group scored slightly lower in the long-term retention test (Control : M = 9.14; SD = 0.24, Experimental : M = 16.93; SD = 1.18) than in the immediate posttest (Control : M = 10.18; SD = 0.41, Experimental : M = 18.56; SD = 0.25). Group M results were then compared using a one-tailed t-test. The results of one-tailed t-test analysis for the posttest and long-term vocabulary recognition of both groups for beginner level are presented in Table 4.

Table 4

Results of T-Test : Immediate Posttest and Long-Term Retention Scores for Each Group of Beginners in Vocabulary Recognition

(N = 32)

	<u>Posttest</u>		<u>Retention Test</u>	
	<u>df</u>	<u>t</u>	<u>df</u>	<u>t</u>
Between Groups	30	15.81*	28	25.96*

*p < .0005

The results of the one-tailed test showed highly significant differences between the experimental and control groups' recognition of vocabulary items after a two-week period (Control : M = 9.14; SD = 0.24, Experimental : M = 16.93; SD = 1.18 Long-Term Retention Test. t = 25.96; p < .0005.)

Vocabulary Recall of Beginner Group

Test scores for vocabulary recall were analyzed in the same way as the vocabulary recognition results were. Test scores for vocabulary recall, like vocabulary recognition, ranged between 0-20. Means and standard deviations for each group (Control and Experimental) for both the pretest and the posttest at the beginner level were calculated.

Table 5 presents the mean scores and standard deviations for each group for both the pretest and the posttest at the beginner level of recall.

Table 5

Means and Standard Deviations of Pretest and Immediate Posttest Scores of Both Groups at Beginner Level for Vocabulary Recall

Group	n	<u>Pretest</u>		<u>Posttest</u>	
		<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>
Dict. Using Gr.	16	2.37	0.13	8.56	1.27
Aud.-Vis. Gr.	16	2.50	0.38	14.43	0.48

Note. Dict. Using Gr. = Dictionary Using Group; Aud.-Vis. Gr. = Audio-Visual Group.

Pretest mean scores (Control : $M = 2.37$; $SD = 0.13$, Experimental : $M = 2.50$; $SD = 0.38$) again showed no significant differences indicating that group selection was completely random and that neither group was advantaged at the start of the study. In order to compare the results of the pretest a two-tailed t-test was administered.

Posttest mean scores indicated that treatment made a difference in vocabulary recall (Control : $M = 8.56$; $SD = 1.27$, Experimental : $M = 14.43$; $SD = 0.48$). To test the differences between the scores of the two groups a one-tailed t-test was administered. This analysis aimed at

investigating whether or not there were statistically significant differences between recall scores of the two groups. The summary of all effects of the two-tailed t-test for the pretest and one-tailed t-test for the immediate posttest recall of vocabulary items of both groups of beginner level is presented in Table 6.

Table 6

Results of T-Test : Pretest and Immediate Posttest Scores for Each Group of Beginners in Vocabulary Recall

(N = 32)

	<u>Pretest</u>		<u>Posttest</u>	
	<u>df</u>	<u>t</u>	<u>df</u>	<u>t</u>
Between Groups	30	1.3	30	17.78*

*p < .0005

As stated the results of a two-tailed t-test did not show a statistically significant difference between the two groups' recall of the vocabulary items before the treatments. Treatment made a big difference in recall of the vocabulary items for both groups. Both experimental and control groups improved immediate vocabulary recall between pretest and immediate posttest. Differences between pretest and immediate posttest scores were substantial and

significant ($p < .0005$). The experimental group recalled almost twice as many test vocabulary items as did the control group (Experimental : $M = 14.43$, Control : $M = 8.56$).

A second analysis was carried out to observe the long-term retention of the two different groups and to see whether experimental treatment caused subjects to be able to better retain the test vocabulary items after a two-week period. Means and standard deviations of the immediate posttest and the long-term retention test of both groups were calculated to compare differences.

Table 7 presents the mean scores and standard deviations for the immediate posttest and long-term retention test scores for vocabulary recall of each group of at the beginner level.

Table 7

Means and Standard Deviations of Immediate Posttest and Long-Term Retention Test of Both Groups at Beginner Level for Vocabulary Recall

Group	n	<u>Posttest</u>		<u>Retention Test</u>		
		<u>M</u>	<u>SD</u>	n	<u>M</u>	<u>SD</u>
Dict. Using Gr.	16	8.56	1.27	14	6.78	0.80
Aud.-Vis. Gr.	16	14.43	0.48	16	10.25	1.06

Note. Dict. Using Gr. = Dictionary Using Group; Aud.-Vis. Gr. = Audio-Visual Group.

According to Table 7, forgetting in the recall of the vocabulary items was measurable over time. However, compared to the control group, experimental students were still able to recall half of the target vocabulary items after two weeks (Control : $M = 6.78$; $SD = 0.80$, Experimental : $M = 10.25$; $SD = 1.06$). A one-tailed t-test was again used to test whether there were any significant differences between the two methods in long-term retention of recall of vocabulary items.

The summary of one-tailed t-test results for the posttest and long-term retention test of recall of vocabulary items of both groups at the beginner level is presented in Table 8.

Table 8

Results of t-Test : Immediate Posttest and Long-Term Retention Scores for Each Group of Beginners in Vocabulary Recall

(N = 30)

	<u>Posttest</u>		<u>Retention Test</u>	
	<u>df</u>	<u>t</u>	<u>df</u>	<u>t</u>
Between Groups	28	17.78*	26	6.30*

*p < .0005

The results of one-tailed t-tests show highly significant differences between control and experimental groups for long-term retention recall (Control : M = 6.78; SD = 0.80, Experiment : M = 10.25; SD = 1.06) for long-term retention test t= 6.30; p< .0005.

Upper-Intermediate Level

Vocabulary Recognition of Upper Intermediate Group

Table 9 presents the mean scores and standard deviations for pretest and immediate posttest scores for each group at the upper-intermediate level.

Table 9

Means and Standard Deviations for Pretest and Immediate Posttest Scores of Upper-Intermediate Level for Vocabulary Recognition

Group	n	Pretest		Posttest	
		<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>
Dict. Using Gr.	16	7.81	0.24	13.56	0.05
Aud.-Vis. Gr.	15	5.86	0.18	18.06	1.48

Note. Dict. Using Gr. = Dictionary Using Group; Aud.-Vis. Gr. = Audio-Visual Group.

