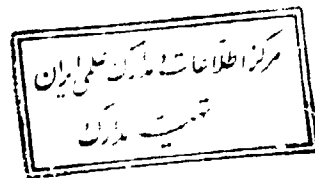# Teacher Training University
English Language Department

The Effect of Textual and Pictorial Glosses on Reading Comprehension Ability of Iranian High School Students

Thesis submitted in partial fulfillment of the requirements for the degree of Master of Arts (MA) in teaching English as a foreign language (TEFL)

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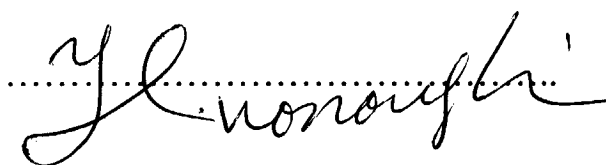
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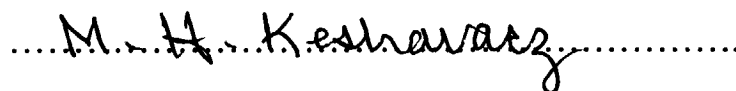September 2000

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To My Family

We certify that this thesis entitled **"The Effect of Textual and Pictorial Glosses on Reading Comprehension Ability of Iranian High School Students"** is the bona fide work of Sayyed Mohsen Vaziri Kang-e-Olia conducted under our guidance and supervision.

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Abstract

In this study the effects of textual and pictorial glosses on reading comprehension ability of Iranian high school students have been investigated. 160 homogeneous subjects from first-year high school classes read a reading comprehension passage under one of four marginal gloss conditions: (1) no gloss in the margins; (2) textual gloss (Persian translations); (3) pictorial gloss; and (4) text and pictures in the gloss. All subjects were asked to answer the 10-item multiple-choice test following the passage. Through the results of one-way ANOVA support was found for the first hypothesis that subjects using gloss would perform better on the reading comprehension test than subjects not using gloss. Tukey's HSD test rejected the second hypothesis in which it had been predicted that readers utilizing pictorial gloss would outperform those utilizing textual gloss. Hypothesis 3 stating the superiority of the textual-pictorial group over both textual and pictorial groups was also supported.

CHAPTER ONE

Introduction

1.1 Overview

Researchers as well as educators have shown a general interest for investigating techniques that facilitate reading in a foreign language. One such technique that recently has come under closer inspection in the area of second language acquisition research is glossing. Several studies have specifically examined the relationship between reading comprehension and glossing (Hulstijn et al., 1996; Jacobs, 1994; Jacobs et al., 1994).

Glossing refers to any kind of explanatory comment added to a text to clarify its meaning to the reader. It can be in different forms; the most common types of glosses are: textual, pictorial, and a combination of the two. A more detailed discussion of glossing will be presented in the review of literature section (Chapter 2). But why glossing? What are its advantages? The following explanation may serve as a simple answer to these questions.

It is inevitable for foreign or second language learners to confront new and unfamiliar words in the texts they read. Referring to a dictionary and guessing meaning from contextual clues are two commonly used strategies by the learners. Checking the unknown words in a dictionary, especially when the number of new words is high, often interrupts the process of reading and distracts the reader's attention; besides, since there are often several meanings in a dictionary for every word, there is the possibility that the reader chooses the wrong and inappropriate meaning. In the case of guessing or inferencing also it is possible for the reader to make erroneous inferences for similar lexical forms or idioms.

Glossing removes the above-mentioned problems to a great extent. by providing a just-to-the-point meaning or explanation (which is mostly located in the margin of the text) for the unknown words, glossing eliminates the possibility of wrong guessing; the interruption and distraction caused by repeated references to a dictionary also do not exist here, for the reader can get the meaning of unfamiliar vocabulary by taking a quick look at the margin of the text he is reading.

Koren (1999) introduces glossing as the easiest way to understand the meanings of words as they appear in a context, since it does not even demand the effort of searching and then choosing the appropriate meaning out of several possible ones, which is demanded by dictionary look-up. Hulstijn (1992), however, questions the usefulness of using a glossary by

proposing a mental effort hypothesis, which predicts that the retention of an inferred word meaning will be stronger than the retention of a given word meaning.

A more complex form of glossing is multimedia. According to Najjar (1996), multimedia is the use of text, graphics, animation, picture, video, and sound to present information. The researcher, of course, does not intend to elaborate on multimedia topic now, but since the use of textual and pictorial glosses is the main concern of this study, a brief look at the use of pictures in learning situations seems necessary.

