

Web-based English learning and teaching in Taiwan: Possibilities and challenges

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In August 1991 Tim Berners-Lee publicized his new World Wide Web project and marked a milestone in the history of Internet. Since then the modern Internet has created a profound impact on almost every aspect of our life including, of course, English learning and teaching. Later, computer-assisted language learning (CALL) has rapidly shifted to network-based language learning. However, the tsunami of web-based language learning and teaching has come so fast and overwhelmingly that a large majority of English teachers in Taiwan have not technically or pedagogically prepared for this educational reform. This paper will first introduce theoretical framework of network-based language teaching. Next, it will present how Internet can be effectively used in language teaching and learning and also give some practical guidelines on preparation for web-based English learning and teaching. Then, it will also explore some challenges that most English educators may face when we would like to apply Internet to our teaching and how we can overcome those difficulties. Finally, the paper will conclude with the implications and future possibilities for using Internet in foreign language classrooms.

INTRODUCTION

Affordable microcomputers became widely available to language learners and teachers in the early 1980s. Throughout the 1980s computer-assisted language learning (CALL) widened its scope and gained professional visibility, embracing the communicative approach and a range of new technologies, especially multimedia and communications technology. According to Chapelle (2001, p.8), in the 1983 annual TESOL convention, some papers arguing methodological issues were presented and suggestion was put forward to establish a professional organization – Computer-Assisted Language Instruction Consortium (CALICO) – devoted to the issues involved in language learning technology. By the middle of 1990s, because the creation of World Wide Web, instructional network was no longer confined to the network of a LAN in a computer lab.

According to *Wikipedia*, a free online encyclopedia, the idea of computer network intended to allow general communication between users can date back to ARPANET of 1969. The ARPANET computer network also made a significant contribution to the evolution of e-mail. However, the creation of modern Internet originates from 1990s; in August 1991 Tim

Berners-Lee publicized his new World Wide Web (WWW) project and laid a solid foundation of today's Internet. In 1993, he created HyperText Markup Language (HTML), a computer language designed for the creation of web pages, and HyperText Transfer Protocol (HTTP), a primary method used to convey information on the WWW. Since then, the modern Internet has been booming in almost every aspect of our life including EFL learning and teaching.

Before the growing prevalence of WWW, efficient and convenient emails are probably the most popular application of Internet on English learning and teaching. Since the 1990s, many researchers have used email in foreign language instruction (Lunde, 1990; Soh & Soon, 1991; Kelm, 1992), in writing (Hawisher & Moran, 1993), and in comparison of different communication modes (Mabrito, 1991; Kern, 1995; Warschauer, 1996a).

It can be concluded that because reasonably priced computers were readily available in 1980s, the development of CALL peaked from 1980s to the early of 1990s. Then, the growth of modern Internet dramatically changed language education and more or less replaced the role of CALL. The explanation about CALL and NBLT given in the first chapter of *Network-based Language Teaching: Concepts and Practice* (Kern & Warschauer, 2000) properly depicted the changes of CALL in 1980s and 1990s:

This book deals with one form of CALL, what we call *network-based language teaching* (NBLT). NBLT is language teaching that involves the use of computers connected to one another in either local or global networks. Whereas CALL has traditionally been associated with self-contained, programmed applications such as tutorials, drills, simulations, instructional games, tests, and so on, NBLT represents a new and different side of CALL, where human-to-human communication is the focus. Language learners with access to the Internet, for example, can now potentially communicate with native speakers (or other language learners) all over the world twenty-four hours a day, seven days a week, from school, home, or work. That learners can communicate either on a one-to-one or a many-to-many basis in local-area network conferences further multiplies their opportunities for communicative practice. (p.1)

Chapelle (2000) also pointed out that although NBLT might be considered one type of CALL, they are considerably different in terms of the perspective of second language acquisition (SLA). While pre-network CALL learners in 1980s interacted with a computer program, users after the middle of 1990s usually interacted with other people in NBLT activities (p. 204).

THEORETICAL FRAMEWORK OF NETWORK-BASED LANGUAGE TEACHING

In the past 40 years, language educators and researchers have built comprehensive conceptual rationales for language learning and teaching. Is network-based language teaching also based on a solid theoretical framework that corresponds to the development of language acquisition theory? Charles Crook (as cited in Kern & Warschauer, 2000) studied

computer-based educational activities and brought forward three metaphors of computer's function in language learning. They are a tutorial metaphor (computer-as-tutor), a construction metaphor (computer-as-pupil), and a toolbox metaphor (computer-as-tool). These three metaphors of computer-based educational activities coincidentally have paralleled the development of computer technology and language teaching respectively. Table 1 summarizes the trend of language teaching theory and the progress of CALL.

