Electronic Literacy and Critical Analysis Skills for Learners of Second Languages

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Abstract. The teaching of foreign languages is usually delivered in traditional classrooms, using traditional teaching methods. However, new technology is changing the environment where students learn. Therefore, teachers of second languages could adapt their teaching methods to adopt new technology to bring a more relevant learning experience to students. When using the Internet as an adjunct to language classes, teachers and learners of technology are confronted with an overwhelming array of information, much of it of unknown quality. Critical analysis skills and electronic literacy must be taught, encouraging learners to question the context of information on the Internet, understand its culture, and become critical and productive consumers of the World Wide Web.

Problem: Excellent Internet resources are underused in teaching second languages, because of low levels of Electronic Literacy and Critical Analysis skills among learners of second languages.

Aim: Present Electronic Literacy, focusing on Critical Analysis Skills for L2L.

Research Methods: Literature Review, qualitative interviews.

The Study of Languages and Electronic Literacy

Education around the world is increasingly affected by advances in technology, creating challenges in some areas, especially language learning. Corporate universities offer programs in many subjects, but few provide language courses online, possibly indicating a lack of success in this area. The purpose of the study of second languages is to understand people and their messages. To understand their messages, we must understand their values and culture. Professor Ngugi wa Thiong’o states “a language is the producer of a community, and enables it to renew itself in culture.” He states “…culture is to a community what a flower is to a plant” (Ngugi wa Thiong’o, 2000).

Why Electronic Literacy?

Because learning a second language is largely a communicative process, many believe that the excellent resources enabled by information technology enhance Language Learning (Alvarez, 2002) (Terril, 2000), and should be considered an adjunct to traditional language classes.

In order to use technology to its fullest potential, learners of second languages must learn how to use the software and evaluate the information that comes to them. The study of English, enhances the learning of this information technology, because much of the information on the Internet is presented in English, or has been created by speakers of English (Flynn, 2000) (Kenny, 2000). By teaching technology and second language simultaneously, teachers can use an “Electronic Literacy” approach, creating a synergized learning experience (Shetzer & Warschauer, 2000) (Markee, 2000) (Johnson, Dingley & Clankie, 2000). Through globalization and the proliferation of technology, Electronic Literacy is increasingly critical to success in almost all professions (Shetzer & Warschauer, 2000). The factory foreman in Turkey will need to use a computer, and occasionally browse the Internet to identify and order spare parts. A manager of a fish farm in Uruguay will need to research the pathology of certain diseases that threaten the success of the business.

Electronic Literacy: a Shifting Target

In 1811, Englishman, Ned Ludd and his followers began to actively resist the technological changes that had negative economic consequences on them. Many people were killed during the next five years as his followers (called “Luddites”) tried to stop the technological changes in their communities (Simkin, 1999). Perhaps the violence that ensued could have been prevented through technology literacy.

All technology changes constantly, especially information technology. Therefore, in order to maintain literacy, people must continue to use, and seek continuing education and training in the use of technology, to embrace the changes that are certain to define the components of Electronic Literacy.
In 1995, professor Mark Warschauer published “E-mail for English Teaching,” espousing the interactivity of communication on the Internet for teaching English to learners of second languages. In 2000, he published his landmark sequel, “Internet for English Teaching,” (Warschauer, 2000) where he outlined the components of Electronic Literacy:

- Communication – e-mail, chat rooms, message boards, etc.
- Construction – Web site construction.
- Research – Critical Analysis, search engines.

The Electronic Literacy component of communication corresponds to the traditional pedagogy of speaking and listening. Construction corresponds to print media’s writing of papers and texts. The Research component is widely available on the Internet, through search engines, whereas traditional pedagogy presents research in the classroom only minimally as determined by the teacher (Markee, 2000).

The basics of communication are relatively easy to learn. E-mail, chat rooms, Web boards, all use simple procedures. The creation of Web pages can be done simply, using free tools on-line (Trellix, Inc.), although quality creation requires competence with the “Research” component of Electronic Literacy, the most difficult component for learners of second languages to master (Shetzer & Warschauer, 2000).

Why Critical Analysis?

