

THE INVESTMENT OF TECHNOLOGY IN TEACHING AND LEARNING EFL

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1. INTRODUCTION

After years of national policies and investment in information technologies in nearly all over the world ,technology is still an imposed and novel tool in the world of pedagogy of English language teaching and learning. Information and communication technology should be employed in our educational system at all stages : schools ,institutions and universities , simply because it is often perceived as a catalyst for change in teaching style ,in learning approaches ,in access to information. Yet the rhetoric for change has been highly associated with the symbolic function of technology in society ,people's tendency towards handling technologies – things which make teachers sit uncomfortably and effect their professional judgements (Hooper & Rieber,1995 : 156).

It is necessary to note here that technology plays an important and pervasive role in everyday life ,and particularly in education. Though it effects a change in the educational system ,most of our school and university teachers are both threatened by change ,and conversely not impressed by change that appears to focus on what the technology can do rather than learning. Over the last twenty years ,there has been a rigorous effort to promote the use computers in our schools and universities. Computer assisted learning has also been encouraged in most our educational institutions. And information technology is equated with the modern world, economic success and the future. It becomes too essential that schools must embrace the technology (Watson, 2001 : 251).

Technology has revolutionized the way people work and is set to transform education. Children ,and even teens, cannot be effective in tomorrow's world if they are trained in yesterday's skills. Nor should teachers be denied tools that other professionals are to take for granted. These new technologies will surely lead to real progress in helping learners throughout their lives and hence raising the standards of their country. Any increase in the standards of teaching and learning has become intertwined with the use of technologies. For example, the use of digital technology for improving the delivery of education has enormous potential to raise standards and increase employability (ibid).

With the advent of networked multimedia computing and the internet ,language teachers in our schools and universities in Iraq have been warming up to using computers in the language classroom. This is especially true in higher education where students and teachers have greater access to computer labs and internet accounts. Teachers feel the

need to develop technology-based activities that engage the student in the production , rather than the reproduction, of knowledge. Cognitively ,teachers are recommended to create environments in which students actively engage in cognitive partnership with technology. To praise the dawn of technology, it is essential to consider Gates' words:

Today ... people are wondering whether schools are giving their children the skills they 'll need to succeed, this time in the Information Age. A new technology revolution is transforming business and putting new demands on our educational system – even while the technology itself is providing the means for meeting these demands. The people who resist change will be confronted by the growing number of people who see that better ways of learning are available thanks to technology...

(Jordan & Follman, 1993 : 83)

It is undeniable fact that computers have become one of the expected trappings of today's classroom, and schools have exhibited an insatiable appetite for hardware; but systemic curricular integration of computers is still more of a promise than a reality. Resources have been allocated and spent, but many students and educators remain technologically illiterate. It seems that there is an urgent need to restructure learning environments to support the active use of technology by teachers and to integrate the manipulation of technology in our educational curriculum (Watson, 2001 : 253).

In relation to the above discussion ,this paper tends to elaborate on the scope of the use technology in our educational systems ascribed to teaching and learning EFL – particularly that prevalent in Iraqi universities ,focusing on the main points linked to the clarification of the relationship between technology and language teaching and learning. Thus, it involves a brief history of technology and language teaching and learning ,internet and classroom communication, and advantages and disadvantages of applying technology in our educational system.

2. Technology and Language Learning : Historical Overview

Any method or approach to language teaching has had its own technologies to support it. Language teachers and instructors who followed the grammar–translation method, in which they explained grammatical rules and students performed translations, relied on one of the most pervasive technologies in U.S. education, the blackboard a perfect vehicle for the one–way transmission of information that method implied. The blackboard was later supplemented by the overhead projector, another excellent medium for the teacher–dominated classroom, as well as by early computer software programs which provided what were known as "drill–and–practice" of grammatical exercises (Warschuer & Meskill ,2000 : 304).

