

EFFECTS OF READING INTERNET-BASED STORIES ON L2 VOCABULARY ACQUISITION BY IRANIAN EFL YOUNG LEARNERS AT THE ELEMENTARY LEVEL

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ABSTRACT

The present study investigated the effects of reading internet-based stories on L2 vocabulary acquisition by Iranian EFL young learners at the elementary level. To achieve these effects, a language proficiency test (a modified version of the elementary vocabulary test by Watcyn & Johnston, (2005)) was administrated to the male students of the Shouhadai Basij School in Mahshahr. Ultimately, ninety learners were selected and assigned to three groups of internet-based, text-based, and explicit. The subjects in the experimental group were instructed L2 vocabulary through internet-based stories. The subjects in the control groups received text-based stories for L2 vocabulary acquisition and L2 vocabulary acquisition without stories (the explicit group). Then, their performance was tested through posttest of L2 vocabulary meaning-recognition. The data were analyzed by applying the one-way ANOVA among the three groups to see if there was a significant difference among the scores. The results showed that internet-based stories significantly improved L2 vocabulary acquisition, although L2 vocabulary instruction through the written text-based and explicit administration was almost equally ineffective.

Keywords: *Reading Comprehension, L2 Vocabulary Acquisition, Internet-Based Instruction, Text-Based Instruction, Explicit Instruction, EFL Young Learners, Elementary Level*

INTRODUCTION

Recent advances in computer technology and internet have led to opportunities to teach and learn English through practical ways and authentic materials. Today, computer technology is integrated into almost every aspect of learning in higher education. Virtual classes are held; textbooks arrive with CD-ROMs; homework is delivered and graded on the World Wide Web (WWW); audio ESL (English as a Second Language) files are available on the net; assignments are designed to be completed collaboratively through electronic mail.

There are also numerous websites (e.g. ESLPOD, My English Club, Ebaby) available for independent self-study especially for young learners and beginners.

These websites, if appropriately selected and organized, can be very useful to improve all skills and proficiency levels in a joyful and interesting way.

Today's students must be involved in both text and multimedia which can help them gain the four skills of language (i.e. listening, reading, writing and speaking) by using their multisensory abilities.

Many studies (e.g. Cope & Kalantzis, 2000) suggest that integration of technology can improve students' performance, enhance motivation, and promote learning.

Digital sources such as internet-based digital stories allow young learners to develop creative presentations and participate in a playful context. In such contexts, authentic language, its culture, linguistic and paralinguistic features such as body language, prosody, and gestures can be introduced into the classroom.

The aim of this study is to improve Iranian young English learners' L2 vocabulary. In this regard, one of the crucial techniques is to use digital stories in the form of internet-based instruction associated with a meaningful and playful context for young learners.

Here, three instructional techniques of internet-based, text-based, and explicit group were compared to determine which one is more effective in vocabulary acquisition.

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Computer- Assisted Language Learning (CALL)

CALL is very well-known and applicable nowadays and can be defined as learning language in formal and informal contexts through computer technology. In CALL, learners and teachers can be involved in different activities from communicating or writing in distance courses to carrying out tasks or leaning structures and reading. Wang (2009) noted that it is comprised of the combination of the learners, language, and context such as physical and temporal environment or other external influences, tools, and pedagogical activities or tasks. Peers, teachers, or other practitioners can influence this process. All these factors are important and crucial in conducting research on CALL. The number of researches and studies conducted on CALL has increased due to the increase of computer use and availability nowadays, which leads to the lack of agreed-upon standards for CALL research. Thus, in CALL research, some factors and criteria should be called upon to reduce the faults affecting research outcomes, factors such as a good theoretical support, limitation on CALL such as having a valid design, and describing both the benefits and limitations of computer use. The concept of the environment or context in CALL can be quickly connected to the concept of authenticity. Lived and real life (RL) environments are something undeniable in cyber and internet-based instruction (IBI) in that these are good infinite resources of authentic materials (Cope & Kalantzis, 2000).