Pretest mean scores (Control : $M = 7.81$; $SD = 0.24$, Experimental : $M = 5.86$; $SD = 0.18$) showed significant differences indicating that group selection was truly random and that neither group was advantaged at the start of the study. A two-tailed t-test was administered in order to observe the results.

Posttest mean scores indicated that treatment made a difference in vocabulary recognition (Control : $M = 13.56$; $SD = 0.05$, Experimental : $M = 18.06$; $SD = 1.48$) between control and experimental groups. To test the differences between the scores of the two groups a one-tailed t-test was administered. This analysis aimed at investigating whether or not there were statistically significant differences between posttest recognition scores of the two groups. The result of the two-tailed t-test for the pretest

and one-tailed t-test for immediate posttest recognition of vocabulary items of both groups of upper-intermediate level is presented in Table 10.

Table 10

Results of T-Test : Pretest and Immediate Posttest Scores for Each Group of Upper-Intermediates in Vocabulary Recognition

(N = 31)

	<u>Pretest</u>		<u>Posttest</u>	
	<u>df</u>	<u>t</u>	<u>df</u>	<u>t</u>
Between Groups	29	17.85*	29	17.50*

*p < .0005

According to the results of a two-tailed t-test, there were significant differences between the two groups' recognition of the vocabulary items before the treatment. The control group M was 7.81 and the experimental group M was 5.86. Despite this deficit in the pretest, the experimental group outscored the control group in the posttest by the same degree of significance by which it was deficated in the pretest. Treatment caused a great difference in recognition of the vocabulary items for both groups. Both experimental and control groups improved immediate vocabulary recognition between pretest and

immediate posttest. Differences between pretest and immediate posttest scores were substantial and significant. The control group recognized almost twice as many test vocabulary items as in the pretest (Control, Pretest : $M = 7.81$, Posttest : $M = 13.56$). The experimental group recognized more than three times as many vocabulary items as in the pretest (Experimental, Pretest : $M = 5.86$; Posttest : $M = 18.06$; $t = 17.50$; $p < .0005$).

A second analysis was carried out to observe the long-term retention of vocabulary of the two different groups to see whether the experimental treatment caused subjects to be able to better retain the test vocabulary items after a two-week period. Means and standard deviations of the immediate posttest and the long-term retention test of the both groups were first calculated to compare differences.

Table 11 presents means and standard deviations of immediate posttest and long-term retention test of upper-intermediate level for both groups of vocabulary recognition.

Table 11

Means and Standard Deviations of Immediate Posttest and Long-Term Retention Test of Upper-Intermediate Level for Both Groups of Vocabulary Recognition

Group	n	<u>Posttest</u>		<u>Retention Test</u>		
		<u>M</u>	<u>SD</u>	n	<u>M</u>	<u>SD</u>
Dict. Using Gr.	16	13.56	0.05	16	13.25	0.51
Aud.-Vis. Gr.	15	18.06	1.48	16	17.25	1.42

Note. Dict. Using Gr. = Dictionary Using Group; Aud.-Vis. Gr. = Audio-Visual Group.

According to Table 11, there was a little forgetting in the recognition of vocabulary items for both groups. Both the control group and experimental group scored slightly lower in the long-term retention test (Control : M = 13.25; SD = 0.51, Experimental : M = 17.25; SD = 1.42) than in the immediate posttest (Control : M = 13.56; SD 0.05, Experimental : M = 18.06; SD = 1.48). Group comparisons were then made through a one-tailed t-test. The summary of effects of one-tailed t-test analysis for the posttest and long-term retention of vocabulary recognition of both groups for Upper-Intermediate level is presented in Table 12.

Table 12

Results of T-Test : Immediate Posttest and Long-Term Retention Scores for Each Group of Upper-Intermediate Level in Vocabulary Recognition

(N = 32)

	<u>Posttest</u>		<u>Retention Test</u>	
	<u>df</u>	<u>t</u>	<u>df</u>	<u>t</u>
Between Groups	29	7.50*	30	4.65*

*p < .0005

The results of one-tailed t-test showed a significant difference between the two groups' recognition of vocabulary items after a two-week period (Control : M = 13.25; SD = 0.51, Experiment : M = 17.25; SD = 1.42, t= 4.65; p < .0005).

Vocabulary Recall of Upper-Intermediate Group

Test scores for vocabulary recall were analyzed in the same way as were the vocabulary recognition results. Test scores for vocabulary recall, like vocabulary recognition, ranged between 0-20. Means and standard deviations for each group for both the pretest and the posttest at upper-intermediate level were calculated.

Table 13 presents the mean scores and standard deviations for each group for both pretest and posttest of upper-intermediate level of recall.

Table 13

Means and Standard Deviations for Pretest and Immediate Posttest Scores for Each Group of Upper-Intermediate Level for Vocabulary Recall

Group	n	<u>Pretest</u>		<u>Posttest</u>	
		<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>
Dict. Using Gr.	16	1.18	0.33	8.18	1.66
Aud.-Vis. Gr.	15	2.53	0.04	14.93	0.36

Note. Dict. Using Gr. = Dictionary Using Group; Aud.-Vis. Gr. = Audio-Visual Group.

Pretest mean scores (Control : $M = 1.18$; $SD = 0.33$, Experimental : $M = 2.53$; $SD = 0.04$) in this case showed significant differences between pretest recall scores of control and experimental groups. In the recall pretest the experimental group significantly outscored the control group, although the pretest recall scores were so low as to be immaterial.

Posttest mean scores indicated that treatment made a difference in vocabulary recall (Control : $M = 8.18$; $SD = 1.66$, Experimental : $M = 14.93$; $SD = 0.36$). To test the differences between the scores of the two groups a one-tailed t-test was administered. This analysis aimed at investigating whether or not there were statistically significant differences between recall scores of the two

groups. The summary of all effects of the t-test for the pretest and t-test for immediate posttest recall of vocabulary items of both groups of upper-intermediate level is presented in Table 14.

Table 14

Results of T-Test : Pretest and Immediate Posttest Scores for Each Group of Upper-Intermediates in Vocabulary Recall

(N = 31)

	<u>Pretest</u>		<u>Posttest</u>	
	<u>df</u>	<u>t</u>	<u>df</u>	<u>t</u>
Between Groups	29	16.87*	29	16.07*

*p < .0005

Treatment made a big difference in recall of the vocabulary items for both groups. Both experimental and control groups improved immediate vocabulary recall between pretest and immediate posttest. Differences between pretest and immediate posttest scores were substantial and significant. The experimental group recalled almost twice as many test vocabulary items as did the control group (Experimental : M = 14.93, Control : M = 8.18, Pretest : t = 16.87; Posttest : t = 16.07).

