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THE EFFECT OF CALL MULTIMEDIA STILL-PICTURE VS. MOTION-PICTURE ON VOCABULARY LEARNING OF ELEMENTARY EFL STUDENTS

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ABSTRACT

The present study aims to compare the effects of two multimedia call programs on the acquisition of vocabulary items through two image modalities (pictures and streaming video) in an EFL context. It attempts to find whether such multimedia environments could provide a more effective environment for vocabulary learning. Likewise, the researchers would further investigate whether the Motion-Picture Multimedia Program (MPMP) or the Still-Picture Multimedia Program (SPMP) could provide a more effective vocabulary-learning environment for EFL learners. The participants of the study were 75 female elementary level students from Vahdat School in Tehran from which 50 students, based on their scores on PET Test, were selected. They were assigned into two experimental groups. Vocabulary items has been taught to both groups, i.e., group A via still picture and the same vocabulary items via motion pictures to group B.

A pre-test and a post-test were administered in order to collect the required data. The results of both tests were analyzed using T-test. The researchers hypothesized that use of (SPMP) enhances the perception vocabulary items. The findings of the study support the researchers' hypothesis, which is still picture have more effect on vocabulary learning of elementary EFL students' than motion picture.

INTRODUCTION

1.1. Background of Study

Studies noted that without an adequate knowledge of relevant vocabulary, students have difficulty performing the tasks required of them both in school (Harley, 1996). Harley noted that vocabulary knowledge is fundamental to the development of second language proficiency.

One pedagogy which interests many researchers is computer-assisted language learning (CALL). A large number of practitioners have claimed that this technology holds great potential for language source. Although the field is still new, many language educators and practitioners are examining its use as an essential component in language teaching. One of the potential uses of CALL that has received great attention during the past few years is how to use multimedia in language learning and teaching. Multimedia in a computer environment implies a combination of various media- text, video, audio, and images- or a combination of any two of these. The interest has been narrowed to investigate the impact of presenting information through multiple modalities in the field of SLA. Moreover, the effect of glossing individual vocabulary via multimedia annotations has recently received attention.

Vocabulary can provide clarity and enable speakers to diversify language. While the better, understand the main ideas and speak correctly, the wrong use of vocabulary might lead to misinterpretation (Evans, 1978, cited in Iheanacho, 1997).

Recently, the quality and quantity of vocabulary instruction in schools have concluded that while researchers have a vast amount of knowledge about vocabulary acquisition, little is known about how to best foster vocabulary growth in instructional settings. There is much to learn about implementing quality vocabulary instruction in classrooms today. "Words today are like the shells and rope of seaweed which a child brings home glistening from the beach and which in an hour have lost their luster." This quote by Cyril Connolly (1903-1974), the English critic and journalist, rings true for much of the vocabulary being taught in schools today. 'Here today, gone tomorrow' can very easily become the motto for much of how vocabulary instruction is being implemented. Educators need to be informed on how to teach vocabulary better and how to make vocabulary learning more meaningful and memorable for students.

1.2. Statement of the Problem

Second language (L2) acquisition depends on the development of a vocabulary. Vocabulary learning is considered by many to be the primary problem in second language learning .Without an adequate knowledge of relevant vocabulary, students have difficulty performing the tasks in school. One way for improving vocabulary learning is using multimedia motion pictures or still pictures. So the researchers investigated new filed of vocabulary learning for elementary EFL students through CALL multimedia Still-Picture vs. Motion-Picture Multimedia.

Unfortunately, despite the fact that a variety of vocabulary teaching methods, such as the sentence writing method, semantic mapping, ordering, etc., have evolved over the past years to enhance the efficiency of vocabulary learning among learners, a good many students, including EFL learners, still fail to develop a rich repertoire of vocabulary. Hence, developing effective pedagogical methods for teaching this integral component of language is a must that continues to demand attention and exploration (Iheanacho, 1997).

1.3. Research Question and Hypothesis

Regarding the problem mentioned above the following research question is proposed:

Q: Does call multimedia still picture and motion picture have the same effect on vocabulary learning of elementary EFL students?

Based on the research question mentioned above the following research null hypothesis were formulated.

H0: Call multimedia still picture have more effect than motion picture on vocabulary learning of elementary EFL students.

1.5. Purpose of the Study

Due to the research in the area of multimedia vocabulary learning, the present study would further investigate whether the Still-Picture Multimedia Program (SPMP) or the Motion Picture Multimedia Program (MPMP) could provide the same effect on vocabulary development for elementary EFL learners.