With millions of Web pages of content competing for the students’ attention, it is difficult for a novice to easily harvest the desired information. The Internet has been compared to the world’s largest library. Using this analogy, if a person who has never been in a library before, steps into a huge traditional library, she would suddenly be confronted with millions of pieces of information, and no knowledge of how to find the desired information. Even if she asks a librarian, she may be directed to a shelf or a stack, or perhaps to microfilm, microfiche, a computer database, CD-ROM, periodicals, or other locations, requiring the use of mysterious technology. Only after training or self-teaching does she begin to understand the complex relationship between indexes and holdings, and the technology required to access them. Similarly, the Internet-connected computer offers a wealth of information, but there is no librarian available to direct her to the correct information, or how to connect to the Internet. A few “real language” search engines exist (Ask Jeeves, Inc.), but she must first somehow find them.

Once information has been requested (usually from a search engine) and then found, she must decipher the array of choices, and choose the link to follow. She will likely be inundated with advertising, incorrect results, and other unwanted “noise,” interfering with her research. The information must be judged within a number of contexts, including:

Is the information correct, or incorrect?

Is the information more biased to a particular perspective or less biased?

Is the information commercially oriented or is it non-profit?

These judgments are often difficult to make, especially for novices to Electronic Literacy. Creators of information may have reasons for disguising their motivation for publishing information on the Internet.

Critical Analysis empowers users to determine the author/s of the site and the validity of the message. For example, a user may purchase airline tickets by visiting a travel Web site that browses ticket prices and availability from competing airlines, therefore, appearing to direct a user to the lowest available fare. It may not be clear that the site is actually owned by a specific airline, and serves only the largest air carriers. Other tickets may be available at a lower cost, at a more convenient time, or on a smaller airline, but this information may not be presented. Similarly, one company may own another related company. Any information on either of the Web sites about the other site could be biased (Van Duzer & Florez, 1999). Other Web sites should be examined for different perspectives.

Because Critical Analysis is an integral part of Electronic Literacy, learners must be taught how to analyze the same information from different perspectives, using different Web sites, preferably with opposing perspectives.

Electronic Literacy and the Constructivist Approach

Information technology can help redefine the roles of teachers and learners of second languages (Vazquez-Montilla & Zhu, 2000). By utilizing the interactive component of communication, learners can more actively participate in their curriculum. They can seek personally developed goals, in coordination with the teacher, help construct their individual learning experience, which could result in increased learner motivation.

Although information technology is usually considered an assistive technology when learning second languages, there has been some success with fully automated Computer Assisted Language Learning (Hanson-Smith, 2000) (Soo & Ngew, 1998), but these have limited scope. For example, learners may have unusually high motivation for self-study, and access to unusually high quality materials and computers.

The Internet is the Medium of Electronic Literacy

In the 1960’s, Marshall McLuhan published a milestone book, “The Medium is the Message.” This book proposed that the context of the message is as important to consider as the message itself, and becomes part of the message. The Internet also follows this concept, as all material there must take into account the technical considerations as well as the possibilities (McLuhan, 1967). As computers can present all media, and the Internet can interactively deliver all media to computers (within the limits of connectivity and bandwidth), the Internet has become the medium of Electronic Literacy. For teachers of second language, there
is a growing number of Second Language resources on the Web (Terrill, 2000).

Obstacles and Advantages in Electronic Literacy

There are many obstacles to Electronic Literacy. For example, the content on the Internet may interfere with learning, if the material represents values that are very different from the accepted values of the learners. The language itself may be highly technical, filled with jargon or slang. Accompanying advertising may be offensive, distracting, or enticing, preventing a learner from staying focused on his task. Unrelated information may masquerade as useful information, or just take up space. All these prevent learners from benefiting from Electronic Literacy. Because language learning is largely a communicative process, a skilled teacher must coordinate the training in Electronic Literacy with language learning.

While the Electronic Literacy training needs of teachers may be high, the costs for this training can be high, in terms of personnel, Internet-connected computers, and the time teachers must take to become Electronically Literate. However, the advantages are numerous. Electronic Literacy can assist people with learning disabilities who may have difficulty with traditional pedagogy (Schwarz, 2000). Numa Markee suggests “developing good (language) skills is often a prerequisite for good employment” (Markee, 2000). Also, Electronic Literacy sets up an interactive learning paradigm for lifelong learning, where the important learning component of motivation is integrated into the learner’s habits (Aix, 2000).

