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The Effect of Visualization across Gender on Vocabulary Learning of Iranian Upper- Intermediate EFL Learners

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Abstract: *Visualizing refers to our ability to create pictures in our heads based on text we read or words we hear. Fifty (51) students were chosen as the participants of this research through convenience sampling from the whole available population. ANCOVA and data normalizing formulas were used in this study. In the case of descriptive statistics, mean scores and the standard deviations were utilized. Therefore, concerning the study results, it can be easily concluded that the role of visualizing for female learners is more prominent than the role of visualizing for male learners in improving L2 vocabulary learning.*

Key Words: *Visualizing, ANCOVA, Gender, Vocabulary Learning*

1. INTRODUCTION

Visualizing refers to our ability to create pictures in our heads based on text we read or words we hear. It is one of many skills that make reading comprehension possible. Visualizing strengthens reading comprehension skills as students gain a more thorough understanding of the text they are reading by consciously using the words to create mental images. As students gain more deliberate practice with this skill, the act of visualizing text becomes automatic. Students who visualize as they read not only have a richer reading experience but can recall what they have read for longer periods of time (Harvey & Goudvis 2000).

Visualizing text as it is being read or heard also creates personal links between the readers/listeners and text. Readers, who can imagine the characters they read about, for instance, may become more involved with what they are reading. This makes for a more meaningful reading experience and promotes continued reading.

Visualizing is a skill that can be helpful in many domains, and while it is often associated with teaching early readers, even experienced readers can benefit from practice with this skill. When selecting a text for a visualizing activity, start with a piece that contains descriptive language and strong verbs and that lends itself to conjuring vivid images. It is not necessary to start with an entire book—even a well-crafted sentence or short paragraph can provide a rich springboard for a visualizing lesson.

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Vocabulary is generally given little emphasis in the university curriculum in Asian countries. The situation is the same in Iran as an Asian country. Generally, the emphasis on English teaching in universities in Asian countries is on reading and grammar. Vocabulary teaching in many classrooms is largely incidental. This means that when a particular word or phrase appears difficult for the students, they are told the definitions. Occasionally, this may be supplemented with the collocations of the target words or information about how the words are used in particular context. Therefore, inadequacy in lexical knowledge may hinder students' proficiency development and affect their performances in public exams. It is therefore extremely vital for language teachers to look into ways to enhance vocabulary knowledge of language learners.

Vocabulary learning and teaching are major issues in language acquisition, whether the language is first, second, or foreign (Brown, 2009). Although vocabulary has always taken a backseat in language teaching, interest in its role in second language (L2) learning has dramatically increased in recent years (see for example Nation, 1990; Thornbury, 2002), convincing vocabulary experts to stress on the need for systematic and principled approach to vocabulary teaching and learning (Decarrico, cited in Celece Murcia, 2001).

Vocabulary is a major component of language proficiency and provides a solid foundation stone for how well learners speak, listen, read, and write. Without in-depth knowledge of vocabulary and efficient strategies for acquiring new vocabularies, learners often feel handicapped in making use of language.

Research Questions and Hypotheses

The following research questions can be formulated for the present study:

Q1: Does visualization positively affect vocabulary learning of Iranian upper-intermediate EFL learners?

Review of Literature

Designing pedagogically effective multimedia instruction in language learning based on theories has been an important issue (Chapelle, 1998; Hoven, 1999; Liu, Moore, Graham, & Lee, 2002; Watts, 1997). Mayer and Moreno (2002) focused on a cognitive theory of multimedia learning which combines dual coding theory, cognitive load theory, and constructivist learning theory. From dual coding theory they adopted the idea that verbal stimuli and nonverbal stimuli detected by our sensory systems are processed in different systems of the brain (verbal system and nonverbal system). From cognitive load theory they adopted the idea that "humans are limited in the amount of information that they can process in each channel at one time" (Mayer, 2001, p. 44). Sweller et al. explained that redundant memory load is caused by "the presentation format of instructions extraneous load" (Tabbers, Martens, & Merrienboer, 2004, p. 72). Mayer and

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Moreno (2002) finally concluded that "presenting too many elements to be processed in visual or verbal working can lead to overload" (p. 111). They also took the idea from constructivist learning theory that "meaningful learning occurs when learners actively select relevant information, organize it into coherent representations, and integrate it with other knowledge" (p. 111).