1.6. Significance of the Study

Since visuals and methods drawing on graphics have been shown to aid in vocabulary acquisition (Paivio, Smythe & Yuille, 1968; Hulstijn, 1997, cited in Hunt & Beglar, 2005;Watts-Taffe & Truscott, 2000; Taguchi, 2006), and since technology might lead to more efficient learning, one might be simulated to investigate how satisfactory the results of the experiments will be if visuals are embedded in the multimedia environments designed to teach vocabulary. In the present study, the effects of two MCALL programs introducing 100 vocabulary items through still pictures and streaming video were compared with together; the results of which should be significant to English language teachers as well as learners. Moreover the syllabus designers and material developers would make benefit from the results of the present study.

Review of Literature

In the theoretical review of the study, concerning the effect of computer training for vocabulary learning, Fasoni, L. (2001) concluded that computer software and computer resource enhanced English vocabulary learning. Educational technologies are one of the most developed areas in

the world in the second half of the 20th century. In developed countries, computers started to enter the educational system in the late 1950s and are still developing throughout the world.

Computers are not considered as a tool for only information processing and display anymore, but as a tool for information processing and communication. However, Dhaif (1989) has claimed that in language teaching, the teacher can never be replaced by computers. It can just have the role of an aid to the teacher in teaching a second or foreign language.

Nowadays, there are numerous materials for foreign language learning in addition to computers, multimedia, and the internet can be used as supplementary tools. It seems that the language laboratories which were founded in late 1970s under the influence of the audio-lingual method have given room to computer-assisted language learning work stations (Gündüz, 2005). Crystal (1987, as cited in Gündüz, 2005) has stated that "micro computers used as a word processor complement the audio facilities, enabling the interactive teaching of all four language skills of reading, listening, speaking, and writing" (p. 194). Crystal has added that nowadays, a huge amount of foreign language teaching (FLT) exercises such as sentence restructuring, spelling checking, checking of translations, tasks of dictation, and cloze tests could be controlled by computers when using texts displayed on the screen.

Vocabulary is one of the means through which meanings, ideas, and feelings can be conveyed. Vocabulary has a significant role in teaching and learning any language. Learning vocabulary is an important aspect of language development. Some scholars consider vocabulary knowledge as the most important factor in academic achievement for second or foreign language learners. Researchers indicate that vocabulary knowledge is closely linked to reading proficiency, and additionally it leads to greater success in school. According to Knight (1994), vocabulary acquisition is considered by many to be the primary problem in second language learning. He indicates that the majority of students studying second languages and their teachers cite vocabulary as their first priority. The recognition of the importance of vocabulary in language learning by many researchers has encouraged the search for effective pedagogical methods of teaching new words. ol (Tozcui & Coady, 2004).

A number of researches have been conducted to explore the importance of technology and especially computers in vocabulary learning of the students. Barani (2013) investigated the effect of computer assisted language learning (CALL) on vocabulary achievement of Iranian university students EFL Learners. To conduct his study, Barani selected 72 students at Islamic Azad University of Aliabad Katoul, Golestan, Iran, at random and then divided them into experimental and control groups. During the 10 session instruction, researcher presented and practiced all these unknown words through the curriculum book, Interchange Book 1, to the subjects in the control group and the language software to the experimental group. In the end, the results indicated that there was a significant difference between CALL users and nonusers in favor of the experimental group ($p<0.05$).

Moreover, Plass, Chun, Mayer, and Leutner (1998) examined the effects of choice of multimedia annotations on comprehension and vocabulary acquisition from a German reading text. In their study, students could choose to see an English translation of a German word on the screen (written annotation) or to view a picture or video clip representing the selected word (pictorial annotation). Students performed best on recall protocol and vocabulary tests when they selected pictorial and written annotations while reading the computer- based text than when they accessed written annotations alone, pictorial annotations alone or no annotations at all. Therefore, learning is enhanced when students can select pictorial and written information, organize the information in working memory, build referential connections between pictorial and written information, and integrate them with their prior knowledge. Their findings also support the use of multimedia annotations in enhancing the learners' comprehension and vocabulary acquisition.

Several studies have indicated that the use of visual aids greatly improves information retention

and improves student understanding of unfamiliar (Thornburry, 2002). One type of visual aids is using still pictures. Pictures are one of the valuable aids which bring "images of reality into the unnatural world of the language classroom" (Hill, 1990, p. 1). They are also useful to attract learners' attention to the materials being taught.