Table 1. Different aspects of CALL in structural, cognitive, and sociocognitive framework

	<i>Structural</i>	<i>Cognitive</i>	<i>Sociocognitive</i>
<i>History of computer development</i>	mainframes	personal computers	networked computers
<i>How is language understood to develop?</i>	Through transmission from computer users. Internationalization of structures and habits through repetition and corrective feedback	Through the operation of innate cognitive heuristics on language input.	Through social interaction and assimilation of others' speech.
<i>What is the role of computers?</i>	To provide grammar and vocabulary tutorials, drills, practices, and immediate feedback	To provide language input and analytic and inferential tasks; learners use their existing knowledge to develop new understanding	To provide alternative contexts for social interaction; to facilitate access to existing discourse communities and the creation of new ones
<i>Crook's metaphor of CALL</i>	tutorial metaphor (computer-as-tutor)	construction metaphor (computer-as-pupil)	toolbox metaphor (computer-as-tool)

(adapted from Kern & Warschauer, 2000)

A great number of educators and researchers have devoted their efforts to research and practice of NBLT in 1990s. For example, teachers around the world submitted their CALL activities compiled by Warschauer (1995) for *Virtual Connections*, a volume dedicated to online activities and projects for networking language learners. From learning and pedagogical perspective, many teachers shared with others their use of e-mail, the World Wide Web,

computer conferencing, and other forms of computer-mediated communication for the foreign and second language classroom.

APPLICATION OF INTERNET TO EFL TEACHING AND LEARNING

Because the explosive growth of modern Internet and widespread application of WWW to EFL learning and teaching from the beginning of 1990s, most English teachers in Taiwan probably will not ask whether we should apply Internet to our classroom language instruction. Instead, we may ask how we can make the best use of Internet on EFL teaching. Some pedagogical applications of Internet to EFL teaching are introduced.

Keypal Exchange for Collaborative Learning

Until the middle of 1990s, the activity of cross-cultural email exchanges facilitated by language instructors from different countries was a major application of CALL to EFL teaching. A lot of researches have been done on comparing participation of class members, collaboration of language learners, and interaction of students between the computer-assisted setting and the face-to-face classroom (Cooper & Selfe, 1990; Warschauer, 1996a). For example, Warschauer, Turbee, and Roberts (1996) examines whether networked computers are an effective medium of communication for empowering ESL learners in terms of autonomy, equality and learning skills. Some well-known web sites that offer matching services of email exchanges to enhance students' language skills include Intercultural E-mail Classroom Connections (IECC) and International E-Mail Tandem Network. On the homepage of IECC, it has the following testimonial: "IECC is a free teaching.com service to help teachers link with partners in other cultures and countries for email classroom pen-pal and other project exchanges. Since its creation in 1992, IECC has distributed over 28,000 requests for e-mail partnerships." However, it seems that keypal exchange projects have been not so popular in the past few years. Therefore, teachers who are interested in keypal exchanges may not find ideal matching classes easily.

Listserv and BBS for Information Sharing

Except email exchanges, two other modes of asynchronous communication are listserv and bulletin boards. Listserv, or mailing list, is a list of e-mail addresses identified by a single name, such as *listserv@cunyvm.cuny.edu*. When e-mail is addressed to a Listserv mailing list, it is automatically broadcast to everyone on the list. Bulletin board system (BBS) provides a variety of topical newsgroups or discussion forums in which participants with common interests can exchange open messages. Most students in Taiwan like to use BBS to share information with other users island-wide during 1990s. On the other hand, some English educators prefer to join specialized mailing lists to communicate with experts all over the

world. Therefore, BBS can serve as a learning tool if students can find a suitable board to join; listserv can also be used as an effective medium for teachers to seek professional solution.

Web Sites as a Learning Community

The birth of WWW in 1991 has drastically altered facets of CALL and NBLT. Features and functions of web-based learning environment are greatly different from previous applications of Internet in the following aspects.

A. Multimedia Presentation. The WWW uses a web browser as a graphical user interface to the Internet. With rapid progress of information technology, web sites, which contain pages of text and graphics, have become more sophisticated because richer data types are now available, including audio, animation, and video (Galbreath, 1997; Doherty, 1998).

B. Dynamic Interaction. Through CGI, Javascript, PHP, ASP, and some other computer programs, English teachers can add discussion forums or chat sessions to their online courses and receive feedback from users they have never met.