Conversely, audio-lingual method used the audio-tape as the perfect medium for learning through oral repetition. University language classes in the 1970s and '80s usually included obligatory sessions at the audio labs where students would perform the dreaded repetition drills.

By the late 1970s, the audio-lingual method was criticized and fell into disrepute, mainly due to poor results achieved from expensive language laboratories. Whether in the lab or in the classroom, repetitive drills which focused only on language form and ignored communicative meaning achieved poor results (ibid).

The 1980s and 1990s have seen a shift towards communicative language teaching, which emphasizes student engagement in authentic, meaningful interaction. Within this general communicative trend, two distinct perspectives are observed, both of which have their implications in terms of how to best integrate technology into the classroom. These two views can roughly be divided into cognitive and socio-cognitive approaches (Chapelle, 2001 : 22ff).

2.1 Cognitive Approaches

Cognitive approaches to communicative language teaching are based on the view that learning a language is an individual psycholinguistic act. From this perspective, language learners construct a mental model of a language system, based not on habit formation but rather on innate cognitive knowledge in interaction with comprehensible, meaningful language. Errors are seen in a new light, not as bad habits to be avoided but as natural by-products of a creative learning process that involves rule simplification, generalization, transfer, and other cognitive strategies. Learners' output (i.e., what they say or write), if relevant at all, is beneficial principally to the extent that it helps make input (i.e., what they hear or read, more comprehensible or salient so that the learners can construct their own cognitive models of the language (Gruba, 2006 : 628).

Technologies which support a cognitive approach to language learning are those which allow learners maximum opportunity to be exposed to language in meaningful context and to construct their own individual knowledge. Examples of these types of technologies include text-reconstruction software, concordancing software, and multimedia simulation software (Warschuer & Meskill, 2000 : 305).

Text-reconstruction software allows teachers to provide students various texts in which letters or words are either missing or scrambled. Students work alone or in groups to complete or re-arrange the texts, thus supporting a process of mental construction of the linguistic system. While such activity could in theory be carried out with paper and pencil, the computer facilitates the process for both teachers and students. Teachers can quickly and easily create re-arranged texts or cloze exercises (i.e., texts with deleted words) from

any original word-processed passage. Students can use hints provided by the computer to assist their learning process.

Concordancing software allows teachers or students to search through small or large texts to look for instances of the actual use of particular words. Concordancers are thus supplements to dictionaries in that they help illustrate the usage of a word, rather than just its definition. Concordancers are also useful for investigating collocational meanings (e.g., "large box" vs. "big box," or "think about" vs. "think over") or grammatical features (e.g., "was going" vs. "used to go") (Brown ,2007: 204).

Multimedia simulation software allows learners to enter into computerized micro-worlds with exposure to language and culture in a meaningful audio-visual context. The best of these programs allow learners a good deal of control and interactivity so they can better manipulate their linguistic input. For example ,one programme is a game for intermediate and advanced French learners that incorporates full motion video, sound, graphics, and text, allowing learners to "walk around" and explore simulated environments by following street signs or floor plans. To help language learners understand the sometimes challenging French, the program provides optional comprehension tools, such as a glossary and transcriptions of audio segments ,as well as a video album that includes samples of language functions. Students can also create their own custom video albums, which they store on their own computer diskettes.

[See also Brown ,2007 : 203ff]

2.2 Socio-cognitive Approaches

Socio-cognitive approaches, on the other hand, emphasize the social aspect of language acquisition; learning a language is viewed as a process of apprenticeship or socialization into particular discourse communities. From this perspective, students need to be given maximum opportunity for authentic social interaction, not only to provide comprehensible input but also to give students practice in the kinds of communication they will later engage in outside the classroom. This can be achieved through student collaboration on authentic tasks and projects ,while simultaneously learning both content and language (Gruba ,2006: 629).

The Internet is a powerful tool for assisting a socio-cognitive approach to language teaching, and it is in fact this fit of the Internet with a socio-cognitive approach which largely accounts for the new-found enthusiasm for using computers in the language classroom. The Internet is a vast interactive medium which can be used in a myriad of ways, as will be illustrated below.