Methodology

3.1. Participants

In this research, 75 female students from Vahdat School in Tehran were selected and based on their scores on PET Test as a pre-test, 50 students were chosen. They were assigned into two experimental groups randomly, each consists of 25 students. Sixty vocabulary items were taught to both experimental groups via still picture and motion pictures.

3.2. Instrumentation

PET Test (Preliminary English Test) of vocabulary as a pre-test consisting of 30 multiple choice vocabulary items was administered for both experimental groups. group A has been taught the vocabularies via still picture by means of powerpoint and the group B has been taught the same vocabularies via animated pictures with lap top and a projector. At the end a piloted version of vocabulary test (consisting of 30 multiple choice vocabulary items) proposed by the researchers was administered to the subjects of both groups.

3.3. Procedure

The vocabulary items have been taught for the two groups on the treatment period. The duration of each lesson lasted twenty minutes. The experimental group A (MSPP) has been taught the vocabulary items via still picture by means of powerpoint . On the other hand, the experimental group B (MMPP) has been taught the same vocabulary items via animated pictures. A lap top and a projector were used to show animations of the new words. At the end of treatment which lasted for 8 sessions, a piloted vocabulary test as the post-test was administered.

Results

Testing Normality Assumption

This study is an attempt to explore the effects of CALL multimedia still picture and motion picture on vocabulary learning of elementary EFL students. To achieve this goal the following research question was raised:

Q: Does CALL multimedia still picture and motion picture have the same effect on vocabulary learning of elementary EFL students?

The data were analyzed through independent-samples t-test which assumes normality of the data. As displayed in Table 1, the ratios of skewness and kurtosis over their respective standard errors were within the ranges of +/- 1.96; hence normality of the data.

Table 1. Testing normality assumptions

Types of Picture		N	Skewness			Kurtosis		
		Statistic	Statistic	Std. Error	Ratio	Statistic	Std. Error	Ratio
Still	PET	25	.197	.464	0.42	.220	.902	0.24
	Posttest	25	-.650	.464	-1.40	-.542	.902	-0.60
Motion	PET	25	.567	.464	1.22	.344	.902	0.38
	Posttest	25	.114	.464	0.25	-.289	.902	-0.32

The assumption of homogeneity of variances will be reported when discussing the results of the independent-samples t-test.

Pretest of Vocabulary

An independent t-test was run to still and motion pictures groups' means on the pretest of vocabulary in order to prove that they enjoyed at the same level of vocabulary knowledge before the administration of the treatment. Based on the results displayed in Table 2 it can be claimed that the still picture (M = 15.12, SD = 5.94) had a higher mean on the pretest of vocabulary than the motion picture (M = 13.12, SD = 7.50) group.

Table 2. Descriptive statistics; pretest of Vocabulary by groups

	Group	N	Mean	Std. Deviation	Std. Error Mean
Pretest	Still Picture	25	15.12	5.946	1.189
	Motion Picture	25	13.12	7.502	1.500

The results of the independent t-test (t (45) = 1.04, p= .301, r = .148 representing a weak effect size) (Table 3) indicated that there was not any significant difference between the two groups' mean scores on the pretest of vocabulary. Thus it can be claimed that they enjoyed at the same level of knowledge vocabulary prior to the administration of the treatment.

Table3. Pretest of Vocabulary by groups

	Levene's Test for Equality of Variances		t-test for Equality of Means						
	F	Sig.	T	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
								Lower	Upper
Equal variances assumed	.984	.326	1.045	48	.301	2.000	1.915	-1.849	5.849
Equal variances not assumed			1.045	45.623	.302	2.000	1.915	-1.855	5.855

Note. The negative 95 % lower bound confidence interval of -1.54 indicated that the difference between the two groups' means on the pretest of vocabulary could have been zero. Thus the above mentioned conclusion as no significant difference between the two groups' means was correctly made.

It should be noted that the assumption of homogeneity of variances was met (Levene's F = .984, p = .326). That is why the first row of Table 3, i.e. "Equal variances assumed" was reported.

