

The Advantages of Using Technology in Second Language Education

Technology Integration in Foreign Language
Teaching Demonstrates the Shift From a Behavioral
to a Constructivist Learning Approach

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With the advent of networked computers and Internet technology, computer-based instruction has been widely used in language classrooms throughout the United States. Computer technologies have dramatically changed the way people gather information, conduct research and communicate with others worldwide. Considering the tremendous startup expenses, copyright issues, objectionable materials and other potential disadvantages of technology, much research has been conducted regarding the effectiveness of, and better strategies for, technology integration. Taking the characteristics of language learning into account, this article helps answer two important questions: Do we need technology in language classrooms? And what kinds of services do computer technologies provide for these classrooms?

Background Studies

Web-based writing instruction has proved to be an important factor in enhancing the writing quality of low-ability English as a foreign language (EFL) students. In a study designed to examine the effectiveness of Web-based instruction in the writing of freshman EFL students, Al-Jarf (2004) found that the use of Web-based lessons as a supplement to traditional in-class writing instruction was significantly more effective than teaching which depended on the textbook alone. The experimental group of students received online instruction in which they posted their own threads, short paragraphs, stories and poems on a discussion board. They also located information from the Internet, as well as wrote paragraphs and checked their own spelling using Microsoft Word.

In another study, Hertel (2003) describes an intercultural e-mail exchange at the college level where U.S. students in a beginning Spanish class and Mexican students in an intermediate English as a Second Language class corresponded weekly for one semester. Survey results revealed this student-centered endeavor had the potential to change cultural attitudes, increase knowledge and awareness of other cultures, foster language acquisition, as well as boost student interest and motivation in language and cultural studies.

Bernhardt, Rivera and Kamil conducted a study in 2004 to examine the practicality and efficiency of Web-based placement testing for college-level language programs. Qualitative analysis of the data indicated that students, administrators

and instructors benefited from the online placement tests. For students, accessing a placement test at their convenience without making an extra summer trip to campus was seen as an incredible time-saver. At the same time, having students participate in an academic exercise prior to arriving on campus sends a positive message regarding the importance and prestige of the language program at the university. For administrators, the time saved by eliminating this extra step throughout a summer orientation period is significant. Supervisors and instructors reported that more effective decisions were made when they had time to contemplate their students' performances, which brought them greater confidence in their curriculum when they encountered students at the beginning of a class session.

However, Chikamatsu (2003) conducted a study to examine the effects of computers on writing efficiency and quality among intermediate learners of Japanese who found computer use neither sped up nor slowed down their writing. Its use also did not facilitate writing efficiency in composition. Yet computer use did improve accuracy at the word level, indicating that

learners benefited from computer writing. The study also showed that a possible explanation for the apparent ineffectiveness of computer use was that students might not have been skillful typists. For logographic languages such as Japanese and Chinese, which have input processes different from those of English and other Indo-European languages, computer use by second language learners is relatively uncommon and its impact on writing is uncertain.

Results from many other studies

The best way to learn a language is in interactive, authentic environments. Computer technologies and the Internet are powerful tools for assisting these approaches to language teaching.

(Pérez-Prado and Thirunarayanan 2002; Cooper 2001; Smith, Ferguson and Caris 2001) also point out how students benefited from the technology-enhanced collaborative learning methods and interactive learning process, while concurrently finding some drawbacks with use of the medium, such as technology and group-work frustrations.

Analyzing Advantages and Disadvantages

Most of the above studies showed technology's positive effects on language learning, which answered the first question: Do we really need technology in language classrooms? The answer, of course, is yes we do.

First, the advantages of using new technology in language classrooms can be interpreted in light of the changing goals of language education and the shifting conditions in our postindustrial

society (Warschauer and Meskill 2000). New technology was part of the social fabric at the turn of the century. So while we taught foreign language students to write essays and read magazines a generation ago, we must now teach them to write e-mail and conduct online research. Thus, integrating technology into language classrooms is inevitable.