3. Internet & Classroom Communication

There are several different approaches for using the Internet to facilitate interaction within and across discourse communities. One way is to use online activities to foster increased opportunities for interaction within a single class. This takes place both through computer-assisted classroom discussion and through outside-of-class discussion (Salaberry ،1999 : 106).

3.1 Computer-Mediated Communication in a Classroom

Computer-assisted classroom discussion makes use of synchronous ("real-time") writing programs. The class meets in a networked computer lab, and students communicate through writing rather than through talking. Students type in their messages and hit a key to instantly send the message to the rest of the class. All the messages are listed chronologically on the top half of the screen and can be easily scrolled through and re-read. The entire session can later be saved and passed on to students, either in electronic form or hard copy (Warschuer & Meskill ،2000 : 307).

Outside-of-class discussion is usually carried out using asynchronous tools, such as e-mail or conferencing systems. Special lists can be set up so that students' messages get automatically forwarded to either a small group or the whole class (ibid).

Electronic communication within a single class might be viewed as an artificial substitute for face-to-face communication. However, it has been found to have a number of beneficial features which make it a good tool for language learning. First, computer-assisted discussion tends to feature more equal participation than face-to-face discussion; teachers or a few outspoken students are less likely to dominate the floor, resulting in class discussions which are more fully collaborative (Swan and Frazer, 1997: 47). Second, computer-assisted discussion allows students to better notice the input from others' messages and incorporate that input into their own messages, thus expanding opportunities for learning of new linguistic chunks (e.g., collocations, common phrases). Third, computer-assisted discussion, which takes place in writing and allows more planning time than does face-to-face talk, features language which is lexically and syntactically more complex than oral talk. Finally, since computer based discussion can take place outside of the classroom, it provides students increased opportunities to communicate in the target language. For all these reasons, language teachers (especially but not exclusively in courses which feature writing) have found single-class computer-mediated communication projects to be beneficial (ibid : 308).

3.2 Computer-Mediated Communication for Long Distance Exchange

Computer-mediated communication between long-distance partners offers many of the same advantages, and then some. In particular, it allows students the opportunity for

target language practice in situations where such practice might otherwise be difficult. This is especially important in foreign language instruction where students might have few other opportunities for authentic target language use.

Long-distance exchange projects have been organized in a number of ways, generally using e-mail but also using Web-based conferencing systems or various types of software for synchronous chatting. The most effective exchange projects are ones that are well-integrated into the course goals and are based on purposeful investigation rather than just electronic chat. Such projects might involve joint exploration of culture, social conditions, film, or literature and often result in some kind of collaborative publication (Cummins & Sayers, 1997: 106).

3.3 Accessing Resources and Publishing on the World Wide Web

The World Wide Web (WWW) offers a vast array of resources from throughout the world. While the majority of Web pages are in English, increasing numbers exist in other commonly-taught languages, including Spanish, French, German, Japanese, and Chinese. Accessing and using these pages in language education supports a socio-cognitive approach by helping immerse students in discourses that extend well beyond the classroom, their immediate communities, and their language textbook. This is particularly critical for foreign language students who otherwise experience the target culture only through their instructor and select curricula. Students can use Web pages as authentic materials for conducting research on culture and current events or for gathering material for class projects and simulations. Students can also publish their own work on the World Wide Web, thus enabling writing for a real audience. In some cases, teachers have created in-class online newsletters or magazines that their classes have produced. In other cases, teachers help their students contribute to international Web magazines which include articles from many students around the world. And in other situations, students work together in collaborative teams internationally and then publish the results of their projects on the Web.

One particularly creative application pairs new technologies with service learning, in which students perform an authentic service for community organizations. At a college in Hawaii, ESL students work in small groups to make a Web site on behalf of a community organization. They interview members of the organization, gather information and documents from them, and put everything together in a coherent online package, learning both writing and presentation skills in the process (Warschuer & Meskill, 2000 : 307).