A second analysis was carried out to observe the long-term vocabulary recall of the two different groups and to see whether experimental treatment caused subjects to be able to better recall the test vocabulary items after a two-week period. Means and standard deviations of the immediate posttest and the long-term retention recall test of both groups were calculated to compare differences.

Table 15 presents the mean scores and standard deviations for immediate posttest and long-term retention test scores for vocabulary recall of each group of the upper-intermediate level.

Table 15

Means and Standard Deviations of Immediate Posttest and Long-Term Retention Test of Both Groups at Upper-Intermediate Level for Vocabulary Recall

Group	n	<u>Posttest</u>		<u>Retention Test</u>		
		<u>M</u>	<u>SD</u>	n	<u>M</u>	<u>SD</u>
Dict. Using Gr.	16	8.18	1.66	16	7.62	1.44
Aud.-Vis. Gr.	15	14.93	0.36	16	13.37	1.11

Note. Dict. Using Gr. = Dictionary Using Group; Aud.-Vis. Gr. = Audio-Visual Group.

According to Table 15, forgetting in the recall of vocabulary items was measurable over time. However, compared to the control group, experimental students were still able to recall over half of the target vocabulary items after two weeks (Control : M = 7.62; SD = 1.44, Experimental : M = 13.37; SD : 1.11). A one-tailed t-test was again used to test whether there were any significant differences between the two methods in long-term retention of recall of vocabulary items.

The summary of the one-tailed t-test results for the posttest and the long-term retention test of recall of vocabulary items of both groups of upper-intermediate level is presented in Table 16.

Table 16

Results of t-Test : Immediate Posttest and Long-Term Retention Scores for Each Group of Upper-Intermediates in Vocabulary Recall

(N = 32)

	<u>Posttest</u>		<u>Retention Test</u>	
	<u>df</u>	<u>t</u>	<u>df</u>	<u>t</u>
Between Groups	29	16.07*	30	13.37*

*p < .0005

The results of one-tailed t-tests show highly significant differences between control and experimental groups for long-term retention recall (Control : M = 7.62; SD = 1.44, Experimental : M = 13.37; SD = 1.11, for long-term retention test, t= 13.37; p< .0005.)

Concrete vs. Abstract Nouns

Since long-term recall is the ultimate goal of vocabulary learning, I have compared long-term retention tests of recall for control and experimental groups at both levels for abstract and concrete nouns. I wanted to observe the long-term vocabulary recall of the two different groups for abstract and concrete nouns and to see whether experimental treatment caused subjects to be able to better

recall abstract noun test vocabulary items after a two-week period. Means and standard deviations of abstract noun long-term retention recall tests of both groups were calculated to compare differences (means are for 10 abstract noun items).

Table 17 shows means and standard deviations of abstract nouns on vocabulary recall after a two-week period at beginner level of control and experimental groups.

Long-Term Recall Retention Test Scores of Abstract
Nouns at Beginner Level for Both Groups

Table 17.

Group	<u>M</u>	<u>SD</u>
Dict. Using Gr.	1.69	0.20
Aud.-Vis. Gr.	5.12	1.03

Note. Dict. Using Gr. = Dictionary Using Group; Aud.-Vis. Gr. = Audio-Visual Group.

Table 7 showed the long-term recall of words (both concrete and abstract nouns) for beginner level control and experimental groups (Control: M = 6.78; Experimental: M = 10.25).

Table 17 shows long-term recall of abstract nouns only (Control: $M = 1.69$; Experimental: $M = 5.12$). Looking at the Experimental group means from Table 7 and Table 17 shows that the means for long-term recall of abstract and concrete nouns were the same (Abstract Nouns: $M = 5.12$; Concrete Nouns: $M = 5.13$). Looking at the Control Group means from the two tables shows that long-term recall of concrete nouns was much higher than recall of abstract nouns (Abstract Nouns: $M = 1.69$; Concrete Nouns: $M = 5.09$). This indicates that the experimental technique was equally efficient in supporting vocabulary learning of abstract and concrete nouns, whereas the control technique was weak in support of learning concrete nouns and very weak in support of learning of abstract nouns. A similar analysis yields similar results at Upper-Intermediate level.

Table 18 shows means and standard deviations of vocabulary recall of abstract nouns after a two-week delay period at upper-intermediate level for control and experimental groups.

Long-Term Recall Retention Test Scores of Abstract Nouns
at Upper-Intermediate Level for Both Groups

Table 18.

Group	<u>M</u>	<u>SD</u>
Dict. Using Gr.	1.90	0.36
Aud.-Vis. Gr.	7.35	0.61

Note. Dict. Using Gr. = Dictionary Using Group; Aud.-Vis. Gr. = Audio-Visual Group.

Table 15 showed long-term recall of words (both concrete and abstract nouns) for upper-intermediate level control and experimental groups (Control: M = 7.62; Experimental: M = 13.37).

Table 18 shows Long-Term Recall of Abstract Nouns only (Control: M = 1.90; Experimental: M = 7.35). Looking at the Experimental Group means from Table 15 and Table 18 shows that the means for long-term recall of abstract and concrete nouns was almost the same (Abstract Nouns: M = 7.35; Concrete Nouns: M = 6.02). Looking at the Control Group means shows that long-term recall of concrete nouns was much higher than recall of abstract nouns (Abstract Nouns: M = 1.90; Concrete Nouns: M = 5.72).

This re-inforces the previous analysis indicating equal efficiency of the experimental treatment for supporting learning of concrete and abstract nouns, whereas the control treatment was weak in support of learning concrete nouns and very weak in support of learning abstract nouns.

Comparison of Vocabulary Learning of Beginner and Upper-Intermediate Levels

Examining Table 7 and Table 11, one can see that the Upper-Intermediate Experimental group recalled significantly more vocabulary items after two weeks than did the Beginner Experimental Group (Upper-Intermediate $M = 17.25$, Beginner $M = 10.25$). We would expect that of the more proficient language group. However, the Beginner Experimental Group outscored the Beginner Control Group in all tests by the same margin as the Upper-Intermediate Experimental Group outscored the Upper-Intermediate Control Group. This suggests that the mnemonic audio-visual approach is effective for language learners across all skill levels.