Second, technology integration in foreign language teaching demonstrates the shift in educational paradigms from a behavioral to a constructivist learning approach. Language is a living thing, so the best way to learn a language is in interactive, authentic environments. Computer technologies and the Internet are powerful tools for assisting these approaches to language teaching. Even though constructivism is not a theory associated with using technology, constructivist assumptions are guideposts for developing a vision for integrating

technology into the language curriculum (Brown 1997; Wolffe 1997). The following are summaries of these assumptions:

Learning is an active process.

Learning is a natural, integral and ubiquitous part of living; not something handed as a package to somebody else (Bintz 1991; Anderson and Speck 2001). In today's language classes, the teacher's role should shift from "sage on the stage" to "guider on the side," while students should actively search for and explore answers instead of receiving standard interpretations. Technology integration helps this shifting process for teachers and students.

Problem solving is the focus.

The Internet, as well as some simulation software, provides a stage for the real world where students observe, think, question, organize and test their ideas. Unlike libraries, the Internet is a living medium that offers updated

5 Ways Technology Can Help Literacy Learning

Be aware that technology is just a tool, and designing creative instruction is the key to successfully integrating technology into classrooms. To do this, teachers must first know what the technology can do for language learning. The following are five ways teachers can use technology to help literacy education:

1. Word processing — Word processing is a great way for students to engage in writing, prewriting, drafting, revising, editing, saving, printing, inserting tables and graphics, and publishing. In this information age, word processing is a necessity for any language class.

2. Technology texts — Electronic books are rich supplements for printed textbooks, though they will never completely replace traditional books (Leu and Leu 1997). Stories on the Internet are enriched by multimedia to dramatically motivate reading-reluctant students, leading to better literacy results.

3. Publishing students' work — Because students are motivated, and invest themselves in their work when they are engaged in authentic tasks, a primary goal in teaching literacy

is for students to engage in meaningful and purposeful assignments (Anderson and Speck 2001). Computer technologies make students' work easy to publish in multiple ways, such as in newsletters, flyers, Web pages, CD-ROMs, etc.

4. Communication through the Internet — While language is for communication, the Internet has broken down communication's distance barrier. Therefore, students can build up partnerships with learning peers in target languages through the Internet. The main ways of communicating on the Internet include e-mail, instant messaging, chat rooms and bulletin boards. With MSN and Yahoo! messengers, students can not only send instant messages, but also have audio and video conversations that greatly motivate and improve their speaking and listening abilities.

5. Searching for online information — The Web offers valuable resources from around the world (e.g., databases, online journals, news, instructional materials, etc.) that enable many teachers to use the Internet as their "virtual library."

— L. Wang

information — enriched by graphics and animations — to help students solve real-life problems.

Learning is a collaborative process. According to Anderson and Speck (2001), students prefer working with a partner over working alone on computer activities. Leu (1996) adds that “students often learn about complex multimedia environments by showing each other cool things.” Thus, through collaborative technology activities, students benefit from working with each other. Technology has also created a great way to communicate with people in different cultures. For instance, the Internet offers a worldwide learning environment that makes distance communication fast and affordable. By using the Internet, cross-cultural cooperative groups can be built up.

Despite these advantages, potential drawbacks of using technology always exist. Some of the main disadvantages regarding technology integration in language classrooms include:

- A few common pitfalls of Internet use include objectionable materials, predators, copyright violations and plagiarism, viruses and hacking, netiquette behavior, and privacy issues. Teachers must be prepared to deal with these issues as they use technology in their classrooms.
- Startup costs, which include hardware, software, staffing and training, are expensive. Warschauer and Meskill (2000) indicate that intelligent use of new technologies usually involves allocations of about a third each for hardware, software, and staff support and training. It is often the case in poorly funded language programs that the hardware itself comes in via a one-time grant (or through hand-me-downs from

science departments), with little funding left for staff training, maintenance or software.