4. Advantages and Disadvantages

Before embarking on providing the merits and demerits of utilizing technology in language teaching and learning. One question often asked by administrators is whether or not technologies truly "work," that is, if they promote language learning and do so in a cost-effective way.

The answer is related to two points. First ,the world of online communication is a vast new medium, comparable in some ways to books, print, or libraries. To our knowledge, no one has ever attempted to conduct research on whether the book or the library is beneficial for language learning. Seeking similar sweeping conclusions on the effects of the computer or the Internet is equally futile . (See also Brown ،2007: 200ff)

Second ,even more importantly, new communications technologies are part of the broader ecology of life at the turn of the century. Much of our reading, writing, and communicating is migrating from other environments (print, telephone, etc.) to the screen. In such a context, we can no longer think only about how we use technologies to teach language. We also must think about what types of language students need to learn in order to communicate effectively via computer. Whereas a generation ago, we taught foreign language students to write essays and read magazine articles, we now must (also) teach them to write e-mail messages and conduct research on the Web. This realization has sparked an approach which emphasizes the importance of new information technologies as a legitimate medium of communication in their own right rather than simply as teaching tools (Potter ،2001 : 106).

In brief, the advantages of using new technologies in the language classroom can only be interpreted in light of the changing goals of language education and the changing conditions in postindustrial society. Language educators now seek not only (or even principally) to teach students the rules of grammar, but rather to help them gain apprenticeship into new discourse communities. This is accomplished through creating opportunities for authentic and meaningful interaction both within and outside the classroom, and providing students the tools for their own social, cultural, and linguistic exploration. The computer is a powerful tool for this process as it allows students access to online environments of international communication. By using new technologies in the language classroom, we can better prepare students for the kinds of international cross-cultural interactions which are increasingly required for success in academic, vocational, or personal life (ibid).

However ,the potential disadvantages of using new technologies for language teaching focus on three aspects: investment of money, investment of time, and uncertainty of results.

A. Investment of Money

Uses of new technologies in the long run tend to result in higher productivity, at least in the economic sphere. Productivity in education is certainly harder to measure, but it is not unreasonable to assume that over time new technologies will help create more effective education (bearing in mind the earlier point that the goals and nature of education are changing in the information age, thus making direct comparisons difficult). In any case, whatever results may be achieved over the long term, there are definite startup expenses related to implementing new technologies in education. For college language learning programs, such expenses usually entail hardware, software, staffing, and training for at least one networked computer laboratory where students can drop in and use assigned software and one or more networked computer laboratories where teachers can bring whole classes on an occasional or regular basis. Intelligent use of new technologies usually involves allocations of about one-third for hardware, one-third for software, and one third for 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 over for staff training, maintenance, or software (Warschuer & Meskill, 2000 : 309).

B. Investment of Time

Just as technologies may save money over the long term, they also may save time. But, potential long-term benefits to an institution are little consolation to an individual teacher who is spending enormous amounts of time learning constantly-changing software programs and trying to figure out the best way to use them in the classroom (Gruba, 2006: 642).

Increased demands on time are due in part to the difficulty of using new online multimedia technologies in their still-early stages (comparable, perhaps, to the early days of tuning a radio or starting a car when those machines were first invented). However, time demands are caused not only from learning how to master the technology, but also from the changing dynamics of the online classroom. As indicated earlier, new technologies create excellent opportunities for long-distance exchanges, but such exchanges can be extremely complicated in terms of coordinating goals, schedules, and plans, especially when involving teachers from different countries or educational systems. Also, another benefit of electronic communication that it provides opportunities for student-initiated communication can also create a time burden, as a teacher's e-mail box becomes flooded with messages from previously-reticent students (Warschauer, 2000: 524).

C. Uncertainty of Results

It seems that there is no single predictable outcome for using computers, any more than there is for using books or libraries. Thus teachers and institutions are expected to invest large amounts of time and money without any guarantee of achieving particular results.