However, as Mayer (2001) states, "all multimedia messages are not equally effective" (p. 79). For example, Mayer concluded "Schnotz, Bannert, and Seufert (in press) reported situations in which some learners reduced the amount of attention they paid to text when pictures were added" (p. 79). Tabbers et al. (2004) concluded that replacing visual text with spoken text and added graphics to the visual text both do not easily generalize to non-laboratory settings. By better understanding the effect of individual components of multimedia, language educators will be able to design effective instruction for EFL learners. This study is an investigation of the effect of multimedia components such as visual text, spoken text, and graphics on increasing learning or decreasing redundant memory load in English vocabulary learning.

2. METHODOLOGY

Participants

Fifty (51) students were chosen as the participants of this research through convenience sampling from the whole available population. The sample of the present study was drawn from among 50 students majoring in the Pardis language institute in Tehran, Iran, including 19 males and 32 females at the intermediate level taken from two intact classes at the institute. So, the sampling design of the study was convenience non-probability design.

They aged between 19 and 31, and Persian was their first and English was their foreign language. In this language institute about 1000 English learners are studying among which the 51 subjects of our study were chosen.

For the purpose of homogeneity, prior to research, a Nelson English Language Test, as a proficiency test, was given to the initial 51 students and 45 students – 20 males and 25 females – whose scores were between one standard deviation minus and plus the mean took part in the study. These, then, were randomly assigned to control and experimental groups, 15 students each.

In order to standardize the research results, all the participants are homogenized. However, the students were gathered in this study as a group without dividing or discriminating the students according to the race, gender or social background. Most of the learners had been studying in Tehran language schools for at least one year. The subjects of this study were learners who were

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studying in the same semesters since they are assumed to have a rather similar educational background. Two classes of non-English-major freshmen of the same proficiency in English took part in the present study. After choosing students based on purposive sampling, they will be positioned randomly into three different groups: two experimental groups (visualization groups) and one control group.

Instrumentation

Nelson Proficiency Test

To carry out the present study different instruments were used. The first instrument was the Nelson English Language Test which was used as a tool for homogenizing participants of the study. The Nelson English Language Test is a test including 40 separate tests for ten levels of language proficiency which range from beginner to advanced level.

In order to estimate the proficiency level of the sample population, also, to select homogenized participants, the Nelson Proficiency test (050A) (Fowler & Coe, 1976) was used. It comprises of 50 multiple-choice items that consisted of two sections of structure and vocabulary in the form of multiple-choice questions.

To ensure the participants' homogeneity the Nelson proficiency test was administered to both control and experimental group before the treatment.

Procedures

The present study was conducted in the Pardis Language Institute in Tehran, Iran. Before starting the treatments, the researcher explained to participants about the study, the procedure, and the purposes of the research.

The standard Nelson English language test was administered to 50 participants since just 50 participants were chosen using convenience sampling. The participants answered the proficiency test questions in the standard allocated time. Then, the participants were assigned to experimental and control groups. Next, the pretest was administered. All the tests were finished during normal periods of classes.

After the pre test and during the treatment phase of study, 504 book was taught to the participants in two experimental groups during 6 sessions in 3 weeks, each week 2 sessions and each session 60 minutes. One experimental group contained the male learners and the other experimental group contained the female learners.

Forty-five participants, who were selected based on convenience sampling and giving Nelson Proficiency test 400 A, were randomly assigned to three equal groups (one control contains15

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male and female students, two experimental groups15 male and15 female). Students of experimental groups were taught to visualize by using (drawing, illustration, and mime) before, during and after teaching vocabularies in the class. They also were encouraged to draw some related pictures. It is worth mentioning that the instructions were given orally in English by the researcher herself in the classroom. Students of control group received no treatment and they were taught based on the traditional method of teaching vocabulary (for example dealing with difficult vocabulary, translation and reading aloud) common in English classes in Iran. Vocabularies were the same for all the classes. After 6 sessions, a post-test was given to students of all groups to capture the effect of treatment on the groups.

At the end of the treatment period, the post-test was administered to the students in two groups and its results were compared to the results of the pre-test to see if there were any significant differences between the performance of the groups.

Data Analysis

Case Processing Summary in SPSS 18 was used to check if there was any missing or mortality in the number of participants. In the case of descriptive statistics, mean scores and the standard deviations were utilized.

Pair-wise Comparisons was used to see whether there was any difference between the group discussion and glossing methods. ANCOVA and data normalizing formulas were used in this study. Researcher distributed pretest and posttest to both groups and the results will be compared.