Vocabulary and Its Importance

Building a large vocabulary size is essential when learning to read in a second language. Simply put, people with large vocabularies are more proficient readers than those with limited vocabularies (Beglar & Hunt, 1995, Luppescu & Day, 1993). Not so simply put, however, is how learners can best build a large vocabulary size through reading. Hunt and Beglar (2005), argue that “the heart of language comprehension and use is the lexicon”. Other authors have gone even further in arguing that “the most striking differences between foreign learners and native speakers are in the quantity of words each group possesses” (Laufer, 1998).

Theoretical Background to Call

Computer technology and the internet can be used by teachers and authorities as practical and useful tools to improve learning. Belkada *et al.*, (2004) in their article “How a Web-based Course Facilitates Acquisition of English for Academic Purposes”, argued that technological innovations foster changes in Second Language Acquisition, facilitate computer-based learning activities, and encourage student autonomy. They are ultimately tools in the hands of course writers who must use them creatively to maximize students' language learning experience and to increase their language acquisition for communicative purposes. There is a great deal of literature based on the potential of technology and using computer for language teaching and learning. Dunkel (1990), for example, mentioned the possibilities of the computer technology as a tool including increasing language learners' (1) self esteem, (2) vocational preparedness, (3) language proficiency, and (4) overall academic skills. Since little work has been done in case of using digital stories to improve one of L2 vocabulary acquisitions, we focused on the effect of reading the internet-based stories on L2 vocabulary acquisition to improve L2 vocabulary in Iranian young learners.

Experimental Studies on CALL and Vocabulary

Kayaoglu and Dagakbas (2010) found that there exists a difference between learning vocabulary via animation and via the traditional paper-based method. Two pre-intermediate classes were randomly selected as the experimental and control groups. Results obtained from the data gathered with a pre-test and a post-test applied to each group were analyzed using a t-test. The findings showed that though there is no statistically significant difference between post-tests of each group, there was an increase in the post-test scores of the animation group as compared to the pre-test scores. This increase implies that using multimedia such as animations contributes to students' achievement in vocabulary learning.

Another study (Almusallam *et al.*, 2006) aimed at testing the effect of still pictures and animated pictures on the acquisition of vocabulary items. It attempted to find out which mode is more effective in improving vocabulary acquisition and retention. The study was conducted on two groups of elementary school girls in Riyadh based on the vocabulary items of a lesson in their text book. The participants of

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study were 11-12 years old. They were divided into two groups. One group, which was the control group, had been taught using the traditional way, i.e. through still pictures, while the experimental group had been taught in a multimedia environment, using animated pictures. A pre-test and a post-test were administrated in order to collect the required data. The results of both tests were analyzed using two t-tests. The researchers showed that use of multimedia enhances the perception and retention of vocabulary items more than still pictures. The findings of the study support the researchers' hypothesis that animated pictures were more effective in teaching unknown vocabulary items than still pictures.

Experimental Studies on Internet-Based Stories

There are not many studies conducted on internet-based stories. Most of the studies conducted regarding internet-based stories are related to digital story telling. Some limited researches have been done on digital stories. As an example, Verdugo and Belmonte (2007), in their quasi-experimental research conducted on 220 six-year old children in different states in Spain, investigated the effect of digital stories on listening comprehension. The results showed a great influence of digital stories on children's listening comprehension. The internet-based syllabus of digital stories in this study could show greater improvement in children's progressive understanding of the linguistic structure, vocabulary, sound patterns, and prosody of the foreign language as compared to that obtained by children receiving language instruction without using the Internet-based technology. This current study was carried out to investigate the following research questions:

- 1) Is there any significant difference in scores on a meaning-recognition L2 vocabulary acquisition post-test between participants who received L2 vocabularies through text-based stories and those receiving the same vocabularies through digital internet-based stories?
- 2) Is there any significant difference in scores on a meaning-recognition L2 vocabulary acquisition post-test between participants who received L2 vocabularies through text-based stories and the explicit group receiving the same vocabularies without stories?
- 3) Is there any significant difference in scores on a meaning-recognition L2 vocabulary acquisition post-test between participants who received L2 vocabularies through internet-based stories and the explicit group receiving the same vocabularies without stories?

