

## **Web 2.0-Assisted Language Learning: Using Technology to Enhance Reading Comprehension**

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### **Abstract**

*Tools available at the age of Information and Communication Technologies (ICT) play a vital role in assisting language learners in their quest to comprehend the written texts. Among all Web 2.0 tools, blogs and wikis can be considered as the most well-known ones being at the disposal of language learners. The present study aims at finding out which of these tools can assist language learners improve their comprehension of English as a foreign language. For this purpose, 113 male and female students majoring in English at the Islamic Azad University, Abadeh and Shiraz branches and Zand Institute of Higher Education in Shiraz, Iran were selected as the participants. A test of reading comprehension was given as the pre-test. Then, the participants were divided into two groups practicing reading comprehension through blogs and wikis for two and a half months. Then, a reading comprehension test was given as the post-test. The comparison of the participants' gain scores indicated that though both groups could improve their reading comprehension, wikis were more effective Web2.0 tools in enhancing Iranian EFL students' reading comprehension.*

**Keywords:** *Web 2.0 tools, weblog, wiki, reading comprehension*

### **Introduction**

According to Richards and Renandya (2002), there are several reasons why reading comprehension receives a special focus in foreign language teaching contexts. They maintain that many people read to get information for different purposes; besides, extensive exposure to written texts fosters language acquisition process. Reading materials provide writing models and introduce new topics. That's why reading is mostly appreciated in language classes by both teachers and students.

Since 1990s, language classes have been open to different tools available to teachers through multimedia technology. A great change has taken place in the use of computers in language learning: computers function as tools that enhance foreign language learning. The

rapid growth of technology on the one hand, and learners' interests in fostering their language learning autonomously on the other hand, have led researchers to try new ways to use modern technology and the Web in language learning. With the advent of Web intervals, Web 1.0, 2.0, and the newly developed one, Web 3.0, investigators are focusing on the tools available through the net so that every individual can work on his language skills autonomously. A large number of studies have so far been done on the effectiveness of these tools in language learning in general and reading comprehension in particular (Murphy, 2007; Coiro & Dobler, 2007; Verezub and Wang, 2008; Kear & Woodthorpe, 2009; Asadzadeh Maleki & Ahangari, 2010; Szymańska and Kaczmare, 2011)

Supporting the positive impact of the Web 2.0 tools in enhancing individuals' language learning, the present study is an attempt to discover which of the e-tools, wikis or blogs can enhance English reading comprehension for Iranian EFL students.

## Literature Review

Reading comprehension has been the apple of the eye for most language research due to the fact that it addresses one of the major needs for all language learners. Garman (1990) claimed that there are several terms used in association with comprehension. They include perception of input, understanding of an end product, recognition of what is stored in memory, and interpretation which suggests a creative process. Following him, reading comprehension was defined as an intentional thinking during which meaning is constructed through interactions between text and reader (Durkin, 1993). Harris and Hodges (1995) stated that it is the meaning construction of a written text through reciprocal interchange of ideas between the reader and the message in a particular text. Perfetti (1995) defined reading comprehension as thinking guided by print. More recently, it was referred to as the process of simultaneously extracting and constructing meaning through interaction and involvement with written language through three elements: the reader, the text, and the activity or purpose for reading (Rand Reading Study Group, 2002).

Research has shown that there are different factors influencing reading comprehension. One of these success elements is strategies used in comprehension. Mills (2009) stated that cognitive strategies play a greater role compared to other strategies in reading comprehension. He later confirmed in order to be proficient in reading comprehension, one needs to activate prior knowledge, make inferences, use knowledge of text structures, and generate and answer questions as outstanding cognitive strategies. Another way to enhance reading comprehension is using tasks to develop this skill. Shanahan (2005) made a distinction between strategy and skill. He clarified that skills are learned,

trained, and eventually applied effortlessly; thus, they are better at the learners' disposal compared to strategies. A study done by Poorahmadi (2010) on reading comprehension showed that teachers should focus on the type of task and activities which assist students to work cooperatively on task completion. There are many activities to help readers with their comprehension. They include paraphrasing, summarizing, and outlining (Himes, 2007). On the usefulness of tasks and activities used for reading comprehension, Salimzadeh and Mohammadi (2009) did an empirical research and found out cooperative reading activities such as group paraphrasing to understand a text leads to Iranian intermediate EFL students' reading comprehension. On the important role of activities readers are involved in the process of comprehension, Behjat (2011) coined the term 'collaboreading' in her study to highlight the impact of collaborative and group-work activities in fostering reading comprehension.

