The Use of Technology in Second Language Literacy: Does it work?

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Abstract

In contemporary societies, there are many online technologies that are popular in schools and universities such as wikis, blogs, discussion boards, and educational YouTube videos. Therefore, the need for new approaches in language teaching has increased according to these revolutionary technologies. This paper intends to synthesize various studies that approached technology in different contexts. The studies dated from 2004 to 2011. The findings of those studies are inconclusive. While the use of technology meets educational expectations; it fails to achieve its goal. Some studies reported positive results that recommend integrating technology in literacy teaching. However, other studies revealed disappointing findings, which showed that using technology demanded adequate computer skills. Based on those findings, this paper gives possible solutions where some of online technologies such as wikis, blogs, and videos can enhance second language literacy in various contexts.

Key word: Blogs, computer competence, second language literacy, technology, wikis

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Introduction

The use of technology has become overwhelming in the twenty first century. People around the world take advantages of various kinds of technologies in different fields. Language learning and teaching as one of those fields witness a speed progression for the use of technology in classrooms. Educators continuously look for educational methods that engage students in the learning process. Technology is one of these methods that integrated with course content to establish a student-centered environment (Lee & Kovach, 2001). Second language users face greater challenges in the task of reading and writing in the other language (Carrier 2005). Therefore, if appropriately used, technology improves their reading skills and writing ability in the foreign language (Herter & Montelongo, 2010, p. 89).

The studies that will be discussed in this paper investigate some of online technologies that are used in second language literacy classes such as wikis, videos, blogs and diglot readers. Although the findings had some skepticism about integrating technology in L2 literacy, they recommended further research in this field under different conditions and with different learners. Most of the negative results were due to the lack of computer skills background and in-depth knowledge about the appropriate use of online resources. Moreover, technology should be used to facilitate learning, not to complicate it. Yoon (2003) stated that technologies are only good when they are easy to use and facilitate students' interaction and understanding of the materials. Second language teachers should be familiar with computers before applying technology in their ESL classes. Teachers should be well trained to the use of computers in order to give clear instruction and provide a good feedback.

Statement of Research Question

Akhtar, Iqbal and Hussain (2010) stated that with the existence of technology, students obtain understanding of their world which enhances their learning and allows them to discover resources outside school walls. Therefore, I choose a technology-related research to find out answers to the following question: .Do online technologies improve second language literacy? Seeking answers to this question, I examined different empirical studies about technology based teaching in second language literacy. The aim of this bibliographic research is to offer insights about using technologies in teaching reading and writing.

Method

To find an answer to the research question, I explored relevant studies dated from 2004 to 2011. All studies are published in peer-reviewed journals such as Foreign Language Annuals, Journal of Research on Technology in Education, Computer Assisted Language Learning, The Quarterly Review of Distance Education and Reading Today. To access all these Journals I used Indiana University of Pennsylvania online library search engine. To name just few, 360 Search that locates your search to multiple databases and Educational Resources Information Center ERIC. All participants in the studies were second language students learning English except one study by (Christensen, 2007) that utilize technology to teach Spanish for native speakers of English. I used this study to examine the beneficial of technology for other second languages not only English.

Synthesis and Discussion of Collected Academic Materials

In the twenty first century, technology has become part of most people's lives especially in the field of education. It is just a single click which takes students further than textbooks and the classroom environment. It is that click which might change the way literacy can be learned. People now use more text messages and emails than ever before. Pastor (2007) argued that "we are going from paper pages to digital screens" (p.599).

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Aljarf (2004) aimed at finding out whether there was a difference between the traditional methods of teaching by using textbooks instruction and the combination of textbooks and web-based instructions. The participants were EFL female freshman students at King Saud University. She divided them into two groups: the first was taught by using traditional methods of teaching instruction, and the second group was taught by using a combination of textbooks and web-based instructions. After observing students for two semesters, she claimed that students in the second group scored higher than their peers in the first group. In other words, students who were taught by the combination of textbooks and web-based instructions had improved over the students from the traditional method group. Therefore, she concluded "the use of web-based instruction as a supplement to traditional in-class writing instruction was significantly more effective than writing instruction [relying] on the text-book alone" (p.54). Similarly, Pastro (2007) examined the integration of technology when teaching ESL. He provided some examples of activities based on websites and its impact on students' progress in second language literacy. Pastro's participants were engineering students and they were provided two English sessions. The first session was based on text-books "functional approach" and the second one was taught by technology-based materials "constructivist approach" (pp. 601-602). In the first session, the activity of teaching English was designed to let students consider grammar, phonetics and lexis as they read; however, in the second session, the activity was based on internalizing and analyzing the whole text as they have a chance to look up the words online. The results of this study showed that students improved better by using online technology-based teaching than the traditional way of teaching literacy. Students commented that they found the web-based activities more thought provoking and creative than the traditional methods. According to this study, technology might help engineering students to master competence in English literacy under the constructivist approach by integrating technology in ESL methodology.