Electronic Literacy Components

Students can become engaged in learning with the assistance of various Internet components. Content portals and online resources versus textbooks and reading lists; rich multimedia and interactive content versus chalk and talk; inter-classroom collaboration online versus class discussion; web-tutoring on demand versus help after class; real-time student information systems versus quarterly report cards; and multiple locations (Stokes, 1999). With these advantages, the students receive the most recent updates in learning, participate more readily, learn with a wider variety of students, learn at their own pace, check their status in real-time, and participate in a wider variety of outlets for learning (Amiri, 2001).

Predominance of English on the Internet

The enormous growth of the Internet began shortly after the end of the cold war. The trend towards globalization, especially in information technology, has increased its pace, riding on the surge of Internet use. American popular culture is pervasive on the Internet, eclipsing the more traditional marketing in other countries (Markee, 2000). This trend increases the threat to undermine local culture.

There are some advantages to having English as a lingua franca on the Internet. By focusing on meaning, and using language in critical and constructive ways, a common language on the Internet could facilitate access to people resources and information sources relevant to increasing understanding of academic language (Cummins, 2000), as well as other information (Masters, 1998).

There are disadvantages as well. Teachers and learners of second languages may be confronted with information in social contexts that confront their personal values, attitudes, and realities (Van Duzer & Florez, 1999). While they may gain a more comprehensive understanding of the authors, their reactions may interfere with their learning, and may be misunderstood as representative of a larger population. In the teaching of language for specific purposes, English is especially dominant on the Internet (Masters & Brinton, 1998) (Masters, 1998).

Jim Cummins, of the University of Toronto suggests, “Unless active and authentic language use … is promoted in the classroom, students’ grasp of academic and conversational English is likely to remain shallow and passive” (Cummins, 2000). He also urges building of virtual communities across geographical, ethnic, and linguistic divides to address social inequities. This reinforces the importance of the component of Construction in Electronic Literacy.

While this trend may be pervasive, it is probable that the domination of English on the Internet will be neither innately positive nor negative, but will depend on how it will be used (Markee, 2000) (Cummins, 2000).

Understanding Internet Culture

The Internet was created in the United States, and the use of the World Wide Web is dominated by Americans. According to Cable News Network (CNN), sixty five percent of the Web traffic in 2000 was from the United States. While various sources predict increasing use of the Internet by other users, the United States will likely remain the dominant market force in the near future, creating an environment those new users will understand as they learn to use the Internet.

When a new media is invented, it initially uses the form of the old, familiar media. When motion picture films were first created, the content was usually created in the style of stage plays, although the lack of sound helped the medium quick mature. Early television added moving pictures to the old radio variety shows before it matured. The World Wide Web started out as a text based medium, adding pictures to the text, similar to newspapers and magazines. As the Internet matures, teachers can help learners use the Internet by giving assignments that draw from their personal interests combined with Internet research (Van Duzer & Florez, 1999).

Warschauer argues that a critical approach to the Relationship between Technology and Language Learning is needed to understand how to teach it (Warschauer, 1998). Competing interests provide different information with their search results, and many companies exist to help publicize (for a fee) these perspectives (Hoffinan, 2002). To critically judge the information, it is necessary to consider how the information is presented (Warschauer, 1998). Direct advertisements and sponsored links require
closer scrutiny than search engine results, although these can also be manipulated.

Creators of information on the Internet may not always wish to be easily identified, especially for controversial or emotional topics. Learners of Electronic Literacy may need to look closely at the site to identify the publisher. Additional research might be needed for the learner to identify the publisher’s motivations. For example, a Web site may offer free counseling, but to identify the author of the site as a religious organization users must examine the site closely. Even then it may be necessary to examine the author by looking at Web sites with different views. By asking learners to identify the messenger, teachers help learners clarify the message (Van Duzer & Florez, 1999).

Critical analysis assignments can be designed to focus on recognizing and deciphering Internet culture. One teacher uses “The Culturally Savvy Minute” (Johnson, Dingledy & Clankie, 2000), where students are asked to share an observation on U.S. Culture (helping develop critical analysis skills) then create Web pages about their presentation (The Construction component of Electronic Literacy), thereby, beginning dialogues on Internet Culture.