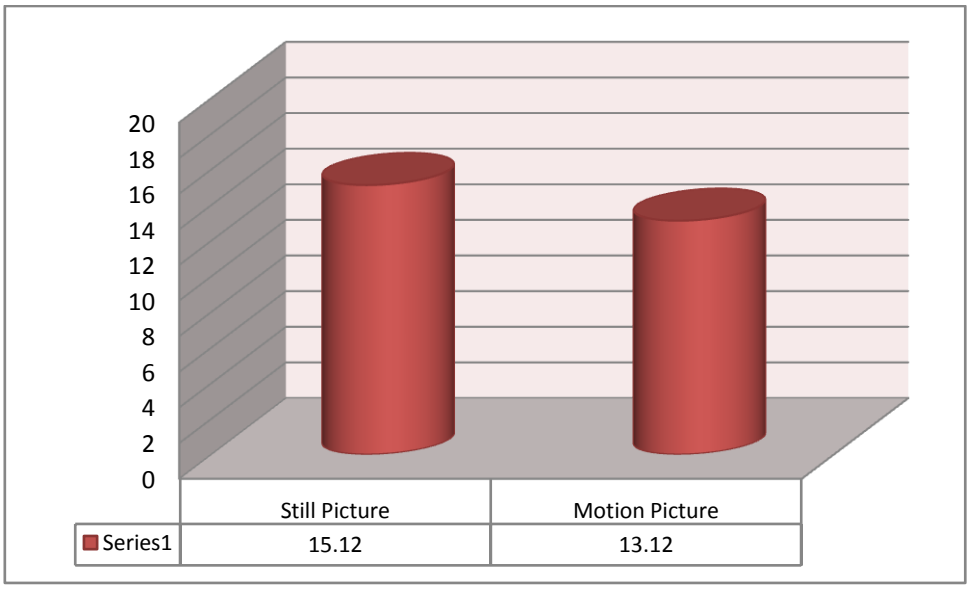

Figure1. Pretest of Vocabulary by groups

Research Question

Does CALL multimedia still picture and motion picture have the same effect on vocabulary learning of elementary EFL students?

An independent t-test was run to still and motion pictures groups' means on the posttest of vocabulary in order to probe the effect of CALL multimedia still picture and motion picture on vocabulary learning of elementary EFL students. Based on the results displayed in Table 4 it can be claimed that the still picture (M = 23.87, SD = 5.32) had a higher mean on the posttest of vocabulary than the motion picture (M = 15.95, SD = 6.91) group.

Table 4. Descriptive statistics; posttest of Vocabulary by groups

	Group	N	Mean	Std. Deviation	Std. Error Mean
Posttest	Still Picture	25	23.84	5.320	1.064
	Motion Picture	25	15.96	6.919	1.384

The results of the independent t-test (t (45) = 4.51, p= .000, r = .546 representing a large effect size) (Table 5) indicated that there was a significant difference between the two groups' mean scores on the posttest of vocabulary. That is to say; the still picture group significantly outperformed the motion picture group on the posttest of vocabulary. Thus the null-hypothesis **was rejected**.

Table5. Posttest of Vocabulary by groups

	Levene's Test for Equality of Variances		t-test for Equality of Means						
	F	Sig.	T	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
								Lower	Upper
Equal variances assumed	1.150	.289	4.514	48	.000	7.880	1.746	4.370	11.390
Equal variances not assumed			4.514	45.029	.000	7.880	1.746	4.364	11.396

It should be noted that the assumption of homogeneity of variances was met (Levene's F = 1.15, p = .289). That is why the first row of Table 5, i.e. "Equal variances assumed" was reported.

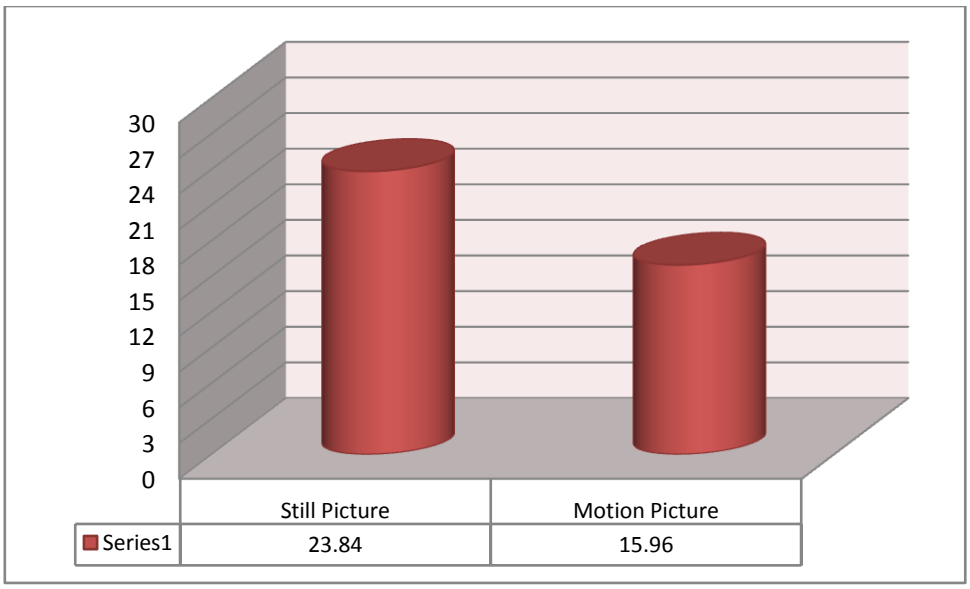

Figure2. Posttest of Vocabulary by group

KR-21 Reliability Indices

The KR-21 reliability indices for the pretest and posttest of vocabulary were .87 and .90 respectively.