MATERIALS AND METHODS

Methodology

Participants

The study was conducted at the Shohadaibasij School in Mahshahr. 150 male students aging between 10 and 12 were taken a vocabulary test, and 90 young learners whose scores were one standard deviation above and one standard deviation below the mean were chosen. The students were randomly divided into three homogenous groups. One group learned L2 vocabulary through traditional texts. The other group, the experimental group, received L2 vocabulary through internet-based stories. The third group, which was, the explicit group, received just L2 vocabulary through printed pages without stories to check which instructional technique for teaching L2 vocabulary is more effective.

Instrument

Two instruments were administrated in this study. The first instrument was a modified version of the elementary vocabulary test written by Watcyn and Johnston (2005). The test was modified by the researchers for the participants, who were at the elementary level of language proficiency. The pre-test elicited their prior knowledge of L2 vocabulary. Finally, one post-test was used to determine the effects of traditional text-based, explicit and internet-based modes of presenting L2 vocabulary to the participants. The post-test was a meaning- recognition L2 vocabulary acquisition post-test. The reliability of test was calculated through the Coefficient alpha (Cronbach) formula.

Procedure

To have homogenous participants, a sufficient number of students were given a modified version of the elementary vocabulary test written by Watcyn and Johnston (2005). The pre-test took 30 minutes to finish. Then, the scores were obtained and the standard deviation of the scores was calculated. The

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subjects whose scores were one standard above and one standard below the mean were divided into three groups of explicit, text-based, and internet-based groups. The first two groups functioned as the control group while the last group as the experimental group. The number of participants in each group was 30. A one way ANOVA table 2 showed that the three groups of the study were similar. The general purpose of this study was to examine the comparative effects of digital internet-based stories and written textual versions of the same stories on L2 vocabulary acquisition and written L2 vocabulary without stories. The whole research project took 4 weeks. The classes met twice a week for 45 minutes.

The experimental group, receiving the internet-based instruction, met each other at a computer lab. The participants were asked some questions about their background knowledge of the synchronous Computer Assisted Language Learning (CALL) program and working with internet. After that, the name of the story was announced and the participants were asked to find it at the site and listen to it as much as they want within the time limit. The students started the class with some reading activities such as simple questions related to the topic of the story and new vocabularies and match the form of words with the correct picture. Then, we tried to elicit some words from the students and write them on the board. After they listened to the story, the instructor had asked some questions on the content, forms, and meanings of the vocabularies.

In the control group, receiving the text-based instruction, the same activities were used, but they did not have access to the computer and internet; instead, the students were given the printed form of the same digital stories and activity worksheets.

The explicit group received the vocabularies items which were unknown to them without any text. They were just taught in the sentences and their meanings and pronunciations were given to them. Some activities were used such as writing some words on the board and matching them with the forms and meanings of the vocabularies. So, they received just L2 vocabulary of the internet based stories. And, they did not have access to the internet, too.

Finally, each group was given a vocabulary post-test after having received the three different ways of L2 vocabulary presentation. It was a meaning-recognition L2 vocabulary acquisition post-test. Then, the obtained scores were compared to see which group progressed more in learning L2 vocabulary. In order words, to determine the differences between the three groups, a one way ANOVA was conducted. The results of the analyses appear in the next section.

RESULTS AND DISSCUSION

The Pretest

A modified version of the elementary vocabulary test written by Watcyn and Johnston (2005) test functioned as the pretest to pool out homogeneous students in terms of their initial overall English proficiency, who were called Groups A to C in Table 1, presenting the descriptive statistics. There were 30 items on the test.

Table 1: Descriptive Statistics for the Pretest

Groups	n	M	SD
Internet-Based (A)	30	23.94	4.17
Text-Based (B)	30	23.83	4.47
Explicit (C)	30	22.77	3.32
Total	90	23.52	3.99

As Table 1 shows, the overall mean and standard deviation of the pretest scores were 23.52 and 3.99, respectively, with scores ranging from 16 to 29. The highest and the lowest means belonged to Groups A (23.94) and C (22.77), respectively. Similarly, Groups B and C enjoyed the highest (4.47) and lowest (3.32) standard deviations, respectively. The reliability index for the pretest was calculated to be 68, using K-R 21.