C. Database-enabled Interactivity. The more advanced application of Internet is the integration of web sites and database by compiling scripts. Search engines, computer-adaptive test (CAT), and course management system (CMS) are some examples of database-enabled interactivity.

Computer-Mediated Synchronous Interaction

A. Instant Messenger. According to *Wikipedia*, an early form of instant messaging was implemented on the PLATO system in the early 1970s. ICQ was the first general instant messenger introduced to the internet, in November 1996. However, two dominating instant messengers in the early of 2000s in Taiwan are MSN Messenger and Yahoo Messenger. Most instant messengers can automatically keep a record of a user's conversations as an XML format which is useful for instructors and researchers to retrieve their own chat log. An experimental 4-hour online virtual class with MSN Messenger was arranged by Wu (2004). A group of 3 to 4 students logged in during a given period to have written synchronous communication with their instructors. Students are required to type only English; those who didn't log in had to access an online supplementary learning web site to read articles and answer questions given. The result of a survey showed that the learning effectiveness was not satisfactory, but most students found that they had better interaction with teacher in this MSN online virtual class.

B. Internet Telephony Skype. Most instant messengers also have audio function.

With microphone and speaker attached to computers, users can talk their friends far away. However, the audio quality of conversation is not acceptable compared to global peer-to-peer telephony software Skype. Skype offers high-quality computer-mediated synchronous audio and textual communication. Nevertheless, Skype is a new emerging technology and the potential application of it to language learning and teaching needs to be further explored.

Blogs

Blogs, online personal journals that are frequently updated, have existed in the cyberspace community since 1998. However, it seems that blogs haven't received attention so far here in Taiwan. In a survey I gave to my students both at National Tsing Hua University and Chung Hua University in the beginning of 2005, 75% of young-generation students hadn't heard about what a blog was before I asked them to create one (Wu, 2005). Research about how blogs can be effectively used in class instruction has hardly been done. Basically, the visibility of blogs in Taiwan is still poor. Nonetheless, the fact that blogs are sprouting up somewhere else makes them a potential learning and teaching tool. The cover story of the first issue of *Fortune* magazine in 2005 introduces "10 tech trends to watch in 2005", and blog ranks the first one. "According to blog search-engine and measurement firm Technorati", *Fortune* reports, "23,000 new weblogs are created every day – or about one every three seconds" (p.34).

With a few simple steps in a graphical user interface, teachers can easily use the blog to create a collaborative learning environment in which students can peer edit others' postings (Mitchell, 2003; Dieu, 2004). Students should be encouraged to comment their partner's postings, which can also be shared by other classmates.

In addition, the feature of automatic date-stamping for each post is quite useful. Students' emails may, for some technical glitches, not reach their teachers or be carelessly deleted by their teachers. With the automatic date-stamping function, both teachers and students know clearly when students submitted their assignments.

GUIDELINES OF WEB-BASED EFL TEACHING

What are the guidelines for English teachers who would like to use WWW in their language classroom? In order to make effective use of WWW, English teachers should focus on some basic pedagogical requirements rather than just dedicate ourselves to improving computer skills. Warschauer and Whittaker (1997) set five following guidelines to help teachers implement network-based activities into the EFL classroom: (1) consider carefully your goals, (2) think integration, (3) don't underestimate the complexity, (4) provide necessary support, and (5) involve students in decisions. These guidelines are further elaborated below.

Consider Carefully Your Goals

Some of the possible reasons for using Internet in EFL classroom include increasing students' motivation (Warschauer, 1996b) and providing an authentic audience for written communication. One of the ideal goals is to develop students' "technology-enhanced literacy and communication skills in the English language classroom" (Warschauer, Shetzer, and Meloni, 2000, p.87).

Think Integration

Internet should not be used in an English classroom just because everyone uses it in a daily life. Instead, English teachers have to think of how web-based activities can be integrated into the overall design of a course rather than how to use them in an isolated, disconnected fashion.

Don't Underestimate the Complexity

Both teachers and students have different computer literacy. Designing your own web site and integrating it into your language teaching is not as easy as using word processing, spreadsheets, or presentation software. Without the help of assistants experienced with computers, an English teacher should own at least basic knowledge of web design such as HTML and audio editing. Computer literacy of EFL students also varies considerably. While a few of them have basic prerequisites for CALL, most of them still have difficulty troubleshooting computer problems. If web-enhanced activities involve cross-cultural learning projects, exchanges between classes are even more complex considering absent students of the partner class, holidays, or different time zones if you are going to have synchronous communication.

