Teaching with Technology: What Is at Stake?

Gilberte Furstenberg

Teaching with Technology: What Is at Stake?

Gilberte Furstenberg

IT IS clear that computer technology is here to stay. It is all around us. It has entered our daily personal and professional lives through word processing, e-mail, online libraries, and the Web. We are all using it to varying extents, not because anyone forces us to, but because we have discovered that it is valuable in many areas of our professional life—in facilitating our writing, our research, our communication with colleagues worldwide. It seems, however, that if we are very comfortable with these private uses, we are not with public uses. Thus, in our teaching—a public situation by virtue of our students' presence—the story is altogether different. Interestingly, then, the real value of technology is often not obvious to us.

The Value of Technology in Foreign Language Learning

There are good reasons for our confusion and reluctance. Many of us have not been trained to use technology and may therefore feel vulnerable using it in public. It may be unfamiliar to us, and we may not have the time or may not want to take the time to learn about it. Or we may not perceive its role in the classroom. The result is that many of us just don't integrate technology into our teaching. Or if we do, we often only have students use it on their own in the language lab. That approach is easy for us: it does not require any change in our teaching or our curriculum. Besides, we often perceive technology's most valuable function as providing students with essential drills for improving specific grammar, vocabulary, and pronunciation skills. Technology's main value, many of us assume, lies in freeing us from drudge work so that we can focus in the classroom on "real" work, "real" exchange, "real" communication.

From this perspective, it makes perfect sense not to introduce technology into our classrooms. For us to make full use of technology rather than to marginalize it, we humanists first have to make sense of it, for ourselves as individuals, for our field, and for our teaching. Technology will reach its full potential only when we see it as a tool that can assist us and our students in our loftier endeavors.

Technology can indeed add enormous value to our humanistic enterprise. Multimedia materials, for instance, are an intrinsically appropriate tool for language learning. They provide the user with a rich context for learning, a high degree of immersion, and the potential for varied interactions. The convergence of full-motion video, sound, still images, texts, graphics, and animation reconstructs for the learner the multidimensional nature of language—its visual, nonverbal, and cultural as well as its linguistic dimensions. Users can do a lot more than just vocabulary, grammar, or pronunciation exercises. Interactive technologies enable the user to isolate, combine, and recombine in an unprecedented way the various elements of communication: words, speech acts, discourse, pragmatics, intonation, nonverbal signals. The traditionally hidden aspects of language, such as connotations and implicit values, are thereby made accessible.

Technology is useful not just in language learning but in the study of literature, culture, and film as well. Ten years ago, it would have been difficult to connect the words *technology* and *culture* or *technology* and *literature* or to find synergy between those fields. Interestingly enough, technology may end up being the medium that binds together the different areas of our departments, namely language, literature, culture, and film. Hypertext and hypermedia grant users access to the many dimensions of a text: linguistic, literary, cultural, historical. Technology then finds itself, as Claire Kramsch says, at the intersection of language, literature, and culture.

A hypermedia poem, for instance, is not simply a poem. With the hypermedia application *Talking Poetry*, developed by Edna Coffin at the University of Michigan, students of Hebrew can

> have the poem read, record themselves reading the poem, paying attention to the sound, rhythm, individual phrases and words and their effect; decipher the poem on both a literary and poetic level; learn about poetic devices and traditions;

The author is Senior Lecturer in French at Massachusetts Institute of Technology. This article is based on her presentation at ADFL Summer Seminar East, 27–29 June 1996, in Columbus, Ohio.

learn about the poet, his biography, anecdotes about his life, important personal documents; have access to the historical context in which the poem was written; have access to other poems written about the same topic; have access to a bibliography of critical essays about the poem, etc. . . . (45)

Well-designed software combined with rich content offers users an extraordinary context of authentic cultural background and historical information that can be explored, observed, and analyzed ever anew. The many different types of texts, subtexts, and layers also provide many different perspectives on a topic. Thus users can explore multiple perspectives on a subject—a crucial skill in our multicultural world. The *Berliner Sehen* CD-ROM, for instance, provides the learner with West Berliners' and East Berliners' perspectives on the same reality. Similarly, the interactive documentary *Dans un quartier de Paris* presents multiple viewpoints on a neighborhood (viewpoints of store owners and inhabitants, of people who have worked in the neighborhood for forty years and others who have worked there for two, of a representative of city hall and a private citizen, etc.) Resources such as these offer invaluable access to the cultural framework within which individuals express and define themselves. In the process, these materials help the user move from the perspective of an outsider to that of an insider.