CHAPTER 5 DISCUSSION OF FINDINGS AND CONCLUSION

Summary of the Study

This study investigated the learning effects of a mnemonic audio-visual method compared with a traditional dictionary look-up method on immediate and delayed vocabulary recognition and recall. This study was conducted with experimental and control groups of beginner and upper-intermediate level students.

In this study, 64 Middle East Technical University preparatory school students at two different levels of proficiency (beginner and upper-intermediate) of proficiency participated as subjects from four intact English classes. Each class was randomly assigned to one of the two treatments within one of the two different levels. At the beginning of the study, a pretest of 40 L2 vocabulary words was administered to each group in recognition and recall tests. Immediately after the pretest, each group of 16 subjects practiced learning 20 of the 40 vocabulary words in the specific vocabulary method they had been assigned to. The experimental group studied the 20 L2-L1 vocabulary items using a mnemonic audio-visual method. The control groups were instructed to use dictionary look-up techniques. Each group (experimental and control) had 10 minutes to study the target vocabulary items of 20 words. A posttest with the same target vocabulary items in different order followed the

study session to measure immediate recognition and recall. Two weeks later, the same test was given as a long-term retention test. The scores for the two groups at each level were compared for both recognition and recall. The results showed no difference between groups in the pretest. The experimental group showed significantly greater recognition and recall in both the short-term and long-term tests ($p < .0005$). Results indicated equally significant learning for both vocabulary items labeled abstract and concrete and for beginner and upper-intermediate student groups.

Discussion of the Results and Conclusion

Acikgoz (1992) found that the keyword method was superior to traditional rote rehearsal for the acquisition of vocabulary items. In a study carried out at a Turkish secondary school with EFL learners who were randomly assigned to three groups, vocabulary acquisition was measured through an immediate recall test given after a three-session treatment and the same exam given four weeks later. Subjects in the two keyword groups were able to retain more items than the rote rehearsal group four weeks after the end of the treatment.

Results here support this finding for a larger number of conditions at the university level.

Research has been devoted in keyword studies to using visualization and visual aids in order to provide links between second language and native language vocabulary items. However, to date there has been little research on the added effect of audio aids accompanying the keyword method.

The findings of the present study support positive findings of the studies in the literature related to mnemonic techniques; especially use of the keyword method at various student levels and in both vocabulary recognition and recall in immediate and long-term retention. This study has also positive findings to support the importance of visualization plus auditory aids at beginner and upper-intermediate levels. If this new technique is applied, abstract nouns as well as concrete ones can be learned/taught efficiently as proven by this study.

Limitations of the Study

In the study, both audio and visual support for vocabulary learning of the experimental group were provided. It is important to know the separate effects of each of these on experimental learning. It is possible that the audio effects did not add anything to the learning benefit

of the keyword (visual) effects. It would have been useful to have had separate groups for visual effect, audio effect, as well as audio-visual effects.

The study period was too short to be definitive in predicting how the experimental method might work in long-term situations in regular intact classes.

The experimenter was the teacher in all four treatment classes. It is possible that unconscious experimenter bias may have influenced the results. It is also necessary to know if regular classroom teachers can administer the audio-visual methods with equal success as reported here.

Implications for Further Research

The issues mentioned in the 'Limitations of the Study' should be taken into consideration in further keyword studies. Researchers should continue to experiment with the classroom potential of the keyword method since semi-laboratory conditions do not reflect what really happens in the classroom. Learners with all levels of language proficiency in Turkey can be the subjects of future studies, and the sample size of the subjects should be larger so that results can be more generalizable. In addition, keyword studies might address individual differences in order to discover those students who can best benefit from the mnemonic audio-visual method.

Pedagogical Implications

This study aimed at showing teachers the usefulness of the mnemonic audio-visual method as a vocabulary learning/teaching strategy in EFL classrooms in Turkey. The effectiveness of a mnemonic audio-visual approach in order to help students be more successful in recognizing, recalling and retaining foreign language vocabulary has been proved here.

The researcher observed that students at Middle East Technical University really enjoyed learning vocabulary using mnemonic audio-visual method. Students stated that they liked the experiment very much. Especially mnemonic audio-visual aids made them comprehend the meaning of the words and they were able to associate the target vocabulary with the native translation easily and practically. Particularly, long-term retention made them surprised and pleased that vocabulary learning might not be such a problem anymore. Students were eager to learn more about this new method. Future studies could sample students' attitudes to different vocabulary learning techniques. Some teachers of other classes not involved in the study stated that their students wanted them to teach vocabulary items using the same method. This anecdotal information shows that language learners and teachers in Turkey are open to new ways of

learning vocabulary, and they are curious about new methods in vocabulary learning. Thus, teachers and curriculum designers should encourage such classroom experimentation and arrange their syllabi and curricula to consider new techniques in their language classes accordingly.



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Appendix A
CONSENT FORM

I am conducting an experiment on a vocabulary teaching technique and planning to make it useful for all colleagues. Your scores on the tests will not affect your grades and will not be announced anywhere. Participation is voluntary and you can resign anytime you want.

I appreciate your help.

A. REHA KILINC

Bilkent University

MA TEFL

I would like to participate in this experiment and I know that I can withdraw anytime I want.

Name : _____

Date : _____

Signature : _____

If you have any questions about the study, you may contact the study advisor:

Dr. Theodore S. RODGERS, Director

MA TEFL Program

Bilkent University

Appendix B

BEGINNER LEVEL VOCABULARY RECALL TEST #1

Name :

May 27, 1996

Write the Turkish equivalents (one word or more) of the following words (Aşağıdaki sözcüklerin Türkçe karşılıklarını bir veya daha fazla sözcükle yazınız).

SERVANT	.....	WANDERER	.....
CURRENCY	.....	BREAKDOWN	.....
POTTER	.....	ANNIVERSARY	.....
SIZE	.....	LONER	.....
TURBULENCE	.....	SPARE	.....
COMMUNITY	.....	SNAIL	.....
AMBITION	.....	TEMPLE	.....
PUNCTUAL	.....	CEILING	.....
FIRE ENGINE	.....	PATIENT	.....
BUILDER	.....	TOE	.....
PLUG	.....	RECIPE	.....
BORED	.....	LAY	.....
PREDICTION	.....	DISABLED	.....
AMAZING	.....	SLIPPER	.....
CONVENTIONAL	.....	PENDANT	.....
PURSE	.....	RESOLUTIONS	.....
MISSING	.....	SOUVENIR	.....
FRIGHT	.....	STEAL	.....
BASEMENT	.....	COUGH	.....
TROLLEY	.....	SCREAM	.....