Recognize Invalid Information in E-Mail

When novices first begin using the Internet, they may embrace the information contained in e-mail as harmless or beneficial. Sometimes the Internet presents novice users with invalid information that usually interferes with the flow of information. On rare occasions, this information can be harmful. Teachers can teach learners to recognize and avoid this type of information.

“Spam,” or unsolicited commercial e-mail can flood Internet users with so much commercial e-mail that the intended interactivity becomes nearly impossible. The intended communication gets lost with thousands of advertisements. While tools exist to reduce the amount of spam, they are only partially effective (O’Reilly and Associates, 2001).

“Scams” are attempts to use e-mail addresses for profit. They are direct attempts to win sympathy and request donations or offer fantastic deals on merchandise. Sometimes, they appear to be for noble causes, and ask the user to pass the message to friends. The e-mail is used to collect e-mail addresses that can be sold to people who send spam (The Learning Network, Inc.).

“Urban Legends” are fantastic stories urging users to pass on spam e-mail to others. The stories are humorous or otherwise interesting, or tell false stories about certain cultures, ethnic groups, religions, nationalities, celebrities, or nations, in order to promote their own causes (Emery).

“Viruses,” “Trojans,” and “Worms” are destructive programs that sometimes come through e-mail. These programs attack computers and networks (Landesman).

E-mail message can be a combination of any of these components. Usually, the sender is difficult to determine, or unfamiliar, and the title of the message is designed to encourage a user to open the e-mail. Fortunately, there are Web sites that assist a user in identifying these e-mails as well as freeware and commercial software to block them.

Challenge: Preserve Local Culture

American cultural imperialism and the English language are recognized as being potent threats to local cultures. There are institutions to preserve local culture, such as Academie Francaise in France (Hedley, 1999). Because the nature of the Internet resists any regulatory body, the Internet allows easier access than ever before to American culture.

As the Internet is a medium of information, Cultural Imperialism on the Web can result in the replacement of local culture with foreign culture, including biased information presented as factual or unbiased.

Many global companies create “Localized Content” for their audiences in specific nations. In India, for example, users may watch an Indian version of a MTV, or view an Asian version of the CNBC Web site. Although the content appears to be local, it is influenced by the owning company, and, therefore, directed towards that company and its values.

Because of the dominance and bias of the large global entities on the Internet, it is increasingly important for communities to develop their own content to create a shared perspective on the Internet (Hedley 1999). After local content is created, sites must be publicized to search engines, in order to be effective. Many free and fee-based Web sites exist to help publicize new or changed Web sites (Tucows, Inc.).

Teaching the Teachers

In most institutions, making the change to an Electronic Literacy approach requires the support of a “Local Hero,” an administrator with the power, support, and willingness to make the changes. Teachers need directives to teach Electronic Literacy, a departure from the comfortable traditional curriculum. Teachers need to be compensated to learn Electronic Literacy, and time must be allotted for training and practice. Mostly, teachers need intense preparation, and quality training to effectively teach Electronic Literacy. It has been proposed that a formal program, with internationally created standards, is needed (Joffe, 2000).

Engaging the Students

To maximize a learner’s experience in Electronic Literacy, the student must be motivated and engaged in the learning process. To do this, the program should be designed to teach computer skills and language skills simultaneously, in the same exercises. By creating individual interaction and assignments, students become participants and creators in their learning.

Before the days of the Internet, language learners would become “pen pals” to help learn and practice their language skills. Similarly, the Internet can foster “key pals” for the same sort of individualized interaction. In their interaction with other students, learners can benefit
from real-world tasks, such as completing mutual homework assignments. Although it takes more preparation to further involve students, teachers in two locations can coordinate their efforts and become “sister classes,” coordinating exercises with each other, to maximize planned interactivity. Adult learners tend to prefer more individualized interaction, while younger learners of second language generally prefer a more guided experience (Hählman & Rilling, 2001).

The use of newspapers and other print media in second language classrooms has traditionally been underutilized. Perhaps this is because the only local content available was outdated or designed for a different audience. By extrapolating that example to the Internet, learners can be provided with rich, relevant, and interesting content that can be formalized into their instruction (Aiex, 2000).