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To make sure that the three groups were of similar overall EFL proficiency, as measured by the pretest, prior to the study, a one way ANOVA was conducted. The statistically non-significant results of ($p = .463$), as depicted in Table 2, is the evidence of the homogeneity of the groups. These three groups were the same in terms of their initial level of English proficiency.

Table 2: Results of the ANOVA for the Pretest

		Sum of Squares	Df	Mean Square	F	Sig.
Scores	Between Groups	25.089	2	12.544	.778	.463
	Within Groups	1403.400	87	16.131		
	Total	1428.489	89			

The Meaning-Recognition Vocabulary Posttest

The overall mean and standard deviation of the meaning-recognition vocabulary posttest were 21.97 and 3.87, respectively, with the scores ranging from 12 to 30. The reliability index for the meaning-recognition posttest was calculated to be .73, using K-R 21.

Table 3 displays the findings on the meaning-recognition vocabulary posttest. As the table shows, the internet-based group (Group A) had the highest mean (25.40) while the text-based group (Group B) (21.80) and (Group C) (18.70) had lower means on the meaning-recognition L2 vocabulary acquisition posttest.

Table 3: Descriptive Statistics for the Meaning-Recognition Posttest

Groups	n	M	SD
Internet-Based (A)	30	25.40	3.42
Text-Based (B)	30	21.80	4.11
Explicit (C)	30	18.70	4.09
Total	90	21.97	3.87

To see if the difference between these three means was significantly different, a one-way ANOVA was administered. The results of the ANOVA are presented in Table 4.

Table 4: Results for the One-Way ANOVA for the Three Groups on the Meaning-Recognitions Posttest

		Sum of Squares	Df	Mean Square	F	Sig.
Scores	Between Groups	674.600	2	337.300	22.362	.000
	Within Groups	1312.300	87	15.084		
	Total	1986.900	89			

Note: (*) The mean difference is significant at the .05 level.

Since the differences between these three groups are significant, the Scheffe' test was administered to locate the place of the difference. The results of the Scheffe' test appear in Table 5.

Table 5: Results for the Scheffe' Test for the Three Groups on the Meaning-Recognition Posttest

Dependent

Variable	(I) Scores	(J) Scores	Mean Difference (I-J)	Std. Error	Sig.
	Explicit	Internet	-6.70000*	1.00279	.000
	Internet	Text	3.60000*	1.00279	.002
	Text	Explicit	3.10000*	1.00279	.011

Note: (*) The mean difference is significant at the .05 level.

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Discussion

Results of pre-test and post-test stages showed an improvement in overall teaching L2 vocabulary acquisition through instructions used during this study. However, the most important issue is the usefulness of the three modes of instruction in order to obtain better results. Thus, the results will be discussed concerned with the three research questions.

Research Question 1

The first research question addressed whether there is a significant difference in scores on a meaning-recognition L2 vocabulary acquisition posttest between participants who learned new L2 vocabularies through written texts and those who learned the same vocabularies through internet-based texts. To answer the question, the performance of Group B and Group A on the meaning-recognition test was compared. As the data in Table 5 showed, the mean difference (3.60) between Group A and Group B was statistically significant. That is, Group A performed significantly better than Group B on the meaning-recognition test. This means that internet-based teaching of L2 vocabulary was more significantly effective in L2 vocabulary acquisition than the text-based teaching of L2 vocabulary.

Research Question 2

The second research question addressed whether there was a significant difference in scores on a meaning-recognition L2 vocabulary acquisition posttest between participants who received L2 vocabulary through written texts and those who learned the same vocabularies without stories. To answer the question, the performance of Group B and Group C on the meaning recognition test was compared. To see if the difference between these three means is significantly different, a One-Way ANOVA was administered. The mean difference (3.10) between these two groups was also statistically significant. By looking at the groups' means, the results of Scheffe' test revealed that internet-based group had a greater improvement in their performance of L2 vocabulary posttest. So, there is a significant difference in scores on a meaning-recognition L2 vocabulary acquisition post-test between participants who received L2 vocabularies through text-based stories and the explicit group receiving the same vocabularies without stories.