Appendix C

BEGINNER LEVEL VOCABULARY RECALL TEST #2

Name :

May 27, 1996

Write the Turkish equivalents (one word or more) of the following words (Aşağıdaki sözcüklerin Türkçe karşılıklarını bir veya daha fazla sözcükle yazınız).

SLIPPER	.....	TURBULENCE	.....
SNAIL	.....	TOE	.....
MISSING	.....	FIRE ENGINE	.....
BREAKDOWN	.....	LAY	.....
BASEMENT	.....	ANNIVERSARY	.....
PURSE	.....	TROLLEY	.....
SERVANT	.....	SCREAM	.....
FRIGHT	.....	TEMPLE	.....
DISABLED	.....	BUILDER	.....
WANDERER	.....	RECIPE	.....
COUGH	.....	CURRENCY	.....
SIZE	.....	RESOLUTIONS	.....
BORED	.....	PUNCTUAL	.....
SPARE	.....	CONVENTIONAL	.....
LONER	.....	PREDICTION	.....
STEAL	.....	PATIENT	.....
SOUVENIR	.....	CEILING	.....
PLUG	.....	COMMUNITY	.....
PENDANT	.....	AMBITION	.....
POTTER	.....	AMAZING	.....

Appendix D

BEGINNER LEVEL VOCABULARY RECOGNITION TEST #1

Name :

May 27, 1996

Circle the Turkish equivalents of the given English words.
(İngilizce sözcüklerin Türkçe karşılıklarını daire içine
alarak seçiniz.)

1. PREDICTION

- a) Diksiyon b) Sezgi c) Önyargı d) Yön

2. BREAKDOWN

- a) Sinir bozukluğu b) Kırılma c) Yıkılma d) Kırık

3. SCREAM

- a) Dondurma b) Çığlık c) Çağırma d) Krema

4. MISSING

- a) Özlem b) Kaçırma c) Eksik d) Yakalama

5. SLIPPER

- a. Uykucu b) Terlik c) Kaygan d) Çakmak

6. LAY

- a. Laik b) Tepsi c) Yalan d) Gerinme

7. LONER

- a) Yalnız yaşayan b) Borç veren c) Tamirci d) Müzik yapan

8. FRIGHT

- a) Fiyat b) Kızarmış c) Dehşet d) Kışkırtıcı

9. CONVENTIONAL

- a) Yer ayırtılmış b) Keşfedilmiş c) Yöresel d) Geleneksel

10. COUGH

- a) Kof b) Çifte sürme c) Öksürük d) Kaba

11. RESOLUTIONS

- a) Yeni çözümler b) Karar c) Solüsyon d) Sonuçlar

12. ANNIVERSARY

- a) Anı b) Yöresel c) Geleneksel d) Yıldönümü

13. DISABLED

- a) Sakat b) Yeteneksiz c) Yetersiz d) Kırık

14. WANDERER

- a) Meraklı b) Gezgin c) İstekli d) Kuşkucu

15. TOE

- a) Tuvalet b) Ayak parmağı c) Kravat d) El parmağı

16. AMAZING

- a) Eğlenceli b) Şaşırtıcı c) Alaycı d) Ürkütücü

17. COMMUNITY

- a) Genelleme b) Komite c) Toplum d) Genel

18. SIZE

- a) Ölçü b) Numara c) Büyüklük d) En

19. PURSE

- a) Pırasa b) Maydanoz c) Bayan cüzdanı d) Erkek cüzdanı

20. SNAIL

- a) Salyangoz b) Yılan c) Tırnak d) Çivi

21. POTTER

- a) Hamal b) Çömlekçi c) Çaydanlık d) Piyangocu

22. STEAL

- a) Çelik b) Çalıntı c) Bayat d) Kelepir

23. BASEMENT

- a) Üs b) Bodrum katı c) Temel d) Asıl

24. PUNCTUAL

- a) Dakik b) Noktalama c) Yazım d) Gerçekçi

25. SERVANT

- a) Hizmetçi b) Çavuş c) Servis memuru d) Hizmetli

26. SOUVENIR

- a) Sürücü b) Andaç c) Kitapçık d) Anı

27. PENDANT

- a) Askı b) Atkı c) Sargı d) Küpe süsü

28. TROLLEY

- a) Trol teknesi b) Tramvay c) Topaç d) Çift katlı otobüs

29. CURRENCY

- a) Gündem b) Karmaşa c) Kur d) Program

30. FIRE ENGINE

- a) Yangın yeri b) İtfaiye aracı c) Yangın söndürücü
d) Alev tabancası

31. SPARE

- a) Yedek b) Ayrı c) Kaçak d) Aykırı

32. TURBULENCE

- a) Tribün b) İlk yardım aracı c) Karmaşa d) Hava akımı

33. PLUG

- a) Fiş b) Bacak c) Priz d) Kurbağa

34. RECIPE

- a) Döngü b) Reçete c) Dönemeç d) Peçete

35. BUILDER

- a) Yapı b) Yapıcı c) Müteahhit d) Mühendis

36. AMBITION

- a) Hırslı b) Hırs c) Çaba d) Başarı

37. BORED

- a) Sıkkın b) Bitkin c) Yorgun d) Mutsuz

38. PATIENT

- a) Patent b) Paten c) Pansiyoner d) Sabırlı

39. CEILING

- a) Şilin b) Baca c) Zemin d) Tavan

40. TEMPLE

- a) Isı b) Huy c) Tapınak d) Derece



Appendix E

BEGINNER LEVEL VOCABULARY RECOGNITION TEST #2

Name :

May 27, 1996

Circle the Turkish equivalents of the given English words.
(İngilizce sözcüklerin Türkçe karşılıklarını daire içine
alarak seçiniz.)