Previous studies of learning in general and learning words in a second language text in particular, have investigated the usefulness of visual information in the learning process. For example, Chun and Plass (1996) suggested that a commonplace principle of human learning is visual memory. We remember images better than words, but we remember words better if they are strongly associated with images. Foreign words which are associated with actual objects or imagery techniques are learned more easily than words lacknig these associations. Levie and Lentz (1982) showed that text that was accompanied with pictures was learned better by children than text that was not accompanied by pictures. The mere presence of pictures, of course, does not improve the learning of textual information. Rather, they must show information that is presented in the text and the learners must be able to avoid getting distracted by the nonverbal

information. As Clark and Paivio (1991) believe, it is in this case that supportive pictures help explain the textual material and allow learners to build bridges between the verbal (text) and nonverbal (illustrations) information

There are many indications of the power of visual instructional aids, though less research has been done on visual learning than on verbal learning. An interesting body of research evidence supports the belief that student learning is positively affected by presenting text and illustrations together (Mayer and Sims, 1994). This reminds us of a popular saying: "a picture is worth a thousand words." A very powerful rationale behind using texts and pictures together is the Dual Coding Theory of Paivio. According to this theory, memory consists of two separate but interrelated codes for processing information - one verbal and the other visual. The verbal concepts are hung on nonverbal pegs in memory; in other words, imagery is the effective variable in recall of concrete verbal information. Although the verbal and visual systems can be activated independently, there are interconnections between the two systems that allow dual coding of information; through the interconnections of the two systems it is possible to cue from one system to the other.

The central purpose of this thesis is to examine the usefulness of glossing in reading comprehension process. Since the concept of glossing is too broad to be investigated within a single study, the effectiveness of only

three gloss conditions (textual, pictorial, and textual-pictorial) will be studied by the researcher.

1.2 Statement of the problem and purpose of the study

Even though there are several ways for presenting and introducing new vocabulary in a reading comprehension passage, glossing (textual and / or pictorial) have not been well appreciated at least in Iranian schools. In order to get the meaning of unfamiliar words within a text, and hence, understanding the text itself, students usually refer to their dictionaries. These dictionaries (bilingual or monolingual) most often provide several meanings for a single word and make it difficult for the students to choose the appropriate meaning matching the word in the passage.

The main purpose of this study is to examine the usefulness of marginal textual and/or pictorial glossing on reading comprehension ability of students. Marginal glossing is believed to provide a just-to-the-point meaning (through translation, explanation, or pictures) for the unknown words in a reading comprehenssion text and, therefore, removes the possibility of misunderstanding on the part of students. The comparison of the function of three conditions of glossing – textual, pictorial, and a combination of the two – is another problem that the present study is concerned.

1.3 Significance and justification of the study

Many studies dealing with issues concerning the new vocabulary in a reading text have so far been done. Different ways have been suggested by these studies regarding what to do when encountering new words in a passage while reading it. Stopping the process of reading and looking up the meaning of every unknown word in a dictionary is one of the ways. Almost everyone knows that this is a very time-consuming and boring method and, additionally, it distracts the attention of the reader from what he is reading. Another way is guessing the meaning of the unfamiliar words from context clues. Though guessing from context seems a good way, it cannot be considered as a secure and reliable strategy. The problem with guessing is that readers often make erroneous guessings and as a result they learn words incorrectly. Laufer (1997) explains that some words either have a deceptive morphological structure or multiple meanings. Others are idioms or false cognates. In addition, there are of course words that cannot be inferred or guessed from the textual hints.

This study which intends to investigate the effectiveness of textual and/or pictorial glossing on reading comprehension ability is mostly justified by the fact that multimedia (the use of text, graphs, animation, pictures, and sound to present information) facilitates learning. A very good example

which shows clearly the usefulness of multimedia information on learning is that of Levie and Lentz (1982); in a review of the literature on text and illustration, they found that text that was accompanied by illustrations showing what was described in the text was learned better by children than text that was not accompanied by illustrations. This and similar findings seem to suggest that supportive illustrations help explain the textual material and allow learners to build connections between the verbal (text) and nonverbal (illustrations) information. This is based on the dual-coding theory of Paivio (1991); the theory proposes that memory consists of two separate but interrelated codes for processing information – one verbal and the other visual. The verbal and visual systems can be activated independently, but there are interconnections between the two systems that allow dual coding of information. The interconnectedness of the two systems permits cueing from one system to the other, which in turn facilitates the interpretation of our environment.

So information is much easier to retain and retrieve when it is dual-coded because of the availability of two mental representations instead of one (Paivio, 1991). In addition, pictures are more likely to activate both coding systems upon processing than words. As a result, Paivio claims a mnemonic superiority of the image code over the verbal code which makes pictures easier to remember than words. Furthermore, according to Rieber (1994) recalling information contained in the visual system is much faster than recalling information in the verbal system because the visual systems