Research Question 3

The last research question asked if there was a significant difference in scores on a meaning-recognition L2 vocabulary acquisition posttest between participants receiving L2 vocabulary through internet-based stories and those who learned the same vocabularies without stories. To answer the question the performance of Group A and Group C on the meaning recognition test was compared. The mean difference (-6.70) between these two groups was also statistically significant. It shows that internet-based teaching of L2 vocabulary was more significantly effective in L2 vocabulary acquisition than the explicit teaching of L2 vocabulary.

Therefore, there is a significant difference in scores on a meaning-recognition L2 vocabulary acquisition post-test between participants who received L2 vocabularies through internet-based stories and the explicit group receiving the same vocabularies without stories.

By looking at the groups' means in Table 5, the results of the Scheffe' test revealed that the internet-based group had the greatest improvement in their performance of the L2 vocabulary posttest. The improvement of L2 vocabularies through the internet-based stories may be due to different factors such as multisensory effects of digital stories, images of the story, animation, accompanying text and images, accompanying text and voice, or vocabulary activities. The most effective feature of internet-based stories may be the animation and motion of pictures. River (1981) believes that "pictures, with accompanying voice, have a greater sensory impact than lines on printed pages, or even than that of the voice alone". Another reason for better performance of the IBI group may be the lack of affective filters such as anxiety, due to independent processes. Krashan (2004) noted that hearing stories and discussing them encourage independent learning in young learners. Another possible reason for better performance of IBI stories may be the students' motivation and interest to watch animations. Reiber (1994) noted that animation presentations are useful in direct teaching. Animations can be used with or without accompanying text to demonstrate or elaborate a lesson, concept, rule, or procedure.

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The combination of animation pictures, sound, music, rhyme, and narration can help learners understand the meaning and form in a faster way. Reinking and Rickman (1990) investigated whether intermediate-grade readers' vocabulary learning and comprehension would be affected by displaying texts on a computer screen that provided the meanings of difficult words. Doughty and Long (2003) illustrated the use of tasks, not texts, as the unit of analysis, to promote learning by doing, elaborate input (do not simplify, do not rely solely on "authentic" texts), provide rich (not impoverished) input, encourage inductive (chunk) learning, focus on form, provide negative feedback, respect "learner syllabi"/developmental processes, promote cooperative/collaborative learning, and individualize instruction (according to communicative needs and psycholinguistic considerations).

One particular advantage of CALL vocabulary instruction is to provide systematic repetition of words, ensuring that learned words are not forgotten. Miles and Kwon (2008), considering the large amount of vocabulary that language students need to learn and the limited amount of time available in the classroom, note that CALL is increasingly seen as an attractive option for learning. The results of this study are compatible and in line with previous studies conducted by Verdugo and Belmonte (2007) and Ghasemi and Hajizadeh (2011) in which it was concluded that stories in CALL can have positive effects on language learning. It can also prove Kajder's (2006) findings that show when children search for visual representations of the story, they link the story with that visual representation and demonstrate understanding and retention of the story better.

Conclusion

This study began with the assumption that applying the internet-based instruction could enhance the young EFL learners' vocabulary. The three groups were taught vocabulary through three methods of instruction. The researchers of this study explored to see if the application of internet-based stories and vocabulary have any effect on the Iranian young EFL learners and to investigate the effect of each approach. On the basis of the results of the present study, the following conclusions may be made:

- 1) CALL generally and digital stories in IBI specifically may influence EFL vocabulary.
- 2) The online instruction of stories does have more significant impacts on the L2 learners' vocabulary than the explicit or text-based instruction.
- 3) Text-based instruction, associated with reading tasks, in comparison with the explicit instruction has more positive impacts on learners' L2 vocabulary.
- 4) The multisensory effects of digital stories, i.e., the integration of sound, animation, and text, may improve learning vocabulary in young ESL learners.
- 5) Students should be taught computer skills so that they can effectively use computers for learning.

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