Clearly, the study of language is no longer just an end in itself but a means to explore a multidimensional world. Through technology, language study takes on a different and richer dimension. As Diane Birckbichler says, language is finally being reconnected to "its cultural, literary, and historical moorings."

Technology also allows the learner to make choices and thus provides autonomy, a sense of empowerment, and the opportunity to become an active participant in language learning. Software that exploits interactive technology can even generate new modes of learning. A hypermedia environment, for instance, encourages exploratory and research-oriented inquiry and fosters the ability to observe, analyze, question, and synthesize.

Interactive technologies also focus students' attention on the process of learning, of acquiring and building knowledge. Using a writing program focuses the users' attention not just on the final written product but also on the process of writing. The process of searching for a word, selecting one, and checking its use through a concordancing program, for instance, allows students to reflect on the correct use of a word. Collaborative computer writing, made possible by interactive technologies, provides the learner with a means to reflect on and to exchange views on the writing process: how to structure an idea, how to emphasize a point, how to make revisions, how best to present an argument. Users become more aware of the process of finding and organizing information. The same phenomenon occurs with the process of reading. Reading a text in a hypertext or hypermedia form allows the reader to discover a text's many layers and helps the reader better understand the nature of reading.

Finally, technology can be an asset in research about the different ways students learn. Tracking systems, as Nina Garrett points out, can help us develop valuable insights into the language learning process itself and can inform research in second language acquisition. The information thus gained can subsequently be applied to software design.

The assets and benefits of technology are numerous indeed. We need to acknowledge technology's intrinsic power and to learn how to harness and exploit it in ways that will facilitate and expand our humanistic endeavors.

Teaching with Technology

It is important to view technology not as a panacea but as a tool. Technology will not replace other tools, such as the pencil, the textbook, or the blackboard. Nor will any one technology replace all others, since no single tool can serve all functions. What matters most is to use each technology for its best features, to exploit its specificity.

Before we can do so, however, several things need to happen. Teachers need to become autonomous in their use of technology. Teachers need to understand how different technologies work, what purpose they serve, and how they can best be used. We need to realize that there are many different types of software, to understand how software is designed, and to discover the underlying pedagogical intent. We must realize that every CD-ROM, for instance, is created by someone who has a certain idea of what that technology does, of what learners will learn by using it, and of how learners should learn. We need to become aware of the teaching philosophies embedded in this software, so that we can critically appraise it before putting it in the hands of our students. We need to learn how to be selective.

We also need to learn how to use these materials appropriately, and we need to know what "appropriately" means in this context. We should ask ourselves, for instance, whether listening or fill-in-the-blank exercises are appropriate activities for use with multimedia: should we use video to listen? Should we not instead focus on the visual aspect of the medium and develop visual activities that would be better suited to the medium? We need to be careful about the kinds of tasks we assign our students. We can certainly ask them to search the Web to do research papers and make oral presentations. However, students already go to the library and come back with research papers and presentations. Shouldn't we have other goals for using the Web? Shouldn't we try to develop uses that take into account the Web's treelike structure?

It is important that we think about these issues so that we teachers can develop a more apt vocabulary and more-appropriate pedagogical practices and can eventually influence the quality of materials developed. Let us understand and domesticate technology before it dominates us.

The idea of using technology in the classroom typically calls one of two sets of images to mind. We might picture a teacher using a computer, a laser disc, a CD-ROM, or the Web to illustrate a particular point or to present a particular text or film sequence; students look on, and the teacher makes comments and has students make comments. This use is certainly valid, but it should by no means be the only way technology is used in the classroom. If we are to take full advantage of technology, we cannot allow it to be merely an extension of the teacher's hand and voice. This perpetuates the traditional mode of teaching: presenting, illustrating, and commenting. Instead of using a book or the blackboard or a video, we use a new medium, but we use it the way we would use the old one, for presentation. This technique does not fundamentally change the way we have been doing things. It also ignores the potential of technology.