Technology has introduced new tasks and activities learners can use for their reading comprehension. Studies have shown that Internet access motivates many students to read extensively (Liaw, Chen, and Huang, 2008; Yang, 2009). Izquierdo and Reyes (2009) pointed out the Internet has rapidly become a basic medium not only for information and communications, but also reading comprehension in the twenty-first century. A typical Internet-based reading practice requires students to move to a higher level of comprehension tasks such as summarizing and paraphrasing, making inferences and respond with online communication tools such as an e-mail message or blog post. The Internet gives the opportunity to learners to get familiar with search engines and Websites besides using conventional knowledge of vocabulary and informational text structures (Coiro & Dobler, 2007).

Computers and the Internet technology have introduced what is known as hypertexts or online texts through which one can have more access to other reading materials just by clicking on a certain word being underlined in the text. Cumley (2009) mentioned several characteristics for all online reading sources. They include being standard and authentic, having books adapted for access, requiring low-tech modifications to text, accompanying pictures/symbols with texts, being supplemented with text reader with study skill support.

Rahimi and Behjat (in press) did an empirical research on online and offline reading comprehension for Iranian EFL learners and concluded that the learners' reading is fostered to a higher degree when they are exposed to online texts which have links to other sites providing more reading materials. Comprehending hypertexts can sometimes be difficult as they require readers utilize different skills and strategies to overcome comprehension problems. The great advantage of reading hypertexts on the net is that learners can have

access to authentic texts. Verezub and Wang (2008) showed how using the net hypertexts empowers language learners' comprehension of texts. As the media is equipped with images, videos and audios, comprehension would be facilitated, and it is easier to remember and later to retrieve it (Brown, 2000).

Murphy (2007) explored the role of online reading and feedback in comprehension and showed how designers should cater for different levels of language proficiency in supplying the Web with hypertexts by providing an online feedback that promoted both reading comprehension and interaction. Szymańska and Kaczmare (2011) argued that in order for learners to become proficient readers in a foreign language, they need to have access to online texts which can help them to respond in an authentic way to what they have read.

Ehrlich, Radde, Polleti, and Freitag (2011) posted authentic texts in a website and a number of exercises, and stated that implementing this web site, learners were prompted to actively apply a wide range of different reading skills and strategies to increase their comprehension of written texts. Yet, another advantage of reading on the net is that it can help learners be able to analyze the texts by themselves, reflect on them and try to comprehend them independent of asking for help from a teacher. Krajka (2007) claimed that "Learners autonomy is essential in the Internet-based classroom, where the learner is frequently in charge of the choice of materials, evaluation of their own progress, selection of learning strategies" (p. 194).

In the technology-oriented era, as the Web 2.0 came to the fore, it brought a couple of tools with itself. The distinctive feature of all these tools is that they are interactive not just between two but among a large number of people to share their knowledge and interests. In other words, while Web 1.0 tools such as e-mails were initially exchanged between only two people, Web 2.0 tools are those by which the emitted information can be used by all who like to have access to. That's why they are known as social networks. Among all Web 2.0 tools, wikis and blogs have shown having a positive impact on learning a language (Nadu, 2006; Doolan, 2006; Huges, 2006; Trajanovic, Domazet, & Misic-Ilic, 2007; Sharma and Barrett, 2008). Coiro (2009) mentioned that social networking sites well meet learning standards for reading comprehension as they demand online readers be personally productive, socially responsible, and able to collaborate with a diverse team.