3. RESULTS

The descriptive statistics of the participants' pre-test and post-test scores are presented in Table 1. *Table 1*

The Results of the Participants' Pre-Test and Post-Test Scores in the Groups

Case Processing Summary

		Cases					
		Valid		Missing		Total	
	Groups	N	Percent	N	Percent	N	Percent
Pretest	Male	15	100.0%	0	.0%	15	100.0%
	Female	15	100.0%	0	.0%	15	100.0%
	Control	15	100.0%	0	.0%	15	100.0%

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Posttest	Male	15	100.0%	0	.0%	15	100.0%
	Female	15	100.0%	0	.0%	15	100.0%
	Control	15	100.0%	0	.0%	15	100.0%

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Groups	45	1.00	3.00	2.0000	.82572	.000	.354	-1.535	.695
Pretest	45	9.00	30.00	19.3333	5.54732	.258	.354	-.831	.695
Posttest	45	11.00	34.00	23.7778	5.98061	-.382	.354	-.796	.695
Valid N (listwise)	45								

As Table 1 indicates, Skewness and Kurtosis values are within the ranges of +/- 1.96, which indicate that the data are descriptively normal for both pretest and posttest. However, to get inferential evidence for normality of the data, normality assumptions are first checked. These include normality of distribution of test scores, homogeneity of regression slopes, linearity assumption and equality of error variances.

Normality of Distribution of Test Scores

To check this assumption one sample Kolmogorov-Smirnov test and Shapiro-Wilk's statistics were used.

Table 2

Kolmogrov-Smirnov and Shapiro-Wilk's Normality Measures

Tests of Normality

		Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Groups	Statistic	df	Sig.	Statistic	df	Sig.
Pretest	Male	.129	15	.200*	.969	15	.849
	Female	.157	15	.200*	.939	15	.365
	Control	.114	15	.200*	.967	15	.805

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Posttest	Male	.183	15	.191	.945	15	.453
	Female	.141	15	.200*	.969	15	.845
	Control	.133	15	.200*	.951	15	.533

a. Lilliefors Significance Correction

*. This is a lower bound of the true significance.

As the table shows, results obtained for the three groups on the pretest and the posttest are all larger than P = 0.05 implying that the test scores are normally distributed.

Although the F-value of 56.05 indicated significant differences between the mean scores of the three groups on the posttest after removing the possible effects of the pretest, the pair-wise comparisons were made to compare the groups two by two and to answer the three questions raised in this study.

Table 3
Estimated Marginal Means

Groups	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
Male	25.422[a]	.631	24.147	26.697
Female	27.466[a]	.631	26.190	28.741
Control	18.446[a]	.631	17.171	19.721

a. Covariates appearing in the model are evaluated at the following values: Pretest = 19.3333.

Table 4
Pairwise Comparisons

Dependent Variable:Posttest

(I) Groups	(J) Groups	Mean Difference (I-J)	Std. Error	Sig.[a]	95% Confidence Interval for Difference[a]	
					Lower Bound	Upper Bound

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Male	Female	-2.044	.893	.082	-4.272	.185
	Control	6.976*	.893	.000	4.747	9.205
Female	Male	2.044	.893	.082	-.185	4.272
	Control	9.020*	.893	.000	6.790	11.249
Control	Male	-6.976*	.893	.000	-9.205	-4.747
	Female	-9.020*	.893	.000	-11.249	-6.790

Based on estimated marginal means

a. Adjustment for multiple comparisons: Bonferroni.

*. The mean difference is significant at the .05 level.

4. DISCUSSION

Based on the results displayed in Tables 1 and 4 it can be concluded that:

A: There was a significant difference between the performance of the first experimental group (Male group) (M=25.42) and the control group (M= 18.44) (MD = 6.98, P < .05). Based on the results it was concluded that the first null-hypothesis as "visualization across gender (male learners) do not affect vocabulary learning of Iranian upper-intermediate EFL learners" could be rejected. This implies that the first experimental group has outperformed the control group on the posttest after removing the effect of their entry knowledge as measured through the pretest.

5. CONCLUSION

The results of this study can justify material designers to include dynamically assessable materials in their forthcoming books. Syllabus designers may also need to modify the traditional views on the design of language learning curricula. They also can include programs to enhance the self-regard of their learners through involving them in visualizing for male and female learners.

In other words, they show enhancement of L2 vocabulary learning through experiencing visualizing intervention. But in this study, there were two experimental groups naming the one which was experiencing visualizing for male and the one which was experiencing visualizing for female learners. Among these two experimental groups, it is noticeable that the results of the female learners are slightly higher than those of the male learners. Therefore, concerning the study results, it can be easily concluded that the role of visualizing for female learners is more prominent than the role of visualizing for male learners in improving L2 vocabulary learning.

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