The other image technology conjures up is of students sitting in the language lab, working at their own pace and level to develop specific grammar, vocabulary, or pronunciation skills. This too is a valid and appropriate use of technology. In a self-study environment, students work on specific skills and are provided with individual feedback, tutoring, and monitoring. But again, it would be a mistake to restrict ourselves to that use and to view technology only as a tool for individual or remedial tasks to be done outside the classroom.

This point brings up an important issue: where should computers be located? in the language lab? in the classroom? in both places? Clearly, the location, amount, and availability of equipment will greatly affect the way it is used. If there is just one computer in the classroom, for instance, technology can be used only in the presentation mode, whether the teacher presents or a student or even a group of students does so. This situation will automatically, as I have suggested, re-create the familiar arrangement in which someone (usually the teacher) shows and the rest of the class looks. We end up only replacing the blackboard with a multimedia tool and the chalk with a keyboard.

We all have to deal with spatial and administrative constraints, but we also need to think about what equipment the ideal classroom should contain, and we should ask for a setup that supports the type of interactive work that we want our students to do. We should not transform the classroom into a language lab, with computers occupying center stage. The language lab still needs to exist in some form (for example, as the place where students do preparatory work), but the classroom needs to remain the privileged space for human exchange and interaction. The ideal classroom, as I see it, is equipped with workstations placed not at the center but against the wall, available at all times as resources to multiply channels of communication and to diversify forms of interaction. For communication and interaction to change, we need to alter the physical space of the classroom as well.

Using Technology in the Classroom

I would now like to paint a different picture—of the classroom as a place where computers are resources for students and teachers alike, where teachers and learners work side by side, where teaching and learning come together. The classroom is the crucial link. There needs to be a place where we and our students can evaluate what they have apprehended from electronic materials, whether the work was done in the language lab or somewhere else. (I am talking here not about evaluating drill and practice work, which is done appropriately by the computer itself, but about the more exploratory work students can do on the Web or with multimedia or hypermedia materials.) We should not only assign work to be done in the language lab or have our students do only written reports and oral presentations. We must create new goals and new strategies. I would also argue that instead of freeing time for "real" interaction, computers can be the tool that enriches and expands classroom interaction.

If we limit ourselves to the two models described earlier, we will ignore the interactive, collaborative, and process-oriented features of technology. We would be bypassing the best assets of technology, shortchanging our students and consequently failing in our role as teachers. Our goal should be to establish new pedagogical practices that serve our instructional goals in ways that exploit the best features of interactive electronic media. Let us use these materials to foster more authentic exchanges and to enrich students' interactions. Let us use technology to expand the language-learning experience.

I have learned several lessons from using the interactive fiction *A la rencontre de Philippe* in a French language course. When first using exploratory interactive materials, we are faced with the apparent difficulty of students' having taken different paths and having picked up different information. However, what initially seems like a problem quickly turns out to be an extraordinary advantage: an information gap. Indeed, the Web and exploratory CD-ROMs necessarily present multiple fragmented blocks of information. This situation is ideal for fostering authentic interactions and exchanges among students and between students and teachers. Under the teacher's guidance, students can gradually construct meaning from these diverse materials. Through various links and associations, they can work together to create, re-create, build, construct, and reconstruct from their individual fragmented views a coherent whole, whether it is, for example, a story, a space, or a context. Since students have different information, the classroom becomes the place where the puzzle pieces come together and where students, in exchanging information and insights, gradually construct and refine their knowledge of the subject matter.

This process can happen only if we design for our students appropriate tasks, both for individual or group work to be done outside class and for collaborative classroom

interaction. Classroom tasks need to build on the work students have done in the language lab either individually or in groups. What happens in the classroom must not simply duplicate work done in the language lab but should extend it through collaboration. For instance, after independently making their way through *A la rencontre de Philippe*, students pool their information and construct a flowchart for the story. Each student adds a piece to the puzzle until, with the eventual participation of the whole class, the picture is complete. In re-creating the different itineraries, students automatically ask one another questions, try to understand the connections between the different parts of the story, raise issues, fill in the holes, raise new issues (lack of clarity or inconsistency, perhaps), and search for and find possible answers. Their exchanges, like the program, are thus richly interactive and authentic. Although *A la rencontre de Philippe* is unique, the same principles can be applied to many open-ended materials.