There are some pieces of evidence in the literature to support the positive impact of wikis and weblogs in the improvement of reading comprehension. Izquierdo and Reyes (2009), for example, explored the effectiveness of blogs to promote reading comprehension

and concluded that for freshman EFL students, weblogs, though difficult to understand at the beginning, can play a vital role in the improvement of their reading comprehension. Kear and Woodthorpe (2009) confirmed that students' use of wikis in a distance learning course plays a role in their communication skills specially their comprehension of the texts appearing on the screen. Though research has shown that both wikis and blogs can enhance reading comprehension, the question which can be raised is which of them can help language learners foster their reading comprehension more.

Following Izquierdo and Reyes (2009) and Kear and Woodthorpe (2009) on the positive effects of wikis and weblogs as two popular Web 2.0 tools, the purpose of the present study is to compare the degree of effectiveness of these tools on EFL learners' reading comprehension. Thus, the research question which is posed here is as follows:

**Research Question:** Which of the web2.0 tools, weblogs or wikis can help the Iranian EFL learners to improve their reading comprehension more?

## **Methodology**

### **Participants**

In order to answer the research question , 113 sophomore students (18 males and 95 females) majoring in English at the Islamic Azad University, Shiraz branch and Zand Institute of Higher Education in Shiraz were randomly selected. They had all passed their reading comprehension courses (I) and (II) and were assumed to be at the same level of reading comprehension. They were all Iranian and in the age range of 20 to 27 years old.

### **Instrumentation**

The instruments which were used for the present research were two versions of Oxford Quick Placement Tests (Versions One and Two, 2004), standardized tests which consisted of 60 multiple choice reading comprehension items. The first version was considered for the pre-test, and the second version was used for the post-test of reading comprehension.

### **Procedures**

The research was done in three main phases: the pre-test, the treatment, and the post-test. Before the treatment, the participants were classified into two groups. Then, in order to

see whether the participants in all groups were at the same level of English reading comprehension, the First Version of Oxford Quick Placement Test (2004) was administered. Each correct item was scored one and no negative point was considered in the rating system of reading comprehension test. A *t*-test was run on the participants' scores in the reading comprehension test. As there was no significant difference in the two groups' reading performances, the participants were considered homogeneous and properly randomly selected. Because the reading test was administered before the instruction, the obtained data were considered as the pre-test scores for further analysis.

The second phase of the study was the instruction. During the instruction, which lasted for two and a half months, two hours a week, all learners took reading lessons in the classroom, but their out-of-class activities were quite different. While the first group practiced their reading comprehension through weblogs, the second one had access to wiki pages as comprehension exercises out of the classroom. At the beginning of the treatment, in order to make sure that all the participants were familiar with wikis and weblogs, they were explained and their different uses were discussed. In order to control the amount of time spent on the net by each individual as his/her out-of-class reading comprehension activity, the participants were asked to be online and do their online assignments in not more than four hours.

Since the materials of both groups were posted on the same blog, in order to ensure that the members only used the materials designed for them in a particular group -- this case, Group A -- they were given a password to enter their own group on the blog. For the first group, the teacher's weblog was introduced (<http://hybridlearning.blogfa.com>). They were asked to visit the weblog after the class to do their homework. The weekly reading assignments were required to be posted on the blog in special places left for comments. The reading materials posted on the teacher's weblog were exactly the same for both groups; the only difference was that the first group read the materials in simple form, i.e. as a text which has been typed as Word document, but for the second group, the texts had hyperlinks which means that certain terms were underlined, and they had links to other Websites for further references. This way, the teacher controlled the content and type of reading materials for both groups. Each week, three different texts with the same degrees of difficulty were posted on the teacher's blog. Taking a learner-centered approach, the participants were asked to choose the topics they liked, read the related texts and do the reading exercises related to them. The participants were required to discuss about the topics of their reading materials, exchange ideas on them, and have interaction. As they could see each other's assignments, they were also given the opportunity to give suggestions on each other's work and leave comments for their peers. For the participants of the second group, i. e. those who used wiki pages, there

were some parts of the reading texts which could be edited by participants if they wanted to add more materials to the texts.