Table 6. KR-21 reliability indices

	N of Items	Mean	Std. Deviation	Variance	KR-21
Pretest	30	14.12	6.775	45.904	.87
Posttest	30	19.90	7.291	53.153	.90

Construct Validity

A factor analysis was run to probe the underlying constructs of the pretest and posttest of vocabulary. Before discussing the results, it should be mentioned that the two assumption of sampling adequacy and lack of multicollinearity were met. As displayed in Table 7 the KMO index of .50 was equal to the minimum acceptable criterion of .50. Thus it can be concluded that the present sample size was adequate for running the factor analysis.

Table 7. KMO and Bartlett's test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		500
Bartlett's Test of Sphericity	Approx. Chi-Square	19.198
	Df	1
	Sig.	0

The Bartlett's test was significant (χ^2 (1) = 19.19, p = .000) indicating that the correlation matrix did not suffer from multicollinearity – too high or too low correlations among all variables. The correlation matrix is displayed in Table 8. The determinant value of (.668> .0000) also indicated that the assumption of lack of multicollinearity was met.

Table 8. Correlation matrix[a]

		Pretest	Posttest
Correlation	Pretest	1.000	.577
	Posttest	.577	1.000

a. Determinant = .668

The SPSS extracted one factor which accounted for 78.83 percent of the total variance (Table 9).

Table 9. Total variance explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.577	78.830	78.830	1.577	78.830	78.830
3	.423	21.170	100.000			

As displayed in Table 10 the pretest and posttest of vocabulary loaded on the only extracted factor which can be labeled as "vocabulary knowledge" factor.

Table 10. Component matrix

	Component
	1
Posttest	.888
Pretest	.888

Discussion

While discussing these results, it would be relevant to recall briefly some important issues mentioned in the review of literature. Firstly, according to (Hill, 1990, p. 1) who stated one type of visual aids is using still pictures, pictures are one of the valuable aids which bring "images of reality into the unnatural world of the language classroom". They are also useful to attract learners' attention to the materials being taught. His assumption was proven throughout the experiment where our students who received multimedia still picture

achieved higher scores in the post-test than those who did not.

Moreover, informal observation during the experiment consistently showed that multimedia still picture group's students were more motivated than the motion picture group students. They demonstrated more eagerness and interest in learning.

Secondly, the findings of Plass, Chun, Mayer, and Leutner (1998) support the use of multimedia annotations in enhancing the learners' comprehension and vocabulary acquisition. In the present study, this assumption was not supported by the results of the experimental group's results. They did not showed a better acquisition of the new vocabulary items than the group of still picture. Based on the findings, teaching English vocabulary through still pictures was more effective than motion pictures. One reason of this may be more time for centralization with still pictures for young learners, the other may be that motion pictures have a more permanent effect on learners. Still Pictures are those kinds of visual instruction materials that can be used more effectively to develop and sustain motivation in producing positive attitudes towards English and to teach or reinforce language skills. Teachers felt that pictures attract the pupils' attention and deepen their understanding of words; teachers also felt that when pupils associate new words with a still picture they find it, easier to remember the meaning of the word. These positive views about the role of still pictures in teaching vocabulary items. Still Pictures are one of these valuable aids which bring more time for centralization than motion Pictures in the class.

Sometimes it is surprising, how pictures may change a lesson, even if only employed in additional exercises or just to create the atmosphere. Pictures, being suitable for any group of learners independently on age or level can be used in lots of various ways.

Conclusion

This study explored the effectiveness of multimedia on learning new lexical items for female students at Vahdat School in Tehran. The results of this investigation indicate that still pictures are more effective in teaching unknown vocabulary items than motion pictures. Participants learned and recalled words better when using still picture. Among the possible factors that may explain these results was that still pictures increase the curiosity of learners which positively affects the retention of the items presented. This was clear from the researchersown observations of the students' interaction during the lesson and was also reflected in the results

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