Tasks also need to be appropriate to the medium used. When working with multimedia materials, we should be careful not to limit the students' task to a simple search for discrete elements. If we do so, we turn their task into a linear one, similar to searching through a text for specific answers. This type of task negates the exploratory, multidimensional, interactive assets of multimedia. It is important to design tasks that are not so broad that students wander aimlessly through the material yet open enough to provide multiple paths, outcomes, and interpretations, which can form the basis for subsequent classroom interaction.

The tasks we create need to exploit the associative nature of hypertext or hypermedia so that students can collaboratively discover and construct new connections, which they combine in a coherent whole. For example, instead of just using the Web to gather information for a written or oral report, students can use a search engine to see what kinds of texts various words retrieve and to examine the associations thus formed. Students can create new meanings from those associations (Palka).

When using multimedia materials, which are essentially visual, we need as much as possible to give our students tasks that focus on video content. For instance, students can select images, edit them, and make a photo album or create meaningful, coherent sequences. Such tasks add a crucial dimension to students' language-learning skills; in selecting images, students automatically become sensitized to the importance and meaning of facial expressions, gestures, intonation, and other aspects of nonverbal communication.

We need to design tasks that put our students in creative roles, that turn them into photographers, guides, videographers, investigators, or reporters. If students are working within an exploratory multimedia world, we should provide them with tools and tasks that will turn them into true explorers. Students should not use a new medium to do what they could do with a simple computer program, such as filling in blanks or unscrambling sentences. Sometimes images replace words, but the exercises do not change. We must be sure that we create real multimedia tasks.

Of course, we are greatly limited by whatever features and tools the specific computer applications provide. The more cognizant we become, however, of the many possibilities offered by computers and the more aware we are of appropriate pedagogical uses, the more we will be able to influence the content and quality of the materials on the market. It is our responsibility as well as the responsibility of software developers to make sure that new media are used to their full potential. We must invent new vocabulary, new tools, and new types of tasks that will help expand our students' language-learning experience. Technology can be our agent in that endeavor.

New technologies shift teachers' roles in the classroom because the new materials are learning materials. The question then becomes, What is the teacher's place in a learner-centered environment? Our primary responsibility in an interactive electronic environment is no longer to make sure that students learn what we think they should learn, know what we think they should know, or understand what we think they should understand. Our role, I believe, is to design tasks that enable students to tell us what they have seen, learned, or understood and that enable students to work collaboratively to create valid arguments, contexts, and stories that they can support, illustrate, and justify.

We need to realize that the teacher is no longer the only interlocutor and is no longer at the center of the interaction. We now have a triangular arrangement, where students interact in various ways with one another, with computers, and with us. An equalization between learner and teacher shifts the roles of learners and teachers. Language learners become more active and more enlightened as they are provided with direct and multiple access to a complex foreign world and are empowered to explore that world in multiple ways and to create new connections for themselves. Learners become researchers, authors, collectors of information, and in the process, we ourselves become, or at least must be willing to become, our own students' learners.

Our main role, then, is to design tasks. This role is crucial in an interactive multimedia or Web environment since the task is what gives meaning to the learner's explorations. Only a well-designed task can ensure the quality of the learning process—which is a teacher's ultimate responsibility.

The Role of Department Chairs

The most important contribution chairs can make to this endeavor is support for faculty members interested

in using technology. Technology cannot be imposed, and not every faculty member will express an interest. But it is desirable to support those who do or (if none do) to identify one or two who might form a group and inspire others. Faculty members need to be provided with the following:

opportunities to acquire at least minimal technical know-how so that they will not feel helpless and vulnerable in manipulating technology, to have hands-on training in the use of various technologies, from installing a CD-ROM to navigating the Web

opportunities to be educated about various electronic media, to learn how software is created, what an interface is, what interactivity is

opportunities to take workshops and classes at their own institution or at neighboring institutions

opportunities to see what their colleagues in other departments are doing and thus to develop a broader understanding of possible uses of technology in various fields

opportunities to organize meetings within departments, across departments, or across institutions so that interested faculty members can discuss issues related to teaching with technology

opportunities to play a direct role in determining how language labs are set up, where equipment is located, and how electronic classrooms are laid out

opportunities to travel to conferences and to other colleges and universities to learn how technology is being applied elsewhere

Chairs also need to support faculty members who are interested in developing electronic materials: to help them identify grants and write grant proposals; to provide them with the necessary technical support; to encourage them to work in teams, with experts in other fields, or with colleagues in other institutions; to challenge them to determine how their initiatives would contribute to the learning and teaching processes and to the field in general. This support is extremely important, since it is closely related to the issue of tenure. If we produce only mediocre materials, we will not be seen as worthy of tenure. But, if we develop materials that advance the field in bold new ways, we benefit not just ourselves but our profession at large.