- Technology may not be good for every language at all levels. For logographic languages, computer typing

may not help improve efficiency in composition, especially with lower-level learners. It also takes a long time for students to become familiar with computer typing; therefore, teachers should creatively use tech-

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ESL Program Focuses on Improving Literacy Skills

As children and adults whose primary language is not English attempt to get an education, the basic tools are necessary before they can achieve their goals. Taking a step at ending illiteracy among Spanish-speaking students, the new ¡Leamos! (*Let's Read*) PC is an easy-to-use program that enables users to read and write in Spanish in less than 100 hours. The software was designed by eTeleNext Inc. and derived from workbooks written by the Centro Latino de Educación Popular, a Los Angeles-based nonprofit learning center. What makes ¡Leamos! PC unique is that it teaches literacy for Spanish speakers in their native language, so students can use it as a step forward in their quest to learn English.

"While English as a Second Language programs are frequently offered through adult schools, community centers and libraries, there are far fewer resources dedicated to teaching Spanish literacy," says Melanie Stephens, executive director of Centro Latino de Educación Popular. "Becoming literate in Spanish increases self-confidence and provides an important cornerstone upon which to build their English language skills."

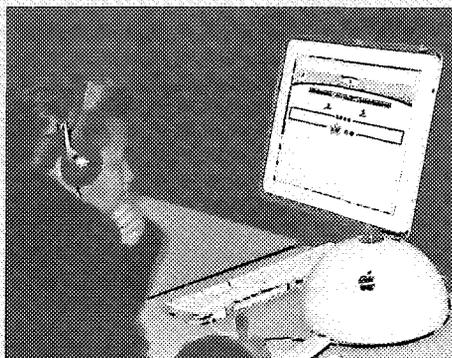
¡Leamos! PC uses words and phrases related to four main themes: basic needs, health, family and community. The first lesson teaches the five vowels, while each subsequent lesson covers a consonant or consonant pair. By the end of the 43 lessons, students will have learned to read and write all the syllables in the Spanish language. In addition, each lesson builds on and reinforces the prior lessons by incorporating words and sentences which use the syllables studied up to that point. Students must successfully pass each lesson at their own pace before moving on to the next one, and, most importantly, they do this without the help of an instructor.

"The program is unique in that it is a Web-based application that resides on a central server which can be accessed anywhere in the world," says eTeleNext's President Joe Nollar. "The server is used to track student and organizational information. The server also remembers where each student finished so that when the student returns, he/she can begin where he/she left off."

So far, the program is doing well in Southern California colleges and adult schools, as well as at the learning center itself. However, with NCLB putting pressure on schools to perform, ¡Leamos! PC may serve as the missing link to ESL programs across the nation.

"There are many more software programs focused on teaching ESL, but all of them assume and require literacy in one's native language," says Stephens. "Our goal is to bridge the gap for those Spanish speakers who had never learned to read or write."

— Alex Roman



nology but not rely on it alone.

- Spending too much time on computers is considered harmful to a child's development of relationships and social skills (Roblyer 2003). The American Academy of Pediatrics calls for limiting children's use of media to only one to two hours per day.

Van Dusen (1997) is optimistic that the technology integration movement will alter traditional professor-centered methods and bring about more constructivist ones. But he also emphasizes that this shift will not happen without intensive professional development. In Warschauer and Meskill's (2000) view, it is futile to compare use of computers to nonuse of computers because a computer is a machine, not a method. Therefore, computers and the Internet create a vast new medium that is comparable, in some ways, to books and other print materials in a library.

The Future

We can definitely agree that technology has done a great job in helping language learning, but this is just the beginning of the age of technology-enhanced education. In the future, wireless networks, videoconferencing and other multimedia-enhanced communication methods will be more popular in the language classroom. However, teachers should always remember that technology is just a tool, and students' learning achievement relies on appropriate and creative instruction. If you are aware of the pitfalls of using technology to design creative activities, technology will work harder and better for foreign language education. THE

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