Provide Necessary Support

If you are going to offer a web-based English class, students may depend on you to provide technical support. English teachers who think themselves not qualified enough should work with the staff of computer center or Internet-literate assistants to offer necessary help.

Involve Students in Decisions

In a learner-centered, network-enhanced classroom, teachers must learn how to shift their role from an authority to a guide or facilitator. That's to say, in a project-based and student-centered learning environment, teachers can try to help students coordinate group planning, give students language-specific assistance, and help students foster appropriate learning strategies during Internet-based project activities.

CHALLENGES OF WEB-BASED EFL TEACHING

Even though web-based EFL teaching seems to have enjoyed a bright prospect because of potential benefits of the Internet, it is in fact full of challenges and obstacles. The disadvantages of web-based EFL learning and teaching can be summed up as follows.

Technical Issues

Even if an English teacher has learned how to design a web for web-based class, it may still not attract enough students to make the best use of teacher's web site because of the functions, purposes, and interactivity of it. Employing user-friendly web design software to create a web site is, to an extent, not that difficult, but integrating database-enabled interactivity into teacher's web site is a current trend in NBLT and is also a high threshold to English instructors without the help of programmers. In addition, when the network traffic stalls due to many users or some other network glitches, it may take time to access information or browse the Internet. Most students may feel discouraged if they have to wait long for web sites to appear. English teachers may also feel frustrated if they are not computer literate to debug computer- or Internet-related problems in web-enhanced language classes (Singhal, 1997). One of the possible solutions is that the computer center of universities can offer some training programs or schools reimburse tuition for English teachers who attend computer courses or seminars given by professional institutes.

Digital Skepticism

Most EFL teachers in Taiwan are prone to technophobia because of lack of experience with computers. In addition, not all English teachers praise the merits of technology in the digital classrooms. Peterson (as cited in Towndrow & Vallance, 2002, p.41) highlighted a number of negative impacts of computers on education. Some of the doubts are:

- (1) information overload can lead to techno-stress;
- (2) computer-mediated synchronous communication has generated more text with minimal interaction;
- (3) learners' disappointment due to a lack of immediate feedback;
- (4) without enough CALL training for English teachers, NBLT simply result in learner apathy, disorientation and abuse.

Time-Consuming

Most EFL teachers who have ever used self-made, web-based language learning materials in their instruction will agree that it is quite time-consuming to design, edit, and modify your digital learning materials. Therefore, instructors may resist using Internet-based

activities or projects that require substantially more preparation time (Lee, 2000). If institutes that teachers are working for don't offer funds as an incentive to support their English teachers, some may feel not worthwhile to spend so much time designing and updating their web-based learning materials. A rule of thumb to estimate how much time one has to spend in developing one-hour online materials is multiple three times. That is, it may take you as many as three hours to prepare a one-hour online material.

Credibility of Web sites

In this information explosion age, millions of web sites we found from a powerful search engine such as Google are just the tip of the iceberg. For example, I typed "English learning" as key words in Google to look for web sites; it responded 55,600,000 matched items found in 0.08 second. Does it make any sense to English learners? Who will browse all these matched web sites? Are students well trained to judge what features a good web site should have? Are articles of the web site genuine and credible? Are they unbiased and updated? In addition, the Internet like a reservoir of knowledge offers access to all types of issues and topics, some of which are unsuitable for younger language learners (Singhal, 1997).

IMPLICATIONS AND CONCLUSION

Even though there are formidable challenges that we have to face and technology has also brought some negative impacts on language learning, Internet can also add value to a student's learning if this new technology is effectively harnessed. If NBLT is a growing trend that we can not reverse, we as English educators can be critical of the use of web-based learning materials in our teaching, but can not become an academic Luddite resisting progress of educational technology.

Applying NBLT to EFL instruction, English teachers must become familiar with operating system, common packaged applications (such as *Word*, *PowerPoint*, and *Media Player*), and web design software (such as *FrontPage* or *Dreamweaver*). The basic functions of computers and Internet are also necessary; some examples are using search engine, transferring files, and creating digital audio and video files.

Obviously, the computer itself, like any other educational technology (e.g., overhead projectors, tape recorders, CD players), does not bring about improvements in language learning. Never can they substitute English teachers. Engaging in CALL and NBLT is a continuing challenge that requires time and commitment. Internet is just a fast, convenient, and powerful learning tool; what matters is social interaction behind it.

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