1- SIZE

- a) Büyüklük b) Numara c) En d) Ölçü

2- RESOLUTIONS

- a) Karar b) Sonuçlar c) Yeni çözümler d) Solüsyon

3- RECIPE

- a) Reçete b) Dönemeç c) Döngü d) Peçete

4- PREDICTION

- a) Yön b) Önyargı c) Sezgi d) Diksiyon

5- TEMPLE

- a) Huy b) Derece c) Isı d) Tapınak

6- POTTER

- a) Çaydanlık b) Çömlekçi c) Piyangocu d) Hamal

7- ANNIVERSARY

a) Yöresel b) Geleneksel c) Yıldönümü d) Anı

8- SLIPPER

a) Terlik b) Kaygan c) Uykucu d) Çakmak

9- SOUVENIR

a) Andaç b) Sürücü c) Kitapçık d) Anı

10- TOE

a) Kravat b) El parmağı c) Ayak parmağı d) Tuvalet

11- PLUG

a) Priz b) Fiş c) Kurbağa d) Bacak

12- STEAL

a) Kelepir b) Çalıntı c) Bayat d) Çelik

13- BORED

a) Bitkin b) Mutsuz c) Yorgun d) Sıkkin

14- LAY

a) Tepsi b) Yalan c) Laik d) Gerinme

15- FIRE ENGINE

- a) Yangın söndürücü b) İtfaiye aracı c) Alev tabancası
d) Yangın yeri

16- FRIGHT

- a) Fiyat b) Kışkırtıcı c) Kızarmış d) Dehşet

17- TURBULENCE

- a) Hava akımı b) İlk yardım aracı c) Karmaşa d) Tribün

18- SCREAM

- a) Çığlık b) Çağırma c) Krema d) Dondurma

19- CURRENCY

- a) Karmaşa b) Program c) Kur d) Gündem

20- CEILING

- a) Zemin b) Tavan c) Şilin d) Baca

21- CONVENTIONAL

- a) Keşfedilmiş b) Geleneksel c) Yer ayırılmış d) Yöresel

22- SERVANT

- a) Çavuş b) Servis memuru c) Hizmetçi d) Hizmetli

23- COUGH

- a) Öksürük b) Kaba c) Çifte sürme d) Kof

24- MISSING

- a) Eksik b) Kaçırma c) Özlem d) Yakalama

25- SPARE

- a) Ayrı b) Kaçak c) Yedek d) Aykırı

26- LONER

- a) Müzik yapan b) Tamirci c) Yalnız yaşayan d) Borç veren

27- AMBITION

- a) Hırs b) Başarı c) Hırslı d) Çaba

28- BASEMENT

- a) Temel b) Bodrum katı c) Üs d) Asıl

29- DISABLED

- a) Kırık c) Yeteneksiz c) Yetersiz d) Sakat

30- BUILDER

- a) Mühendis b) Yapıcı c) Müteahhit d) Yapı

31- PENDANT

- a) Sargı b) Küpe süsü c) Askı d) Atkı

32- AMAZING

- a) Şaşırtıcı b) Ürkütücü c) Alaycı d) Eğlenceli

33- TROLLEY

- a) Çift katlı otobüs b) Trol teknesi c) Tramvay d) Topaç

34- PATIENT

- a) Pansiyoner b) Patent c) Paten d) Sabırlı

35- WANDERER

- a) Gezgin b) Kuşkucu c) Meraklı d) İstekli

36- PUNCTUAL

- a) Noktalama b) Dakik c) Gerçekçi d) Yazım

37- BREAKDOWN

- a) Kırılmak b) Kırık c) Sinir bozukluğu d) Yıkılma

38- PURSE

- a) Maydanoz b) Erkek cüzdanı c) Pırasa d) Bayan cüzdanı

39- SNAIL

a) Tırnak b) Yılan c) Salyangoz d) Çivi

40- COMMUNITY

a) Komite b) Toplum c) Genelleme d) Genel



Appendix F

UPPER-INTERMEDIATE LEVEL RECALL TEST #1

Name :

May 27, 1996

Write the Turkish equivalents (one word or more) of the following words (Aşağıdaki sözcüklerin Türkçe karşılıklarını bir veya daha fazla sözcükle yazınız).

CONSULTANT	SATELLITE
APARTHEID	INDIVIDUAL
INSTRUCTIONS	CLERK
EXTRAVAGANT	PACIFISM
CONTEMPTIBLE	SOLEMN
VAST	COMFORTABLE
LODGE	MANUAL
GENEROUS	STARCH
PRESIDENTIAL	FRECKLE
PROMISE	VANDAL
TENDER	CRIME
EDITION	ROUGH
LIEUTENANT	COMPANION
CONTRADICTION	POWDER
SERGEANT	ISSUE
REGRETFUL	EVIDENCE
DELINQUENT	THRILLING
CONFUSING	MASHING
COMMITMENT	VICTIM
VAIN	PINCH

Appendix G

UPPER-INTERMEDIATE LEVEL RECALL TEST #2

Name :

May 27, 1996

Write the Turkish equivalents (one word or more) of the following words (Aşağıdaki sözcüklerin Türkçe karşılıklarını bir veya daha fazla sözcükle yazınız).

LODGE	.....	POWDER	.....
PROMISE	.....	VAIN	.....
EVIDENCE	.....	INSTRUCTIONS	.....
CONFUSING	.....	APARTHEID	.....
LIEUTENANT	.....	PACIFISM	.....
STARCH	.....	CRIME	.....
PINCH	.....	PRESIDENTIAL	.....
ISSUE	.....	COMMITMENT	.....
CONSULTANT	.....	ROUGH	.....
THRILLING	.....	EXTRAVAGANT	.....
MASHING	.....	VAST	.....
COMPARISON	.....	COMFORTABLE	.....
DELINQUENT	.....	INDIVIDUAL	.....
EDITION	.....	REGRETFUL	.....
VANDAL	.....	SOLEMN	.....
SATELLITE	.....	CONTRADICTION	.....
MANUAL	.....	VICTIM	.....
GENEROUS	.....	CONTEMPTIBLE	.....
TENDER	.....	SERGEANT	.....
CLERK	.....	FRECKLE	.....

Appendix H

UPPER-INTERMEDIATE LEVEL VOCABULARY RECOGNITION TEST #1

Name :

May 27, 1996

Circle the Turkish equivalents of the given English words.
(İngilizce sözcüklerin Türkçe karşılıklarını daire içine
alarak seçiniz.)