Similar findings were reported by Akhtar *et al* (2010) who conducted an experimental study "to determine the effectiveness of technology-based learning environment on student achievement in English as a foreign language" (p. 129). Ninety students of 10th grade studying at Federal Government Postgraduate College in Pakistan were divided into two groups: control and experimental. In the control group, students were in a traditional classroom setting. However, students in the experimental group were placed in a technology-based environment, where they had access to emails, chat rooms, discussion board and web-based learning. The study found that when they compared the results of the two groups, the students in the experimental group performed better than the students in the control group. This study provides further evidence for the beneficial use of technology in ESL classes. Akhtar et al argued that it was recommended that using technology in ESL classes can be fostered to enhance the language learning capability of the students (p.129).

In a different context, a similar study was applied in science class. Herter and Montelongo (2010) claimed that students face some struggle in transition from narrative reading texts to expository reading texts. Therefore, teachers looked for materials that engage students in the learning process. Technology as one of those materials was examined by this study. Herter and Montelongo provided students with different sets of readings, one through paper and pencil and the other one is through computerized material. In those readings, students were required to answer comprehension questions and write a response after they finished reading. The findings found that students liked using technology in reading as they could look up the words quickly

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through online dictionaries. Also, it was easier for them to answer comprehension questions by quickly locating the key words for the answers.

All those experimental studies provided examples in different contexts, where technology was utilized as the medium of instruction in ESL classes when teaching literacy. The four studies reached similar positive findings regarding the use of technology in teaching reading and writing. More studies about literacy and technology were addressed in a more focused research project. Christensen, Merrill and Yanchar (2007) "investigated the impact of a computer-based diglot reader on second language vocabulary acquisition" (p. 67). The term diglot refers to the method of translating words into a person's native language. In this type of technology, students read their native language texts with second language vocabulary. Twenty-seven students from an undergraduate Spanish course were instructed to click on any Spanish word to translate into English. The findings of this study supported the results of the previous studies about using technology in teaching literacy. Although the study was different because the participants were English speakers learning Spanish, it asserts that technology might empower students by facilitating learning literacy in any second language setting. The diglot reader provided a motivating atmosphere for learning to read in second language; consequently, students would learn more vocabulary.

In a broader study that is intended to assist "remedial readers, reluctant readers and English language learners who needed additional support and stimuli to connect with the text," Malin (2010) provided students in high school with digital video reading aids to help them to engage and interact with the texts (p. 121). The students were instructed to watch a video, after submitting a questionnaire. The video's title was "The Story of an Hour" which lasts for seven minutes and fifty two seconds. After viewing the video, answering the questionnaires and analyzing the given data, the findings were highly positive. The study indicated five major findings:

Firstly, remedial and English language readers commented that they benefited greatly by watching the videos, because it helped them understand the text. Secondly, the majority of students reported that they felt "better prepared" to contribute in class discussion. Thirdly, more than half of the students claimed that watching the video aided their ability to think critically about the content of the text before getting into classroom discussion. Fourthly, 88 percent of the students argued that utilizing this method of reading was more enjoyable than reading the text without watching. Finally, students commented positively on the use of short clips about the readings. They reported comments such as "my favorite part was discussion . . . I liked seeing how other kids thought about the story . . . I like knowing different takes on a book;" these comments reflected positive feedback about using this technology in classroom while reading tasks (PP. 123 – 124).