We also need to accept the fundamental changes technology may bring to the foreign language curriculum and the new vistas it may open. It is clear that technology to some extent defies the notion of levels. Generally stu-

dents are classified as beginning, intermediate, or advanced and are given access only to materials deemed suitable for their level. In a multimedia environment, those distinctions tend to blur; students of all levels can interact with fairly complex materials. They need only choose from a wide array of tools those that best suit their level of proficiency and their learning style. The tasks, not the materials, need to be tailored to various levels.

In multimedia programs, which are increasingly multidisciplinary, the traditional boundaries between disciplines tend to disappear. Many CD-ROMs and Web-based projects eliminate the boundaries between such disciplines as language, history, literature, and art. Language becomes more and more not an end in itself but an entry point into a multidimensional cultural world. Language study is no longer a separate entity, and language recaptures its natural function as a tool for exploring a foreign reality.

Language teachers and chairs have an important new responsibility. We need to make sure that the technology we create or use, as well as our pedagogical practices, truly enhances our students' learning experience. Let us heed a warning Henry David Thoreau gave almost 150 years ago: "Our inventions are wont to be pretty toys, which distract our attention from serious things. They are but improved means to an unimproved end" (49). We must make sure that technology does not distract us from the serious process of language learning.

Works Cited

Birckbichler, Diane. "Forging New Alliances: The Role of Foreign Language Centers." ADFL Summer Seminar East. Ohio State Univ., Columbus. 27 June 1996.

Coffin, Edna. *"Talking Poetry*—A Hypermedia Application for Poetry Exploration." *Proceedings of the Computer Assisted Language Instruction Consortium 1995 Annual Symposium "Computers and Collaborative Learning."* Boston: Heinle, 1995.

Crocker, Ellen, and Kurt Fendt. *Berliner Sehen: A Hypermedia Documentary Integrating the Study of German Language and Culture.* CD-ROM. Forthcoming.

Furstenberg, Gilberte. *A la rencontre de Philippe.* Videodisc. New Haven: Yale UP, 1993.

———. *Dans un quartier de Paris.* CD-ROM. New Haven: Yale UP, Forthcoming.

Garrett, Nina. "Language Learning: Teaching, Technology, and Theory." Colby Coll. 27 Apr. 1996.

Kramsch, Claire. "The Cultural Politics of Language Study." Massachusetts Inst. of Technology. 18 Apr. 1996.

Palka, Keith. Lecture. Middlebury Coll. July 1996.

Thoreau, Henry David. Walden*: An Annotated Edition.* Foreword and notes by Walter Harding. Boston: Houghton, 1995.

Teachers Teaching Teachers. Clinical guidelines at stake. events may have resulted in many deaths. The story has been drug companies despite over 500 deaths having already . of deaths,. FORBES, 13 July 2013.Â what's at stake? - University of Technology Sydney. 9. providing national access to relevant public and schools programs8. 136 . trade practices at Robe River he would get a 10 per cent improvement in .. mises, media manipulation in relation to the Tampa refugees, machinations over public.Â Whatâ€™s at stake? Given the working conditions teachers often confront, it is hardly surprising that so many new teachers exit New York City schools for the relative ease of suburban schools or abandon teaching entirely. What is at stake? Â§Â§ Completion rates in Australian universities are between 50% and 60% (Carlino, 2012). Â§Â§ Studentsâ€™ difficulties with research writing are a significant contributor to these low completion rates (Aitchison and Lee 2006). Curtin University. Curtin University is a trademark of Curtin University of Technology CRICOS Provider Code 00301J. 10/10/14. 1.Â The teaching and learning of research writing is often perceived as part of learning â€˜academic literacyâ€™ and separate from the research teaching and learning process; it is not considered as part of research supervision and is often left to the students to develop as an individual skill (Cadman, 2000; Aitchinson & Lee, 2006; Li & Vandermensbrugghe, 2012; Murray, 2012). Curtin University.