1. REGRETFUL

- a) Reddedilmiş b) Pişman c) Küskün d) Kederli

2. VICTIM

- a) Kurban b) Zafer c) Kibirli d) Gösterişli

3. PACIFISM

- a) Okyanus b) Pasiflik c) Barışseverlik d) Irkçılık

4. CONSULTANT

- a) Danışman b) Müşteri c) Alçaltıcı d) Bilgiç

5. SERGEANT

- a) Hizmetçi b) Operatör c) Çavuş d) Kat görevlisi

6. GENEROUS

- a) Genelleme b) Meraklı c) Cömert d) Genel

7. SATELLITE

- a) Uyduruk b) Uydu c) Uyumsuz d) Farklı

8. DELINQUENT

- a) Kusurlu b) Mükemmel c) Eşsiz d) Eksiksiz

9. POWDER

- a) Güç b) Enerji c) Pudra d) Toz şeker

10. COMFORTABLE

- a) Huzurlu b) Güvenilir c) Rahat d) Sakinleştirici

11. COMMITMENT

- a) Yorum b) Emir c) Eleştiri d) Kesin karar

12. INSTRUCTIONS

- a) Yönetmelik b) Yönerge c) Yönler d) Yöneticiler

13. SOLEMN

- a) Saf b) Dikkatli c) Ciddi d) Yumuşak

14. TENDER

- a) Sevecen b) Ev sahibi c) Kiracı d) Başarılı

15. ISSUE

- a) Basım b) Sorumluluk c) İş d) Kapak

16. INDIVIDUAL

- a) İçsel b) Bölünebilen c) Birey d) Kişilik

17. MASHING

- a) Mantar b) Ezme c) Yığın d) Durulama

18. THRILLING

- a) Üçüncü b) Sarsıcı c) Heyecan verici d) Üzüntü verici

19. VAST

- a) Kocaman b) Gereksiz c) Harcama d) Boş

20. CONTRADICTION

- a) Karşı görüş b) Ters yön c) Zıtlık d) Karşı koyma

21. EVIDENCE

- a) Olay b) Kanıt c) İzleyici d) Durum

22. STARCH

- a) Kuyruklu yıldız b) Tarçın c) Karbonat d) Nişasta

23. PINCH

- a) Çit b) Çimdik c) Yumruk d) Toz pembe

24. CONFUSING

- a) Şaşırtıcı b) Reddedilmiş c) İtiraf d) Şaşkın

25. PRESIDENTIAL

- a) Öncelikli b) Başkana ait c) Dişçilikle ilgili
d) Bir yerde oturan

26. VAIN

- a) Damar b) Hovarda c) Alçak gönüllü d) Kibirli

27. LIEUTENANT

- a) Çadır yapan kişi b) Teğmen c) Onbaşı d) Gönüllü

28. MANUAL

- a) Yıllık b) Otomatik c) El kitabı d) İnsan gücü

29. LODGE

- a) Kilit b) Tatil evi c) Öncü d) Alacakaranlık

30. APARTHEID

- a) Cinsiyet ayırımı b) Fark c) Irk ayırımı d) Farklılık

31. EXTRAVAGANT

- a) Fazladan b) Fazlalık c) Başiboş d) Savurgan

32. ROUGH

- a) Sıkı b) Kaba c) Zor d) Kalın

33. COMPANION

- a) Yoldaş b) Şirket sahibi c) Şirketler grubu d) Birlik

34. CRIME

- a) Krem b) Ceza c) Suç d) Kuram

35. PROMISE

- a) Öngörü b) Söz c) Hoşgörü d) Önsöz

36. CLERK

- a) Yazıcı b) Müfettiş c) Veznedar d) Muhasebeci

37. FRECKLE

- a) Felçli b) Çil c) Saydam d) Kolay incinir

38. CONTEMPTIBLE

- a) Telafi edilebilir b) Rezil c) Uyarlanabilir
d) Güvenilir

39. VANDAL

- a) Aptal b) Ge anlayan c) Sanat duişmanı
d) Gondol kaptanı

40. EDITION

- a) Baskı b) Ayrıca c) Fazlalık d) Ek



Appendix I

UPPER-INTERMEDIATE LEVEL VOCABULARY RECOGNITION TEST #2

Name :

May 27, 1996

Circle the Turkish equivalents of the given English words.
(İngilizce sözcüklerin Türkçe karşılıklarını daire içine
alarak seçiniz.)