Although all of the previous studies in this paper reported similar encouraging results about the use of technology in second language classroom, Allwardt's (2011) research on using Wikis recorded undesirable findings. Wikis are online pages that allow multiple users to modify, edit, correct and add content. The study attempted to evaluate students' progress in collaborative learning tasks. Students were given a literature review assignment, in which they were asked to read certain topics and write a bibliographic paper. They were also given all kinds of instructions they needed to handle this task. Allwardt did not mention whether those students were native or second language learners; however, as far as this study could be important for my research question, I assume that those students are English language learners at advanced level. Students were divided, like the other previous studies, into two groups; one group was instructed to work

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by the traditional method of face-to-face interaction and written feedback, while the second group was asked to reflect and comment on their work online by using wiki. The wiki was well planned in an organized manner to facilitate this task for the students, who were given some workshop before starting this assignment. Nevertheless, the findings of this study were disappointing. Allwardt stated that "despite constant encouragement and reminders by the instructors, the majority of students did not use the wiki until a few days before the assignment deadline" (p. 600). The students did not participate collaboratively with their peers of the same group. Conversely, the students in the first group who used the traditional method of writing and responding turned in their papers on time. Those results indicated that even with the availability of technology-based method like 'wiki' students' literacy did not improve because they were confused by the too many options they had to address. This is one example when technology makes the learning task harder than it should be. The aim of the wiki was to facilitate collaborative learning in writing assignment. However, students were distracted by the complexity of this application; therefore, their writing for this task had not improved. This conclusion led me to ask whether or not having computer skills is a prerequisite for the application of technology in classroom.

Surprisingly, I came across a research study about this concern. Pena & Yeung (2010) conducted a study about computer competence for second language learners. This study examined the relationship between computer competence and online learning and whether the computer skills were significant in learning a second language. The findings of the study showed that the knowledge of computer skills has a direct impact on online learning. Students were given an online questionnaire about how well they used computer and how much they liked using computers. Items were answered by using 5-point Likert scale that ranged from 1 (strongly disagree) to 5 (strongly agree). Pena and Yeung noticed that students 'computer competence and its influence on computer use were positively correlated (r=.64); in contrast, students' lack of computer competence and effect on computer use were uncorrelated (r-.03).This implied that students with computer competence scored better in online technology than their peers. Therefore, teachers should be firstly aware of their students' knowledge of computer programs before using technology-based methodology because this knowledge has a direct relevance to success in technology-based classroom.

Those contradicting findings prompted me to look for a study about the role of the teacher in the technology-based teaching. If we suppose that students come to class prepared to use technology materials besides their textbook, how do we expect teachers' reaction towards this assumption? Puerto & Gamboa (2008) investigated 166 second language teachers from different institutions and private language schools in Spain. Those teachers were provided a questionnaire about whether they used technology in their classes or not. The questions were arranged on the basis of five-point Likert scale. Unexpectedly, the findings indicated that the majority of teachers did not use technology in their classes, while they used computers intensively for their personal purposes. The study claimed that the teachers lacked some professional training on the use of technology for educational purposes, because "they were more learners than teachers." (p. 147). The results recommended that teachers should have a prior knowledge about using technology in classroom. The reason why I am reporting on this research is that there are many factors that contribute to the positive or negative impact of technology in classroom and the teacher is one of them.

The last study reviewed addresses another type of technology known as 'Blogging.' According to Henry & Zawilinski (2011), Blog is a combination of two words web and log. "It is

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an easily editable web space that is often linked to a shared digital diary or journal." (p.13). Brown & Steve (2011), in a recent study, examined the use of blogging as a tool to reinforce the application of technology in a graduate course of literacy and technology. The participants were two future teachers enrolled in a literacy and technology course. They had both the computer competence and knowledge about the topic they would address, which in this study, was the Holocaust. This topic was chosen because students could have access to different articles, news, pictures to post on the blog. They can also contribute their own analysis and critical thinking about the Holocaust (Brown & Steve, 2010). Participants were interviewed to check whether the interpretive data were correct or not. Their surveys and blog posts were also analyzed. The study indicated two findings. Firstly, the participants claimed that to integrate blogging in teaching literacy, teachers should be well prepared and have adequate background knowledge about it. Posting on blogs involved responding, commenting and editing of the original text, so teachers should be knowledgeable enough to follow their students' interaction online. The second finding indicated that both participants pointed out that they would use this technology in their classes in the future because they had a good experience working in a collaborative learning environment. One of the participants stated that "she also recognized the rich potential of blogging to provide an interactive space for authentic exchanges among students to encourage students to read, write, and respond around a particular theme or focus. Blogs are a collaborative space in which students share a common language and experience." (p.39). Unlike Allwardt (2011), Henry and Zawilinski recommended using blogs, wikis and discussion board in teaching literacy because those online resources provided students with a rich environment for responding to each other's comments; however, those students and teachers should firstly have good online computer skills to be able to "promote critical multicultural literacy instruction" (p. 31).