Conclusions

For most learners, technology is a catalyst for learning a second language. It can transform the learning experience, with proper guidance from trained teachers. As an adjunct of Electronic Literacy, Critical Analysis is increasingly crucial to individual and enterprise success. Creation of local content is needed to preserve local culture in the face of cultural and economic imperialism. Formal teacher training is needed, and further research is needed to determine if internationally created standards for this training should be created.

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Elektroninio raštingumo ir kritinės analizės įgūdžių ugdymas mokant antrosios kalbos

Santrauka
Užsienio kalbų paprastai mokoma tradiciniais metodais ir tradicinėse auditorijose. Nauja technologija vis dėlto tik keičia mokymosi aplinką. Todėl antrosios kalbos mokytojams reikėtų pritaikyti mokymo metodus prie naujos technologijos, kad studentai gautų reikalingą mokymosi patirtį. Naudodamiesi internetu (kaip pagalbinė priemonė) ir mokytojai ir mokiniai gautų reikalingą mokymosi patirtį. Ugdant kritinės analizės ir elektroninio raštingumo įgūdžius, mokiniai turi būti skatinami analizuoti informacijos kontekstą internete, suprasti jos kultūrą, tapti kritiškais ir išmintingais interneto vartotojais.

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APPENDIXES

APPENDIX A
- Internet Tools for Building Electronic Literacy
- Web Board or other message based forum software (asynchronous)
- Real-time chat (synchronous)
- Web page creation tools
- WebTV, Blackboard, or other course-mediating software
- Research exercises

APPENDIX B
Selected Electronic Literacy Exercises

<table>
<thead>
<tr>
<th>Title</th>
<th>Levels</th>
<th>Aims</th>
<th>Class Time (hours)</th>
<th>Preparation Time (hours)</th>
<th>Resources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lightening the Load</td>
<td>High Intermediate</td>
<td>Understand and practice oral and written research reports; interpret and evaluate information</td>
<td>variable</td>
<td>2 - 4</td>
<td>Between the Lines or other source with &quot;issues&quot; content; Research project guidelines; Group evaluation form; Sample research proposal</td>
</tr>
<tr>
<td>Test Your Index Savvy</td>
<td>Intermediate</td>
<td>Practice using an English index; Practice scanning for information; Access computer-related materials and vocabulary</td>
<td>.5 - .75</td>
<td>2</td>
<td>Essentials of Computing and accompanying software package; Quizzes and answer sheets</td>
</tr>
<tr>
<td>Jigsaw-Schema Skim</td>
<td>Beginning</td>
<td>Activate background knowledge scheme of the topic read; Improve skimming for main ideas and retelling of key points</td>
<td>variable</td>
<td>.75</td>
<td>Newspaper or magazine articles; Overhead projector, transparencies and pen</td>
</tr>
<tr>
<td>A Bridge to Academic Interests</td>
<td>Advanced</td>
<td>Become familiar with the library; Learn to select articles within a specific academic area; Respond to written material; Learn summary writing and reference format</td>
<td>2 - 10</td>
<td>2</td>
<td>Reading reaction journal assignment; Library or other source of readings</td>
</tr>
<tr>
<td>Detectives in Cyberspace</td>
<td>Advanced</td>
<td>Use the World Wide Web for integrated language practice; Take responsibility for development as writers; Analyze discipline-specific written discourse; Recognize the difference between reading and writing; Read</td>
<td>8 - 10</td>
<td>.8</td>
<td>Computer per one to two students; E-mail and Internet Access; Browser software; Index cards with search engine addresses; Web search handout; Search engines for mailing lists</td>
</tr>
<tr>
<td>A Genre to Remember</td>
<td>Advanced</td>
<td>Critically</td>
<td>10 - 12</td>
<td>2</td>
<td>Library and Internet sources on technical writing Copies of e-mail addresses (ideally from different countries); Handouts</td>
</tr>
<tr>
<td>Whodunit a I - E-mail</td>
<td>Intermediate</td>
<td>Become familiar with e-mail addresses</td>
<td>1.5</td>
<td>.25</td>
<td></td>
</tr>
</tbody>
</table>