After the treatment, the participants in both groups took a post-test of reading comprehension. The parallel form of reading comprehension test administered at the beginning of the instruction, i.e. Oxford Quick Placement Test (version Two) was readministered for this purpose. The administration of the post-test was the final phase of the study. Then, the participants' scores in the pre-and post-test of reading comprehension were used as the data for the study.

## Results and Discussion

In order to make sure that all the participants were at the same level of reading comprehension, a *t*-test was run on their reading comprehension test scores before the instruction. Table 1 represents the related descriptive statistics.

**Table 1-** Descriptive Statistics for the Homogeneity of Participants in the Two Groups before the Instruction

Reading pre-test	N	Mean	Std. Deviation	Std. Error Mean
weblog	58	33.6207	6.45586	.84770
wiki	55	33.0545	7.59975	1.02475

According to Table 1, the mean score of the weblog group in the pre-test of reading comprehension was 33.6207 and that of the wiki group was 33.0545. Table 2 shows if this difference is significant or not.

**Table 2-** *t*-test to Compare the Two Groups' Mean Scores in the Pre-test

	Leven's test for equal variance		t-test for equality of means					95% confidence interval of difference	
	F	Sig.	t	df	Sig.	Mean difference	Std. error difference	lower	upper
Equal variance assumed	1.542	.217	.428	111	.670	.56614	1.32418	-2.05780	3.19009

Equal variance not assumed			.426	106.116	.671	.56614	1.35993	-2.07053	3.20282
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As is observed in Table 2, the significance level is .670 which is higher than .05. Thus, it can be concluded that the difference between the two groups' difference in reading comprehension test before the instruction was not significant, and they were homogeneous as far as their reading comprehension was concerned.

After the treatment, the post-test was administered and the participants' gain scores were calculated by obtaining the difference between each individual's posttest score from pre-test score. Another *t*-test was run to compare the groups' gain scores. Table 3 indicates the descriptive statistics related to the two groups' gain scores of reading comprehension.

**Table 3-** Descriptive Statistics for the Participants' Gain Scores after the Treatment

Reading gain scores	N	Mean	Std. Deviation	Std. Error Mean
weblog	58	3.7586	1.09721	.14407
wiki	55	6.7091	2.26628	.30559

According to Table 3, while the mean of the participants' gain scores in the weblog group was 3.7586, that of the wiki group turned out to be 6.7091. In order to discuss whether this difference was significant or not, the results of the independent *t*-test have been represented in Table 4 as follows:

**Table 4-** *t*-test Comparing the Participants' Gain Scores after the Treatment

	Leven's test for equal variance		t-test for equality of means					95% confidence interval of difference	
	F	Sig.	t	df	Sig.	Mean difference	Std. error difference	lower	upper
Equal variance assumed	17.211	.000	-8.880	111	.000	-2.95047	.33228	-3.60890	-2.29204



Equal variance not assumed			- 8.733	77.066	.000	-2.95047	.33784	-3.62319	- 2.27775
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As Table 4 shows, the significance level is .000 which is lower than .05. This implies that the difference in the performance of the two groups has been significant. Thus, the research null hypothesis stating that weblogs or wikis can equally help the Iranian EFL learners to improve their reading comprehension is rejected here. A glance at the mean scores for both groups' gain scores reveals that although both groups had improvements in their reading comprehension after the instruction, those who practiced their reading comprehension through wikis could outperform the other group.

## Conclusion

The results of the present study well support the positive role of using Web 2.0 tools like wikis and weblogs in language classrooms to foster the learners' reading comprehension. The results of this study also indicate that compared to weblogs, wikis are better tools in enhancing reading comprehension. This might be due to the distinguishing feature of wikis which enjoy a high level of exposure to other Websites as the texts have links and they are available to the users only through clicking the underlined word in a hypertext. The editability of wiki pages helps the users add, delete, or change some parts of the hypertext and this increases the wiki attraction.

Language teachers can search through the net and design their own weblogs and find suitable wiki pages to use them in their reading comprehension classes. Language classes will be more interesting if technology enters them as it has already stepped into all aspects of human life.

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