Summary of the Findings

The purpose of this paper is to use a bibliographic inquiry research to provide some findings about research question. Based on the findings of ten studies about utilizing technology to improve second language literacy, the evidence was inconclusive. Seven of the ten studies reported that using technology could enhance second language literacy. However, three studies indicated opposite results.

Some of the encouraging results were reported by Aljarf, 2004; Pastro, 2007; Akhtar et al, 2010; Herter and Montelongo, 2010; Christensen et al, 2007; Malin, 2010, and Brown and Steve, 2011. The findings showed positive effects of technology on students' improvement in second language literacy. Although those studies investigated participants in different contexts like engineering, science and English, the results led to similar conclusions. In Aljarf (2004) research, her ESL students learned better by using the combination of technology and textbooks instructions. The same study was conducted later on engineering second language learners by Pastro (2007) who claimed that students benefit more from technology-based activities than using textbooks only. Akhtar's et al (2010) graduate students also stated that they understood their tasks better by technology-based instruction. Moreover, Herter and Montelongo (2010) reported that students found it easier to respond to online questions while reading than answering them from the text. In a more focused study on reading by Christenen et al (2007), English speakers learning Spanish showed improvement in their learning to read by using diglot technology more than any other traditional drills. In another study about engaging students in reading texts, Malin's (2010) students claimed that they learned better and faster by watching videos about the reading text. The video helped them to understand the materials and participate in classroom discussion. Additionally, Seteven and Brown's (2011) study about blogs in

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teaching literacy found out that using such technology in language teaching required both computer skills and a vast knowledge about the topic being analyzed. Even though there were different factors that contributed in the studies such as gender, age and location (context), they reported optimistic findings.

In contrast, there are some studies that suggested different results (Allwardt, 2011; Pena and Yeung, 2010; and Puerto and Gambia, 2008). Take for instance, the findings of Allwardt (2011) study about using wiki in learning literacy indicated that students were not motivated enough to participate with this technology because they did not have a considerable knowledge about wikis and how it was worked out. Students stated that they were confused and wiki did not help them to master better literacy skills; instead, technology was an obstacle, not an aid. To investigate about computer competence and its influence on language learning, Pena and Yeung (2010) examined whether the computer competence was necessary for literacy learning or not. The findings reported that the computer skills are the most important part to predict success in using technology-based methodology. Finally, in a study concerned with ESL teachers' use of technology, Puerto and Gamboa (2008) examined second language teachers from different schools and institutions and they found out that the majority of those teachers do not use technology in their classes because they are unaware of the educational integration that technology might provide to their courses.

Conclusion

Based on the studies dated from 2004 to 2011, I suggest that using technology in second language literacy classes depends on various factors. First, teachers should be well trained to establish accurate use of technology in their classes. Second, teachers and students should have a computer competence to benefit from this technology. In other words, both teachers and students should have computer skills like typing, searching, and responding to online web-pages in order to collaborate educationally and technically. Finally, teachers should gain great knowledge about the topic the students are to address in order to be able to lead discussion, edit and deliver accurate feedback. To conclude, further research is needed to consider the previous factors and find out whether the teachers'/students' knowledge of computer influence technology use in Second language literacy class.

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Samah Elbelazi is a Libyan PhD Candidate in Composition and TESOL in Indiana University of Pennsylvania and ESL Instructor at American Language Institute. She has extensive experience in teaching English as a foreign/second language. She is interested in poetry, creative writing and using technology to teach ESL/EFL writing. Her current interest is using poetic inquiry in a feminist research to facilitate the voice of Libyan Muslim women. Recently, she received *The Promising Future Interdisciplinary Research in Literacy Award (2015)* at Indiana University of Pennsylvania.

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