Research in both the business sphere and in education (Warschauer, 1999 ; 107) indicates that simply bringing new machines into an institution does little to bring about the kinds of social transformation needed to make effective use of those machines. Whether in workplaces or in schools, the natural tendency is to use new technologies in ways consistent with previous methods of organization and practice. This can often result in inefficient or even demotivating uses of computers, in which workers or students see their interpersonal connections and personal power reduced (for example, through highly automated uses of technology such as computer-based drills) rather than increased.

It is essential to affirm here that new online technologies match well with newer approaches to language teaching, in which students are viewed not as empty vessels to be filled but rather as active agents collaborating in their own learning process. Yet even in situations where instructors already adhere to such a perspective, teaching in an online environment can challenge teachers' epistemologies and practices. The online world presents important new challenges, and learning how to integrate new online technologies into the classroom will likely be as long and complicated a process as doing the same has been in the business world, but made even more difficult in education by lack of dependable funding for equipment and support (Crook ,1994: 17).

Having said all of this, we still believe that integrating new technologies should be an important goal of language programs, but a goal of which the cost and complexity should not be underestimated. The most effective technology-enhanced language programs take many years to develop and are based on much trial and error, administrative support for teacher experimentation and collaboration, and sustained, careful attention to the forms of social organization and pedagogy which accompany the use of new machines (ibid).

5. Conclusion

It has been noticed from the discussion above that the appropriate use of new technologies provides the means to help reshape both the content and process of language education and allows for a more thorough integration of language, content and culture. New technologies, in one way or another, provide students with unprecedented opportunities for autonomous learning. Moreover ,The use of new technologies allows students to engage in the types of online communication and research being matter of success in their in their academic and professional careers.

It is an obvious that language learning is an act of creativity ,imagination ,exploration , expression ,construction and profound social and cultural collaboration. If computers are used to thoroughly humanize and enhance this act ,rather than to try to automate it ,we can help bring out the best at human and machine have to offer. In brief ,we can say that " the key to successful use of technology in language teaching lies not in the hardware or software but in 'humanware' " This indicate that our capacity, as teacher ,to plan ,design , and implement effective educational activity.

6. References

- Brown ,H. D. (2007) *Teaching by Principles: an Interactive Approach to Language Pedagogy*. San Francisco : Pearson Education.
- Chapelle ,C. A. (2001) *Computer Application in Second Language Acquisition*. Cambridge : Cambridge University Press.
- Crook ,C. (1994) *Computers and the Collaborative Experience of Learning*. London : Routledge.
- Cummins ,J. and Sayers ,D. (1997) *Brave New School : Challenging Cultural Illiteracy*. New York : St. Martin Press.
- Gruba ,P. (2006) " Computer Assisted Language Learning (CALL). In A. Davies and C. Elder (Eds.) *The Handbook of Applied Linguistics*. Oxford : Blackwell Publishing. 623–648.
- Hooper ,S. and Reiber ,L. P. (1995) "Teaching with Technology". In A. C. Ornstein (Ed.) *Teaching : Theory into Practice*. Needham Heights : Allyn and Bacon. 154–170.
- Jordan ,W. R. and Follman ,J. M. (1993) *Using Technology to Improve Teaching and Learning*. New York : Pearson Education.
- Potter ,W. J. (2001) *Media Literacy* (2nd edn.) Thousand Oaks : Sage Research Agenda. *Language Learning and Technology*, 3, 104–7.
- Warschauer ,M. (1999) *Electronic literacies : Language ,Culture and Power in Online Education*. Hillsdale ,NJ: Lawrence Erlbaum Associates.
- (2000) "The Changing Global Economy and The Future of English Teaching". *TESOL Quarterly* ,34, 511–35.
- Warschauer ,M. and Meskill ,C. (2000) "Technology and Second Language Learning". In J. Rosenthal (Ed.) *Handbook of Undergraduate Second Language Education*. New Jersey : Lawrence Erlbaum. 303–318.