1- INDIVIDUAL

a) Kişilik b) İçsel c) Birey d) Bölünebilen

2- COMPANION

a) Şirket sahibi b) Birlik c) Yoldaş d) Şirketler grubu

3- CONFUSING

a) Şaşkın b) Reddedilmiş c) Şaşırtıcı d) İtiraf

4- SOLEMN

a) Ciddi b) Saf c) Yumuşak d) Dikkatli

5- VICTIM

a) Gösterişli b) Zafer c) Kibirli d) Kurban

6- SERGEANT

a) Kat görevlisi b) Çavuş c) Hizmetçi d) Operatör

7- VAST

- a) Gereksiz b) Kocaman c) Boş d) Harcama

8- PRESIDENTIAL

- a) Başkana ait b) Bir yerde oturan c) Öncelikli
d) dışçilikle ilgili

9- CLERK

- a) Veznedar b) Yazıcı c) Muhasebeci d) Müfettiş

10- COMFORTABLE

- a) Güvenilir b) Sakinleştirici c) Rahat d) Huzurlu

11- ISSUE

- a) Sorumluluk b) Kapak c) İş d) Basım

12- REGRETFUL

- a) Pişman b) Kederli c) Reddedilmiş d) Küskün

13- LIEUTENANT

- a) Teğmen b) Gönüllü c) Onbaşı d) Çadır yapan kişi

14- EXTRAVAGANT

- a) Başiboş b) Fazlalık c) Fazladan d) Savurgan

15- PINCH

- a) Yumruk b) Çit c) Çimdik d) Toz pembe

16- DELINQUENT

- a) Eşsiz b) Mükemmel c) Kusurlu d) Eksiksiz

17- MASHING

- a) Ezme b) Durulama c) Mantar d) Yığın

18- PACIFISM

- a) Irkçılık b) Barışseverlik c) Okyanus d) Pasiflik

19- LODGE

- a) Tatil evi b) Alacakaranlık c) Kilit d) Öncü

20- CONTEMPTIBLE

- a) Rezil b) Güvenilir c) Telafi edilebilir
d) Uyarlanabilir

21- GENEROUS

- a) Meraklı b) Genel c) Cömert d) Genelleme

22- TENDER

- a) Ev sahibi b) Sevecen c) Başarılı d) Kiracı

23- APARTHEID

a) Fark b) Cinsiyet ayırımı c) Farklılık d) Irk ayırımı

24- PROMISE

a) Önsöz b) Hoşgörü c) Öngörü d) Söz

25- EVIDENCE

a) İzleyici b) Kanıt c) Olay d) Durum

26- COMMITMENT

a) Emir b) Eleştiri c) Kesin karar d) Yorum

27- CONSULTANT

a) Müşteri b) Bilgiç c) Alçaltıcı d) Danışman

28- ROUGH

a) Kaba b) Zor c) Kalın d) Sıkı

29- INSTRUCTIONS

a) Yönler b) Yönerge c) Yöneticiler d) Yönetmelik

30- VANDAL

a) Geç anlayan b) Gondol kaptanı c) Sanat düşmanı d) Aptal

31- STARCH

- a) Tarçın b) Nişasta c) Kuyruklu yıldız d) Karbonat

32- THRILLING

- a) Sarsıcı b) Üzüntü verici c) Üçüncü d) Heyecan verici

33- SATELLITE

- a) Uydu b) Uyduruk c) Farklı d) Uyumsuz

34- EDITION

- a) Ayrıca b) Ek c) Fazlalık d) Baskı

35- POWDER

- a) Enerji b) Pudra c) Toz şeker d) Güç

36- MANUAL

- a) Otomatik b) İnsan gücü c) El kitabı d) Yıllık

37- FRECKLE

- a) Saydam b) Felçli c) Kolay incinir d) Çil

38- CONTRADICTION

- a) Zıtlık b) Karşı koyma c) Karşı görüş d) Ters yön

39- CRIME

- a) Ceza b) Krem c) Kuram d) Suç

40- VAIN

- a) Hovarda b) Kibirli c) Damar d) Alçak gönüllü



Appendix J

VOCABULARY LIST OF BEGINNER LEVEL TEXTBOOK:

<u>WORD</u>	<u>KEYWORD</u>	<u>MEANING</u>	<u>VISUAL EFFECT</u>	<u>SOUND EFFECT</u>
disabled	Disey bildircini	sakat	picture of a bird	a bird singing
fire engine	Fahir, Engin	itfaiye araci	"	" a fire engine sound of f.e.
community	kamyon itip	toplum	"	" a lorry with men sound of lorry
recipe	recepe	recete	"	" a few men people talking
currency	kor Inci	kur	"	" a blind girl walking stick
potter	batırdın	comlekci	"	" a dirty potter sound of plates
toe	Tufan	ayak parmagi	"	" a guy with a big toe "ovvvv"
trolley	troleylom	tramvay	"	" a trolley truck sound
loner	Halil Uner	yalniz yasayan	"	" a lonely guy "offfff"
pendant	kupenden	kupe susu	"	" a pair of earrings sound of chain
ambition	hem bi isin	hirs	"	" a boy thinking "I can do !"
steal	stil	kelepir	"	" an antique vase "hmmmm"
patient	be Isin	sabirli	"	" a nervous boy tapping on table
lay	layik	laik	"	" a boy talking "layik/leyik??"
punctual	pamuk cuvali	dakik	"	" men carrying bags truck sound
conventional	Hakan ve Isin	geleneksel	"	" a girl, boy folk dancing "hey, hey!"
anniversary	eni ve sari rengi yildonumu		"	" a girl phoning giving orders
resolutions	Rizeli isin zor	karar	"	" some people " uuyyy!!"
fright	Firat	dehset	"	" an angry guy sound of gun
turbulence	tribun insan	karmasa	"	" a stadium full of men shouting

Appendix K

VOCABULARY LIST OF UPPER-INTERMEDIATE LEVEL TEXTBOOK:

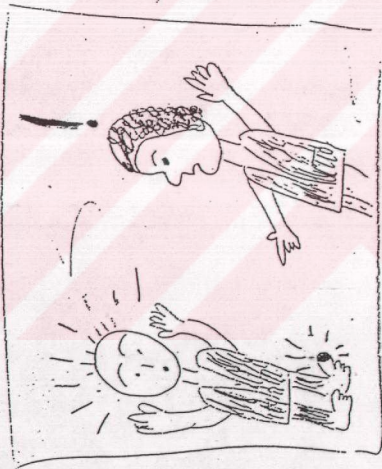
<u>WORD</u>	<u>KEYWORD</u>	<u>MEANING</u>	<u>VISUAL EFFECT</u>	<u>SOUND EFFECT</u>
lodge	loca	tatil evi	picture of a house	a Hawaiian song
contradiction	kontrat	zitlik	" "	" an office sound of papers
issue	issu ki	basim	" "	" a printing press sound of p.p.
vandal	Vanda	sanat dusmani	" "	" a bad guy crashing
instructions	insan trak	yonerge	" "	" instructions typing sound
starch	az tarcin	nisasta	" "	" a kitchen, cook sounds of pans
sergeant	Sor John	cavus	" "	" a sergeant giving orders
manual	menuyu	el kitabi	" "	" a booklet a girl reading
consultant	konsoldan	danisman	" "	" a teacher teacher giving advice
edition	Ted-Isin	baski	" "	" a boy asking "Kacinci baski?"
delinquent	deli Kunter	kusurlu	" "	" a mad guy "ebele ebele"
tender	Teddie	sevecen	" "	" a cat "meow"
extravagant	ekstra vagon	savurgan	" "	" a train sound of a train
confusing	John fuze	sasirtici	" "	" someone rushing "jiuuvv"
contemptible	komple tipik	rezil	" "	" someone nasty strange sounds
presidential	prizden	baskana ait	" "	" president's room sound of TV
commitment	komik mantik	kesin karar	" "	" someone bored "pufff"
solemn	sol elim	ciddi	" "	" someone writing sound of writing
vain	Jane	kibirli	" "	" an arrogant girl "hih"
apartheid	apartman hayati	irk ayirimi	" "	" a black man a man's voice

Appendix L

SAMPLE OHT FOR BEGINNER LEVEL*

TUFAN A-YAK PARMAGINA BAKI

A-YAK
PARMAGI



TOE

(B6)

* Sound Effect : " Ovvvv!!".

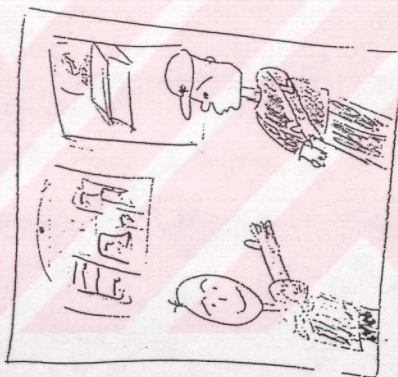
Appendix M

SAMPLE OHT FOR UPPER-INTERMEDIATE LEVEL.*

BEKLIKÖK

CAVUS

SÖR JOHN CAVUS SIZİ



SERGEANT

URS

* Sound Effect : A sergeant giving orders.