REFERENCE:
LEFFA, Vilson J. Getting wired in the cyber revolution. Paper presented in XIII Encontro Nacional de Professores Universitários de Língua Inglesa (ENPULI). Rio de Janeiro, 24-28 de julho de 1995, p. 46. (Resumo)

GETTING WIRED IN THE CYBER REVOLUTION

Vilson J. Leffa

UCPEL

Starting from the assumption that available technology affects the way we teach and learn a foreign language, the presentation summarizes what is really available for the teacher in terms of computer resources, including CD-ROMS data banks, computer networks and multimedia environments. While some of these resources have been overestimated by distorted publicity, others offer possibilities that have not been even tapped yet. The purpose of the presentation is to assess the limitations and promises of each, and show how they can be used to improve language study (e.g., multimedia dictionaries, graphic adventures), by finding answers to specific problems(e.g., Internet navigating tools such as Gopher and Veronica), and ultimately by enhancing interaction between people (e.g., Internet Users Groups, student email).

TOOLS OF THE TRADE

One of the most important features that mark us as human beings, putting us apart from all other living creatures, is our ability to create tools and so it seems to be fascinated by the tools we create. With the tools we have now we can run faster than any

animal, fly higher than any bird, and, I daresay, learn faster than ever before including foreign languages. Tools not only make us stronger and faster, but also smarter.

This fascination with tools can be very dangerous. Some tools are intrinsically so fascinating that we are tempted to pay more attention to them than to the purpose for which we use them. When we do that, we transform what is a means into an end. We enjoy analyzing the tool; playing with it for long hours and we get lost in details, forgetting the purpose for which it should be used. We end up by producing results that are contrary to what was originally intended: instead of being more efficient, we become slower.

Computers are especially prone to produce in people this kind of deviation. I have no statistics available but I can give you examples of foreign language teachers who started using computers with their students and ended up by changing their careers: one went back to the university to take a course in computer sciences; another is now working for a computer company, developing software; a third one is doing research in artificial intelligence. This involvement with the tools of the trade has been responsible for the kidnaping for some of the brightest minds in our profession.

The purpose of this lecture is not to talk about computers, the tool itself, but what we can do with them in terms of language teaching. If you are interested in computers you can go to practically any newsstand or bookstore and select what you want, either in terms of books or magazines. There are more things being published about computers today than about any other topic. In an informal survey I conducted the other day, I found ten times as many magazines on computers as on photography, for

example. If you consider books, the difference is even greater, more than fifty to one. Computers now have special sections on almost every newspaper, frequent cover stories on weekly magazines and a dedicated page in Newsweek Magazine. You can find anything you want to know about computers and much more. In preparing for this lecture, for example, I found out that in Brazil there are now 1.2 million homes with personal computers, of which 520,000 have fax modems and 395,000 have multimedia (Menconi, 1995) and that these numbers will double in three years' time. With all this profusion of machines and coverage in the press, I see no need to talk about something that we all seem to know very well. The other day I heard two housewives talking about the advantages of Windws 95 over Windows 3.1. The advancement of knowledge is based on the assumption that we know things in different levels of depth; when we all know the same thing we know nothing. A lecture, for example, is based on the assumption or illusion, if you prefer that the knowledge possessed by the lecturer is somehow different from the knowlege possessed by the audience. Thus, it is not easy to talk about something that is known by everybody and add something new to it.

I will then concentrate on the purpose. The claim I am trying to make is that tools are only efficient when they become invisible in the final product. When you look at a drawing you should not be reminded of the pencil that was used to draw it. One of the problems of the early dot matrix printers, for example, was its conspicuous presence in the final hard copy. You could immediately see that the page was printed in a computer. This is noise, interference, entropy and must be avoided at all costs. The more invisible the tool is, the better it is as a tool. When we read a text or look at a drawing, we are interested in the message or its aesthetic

effect, not in the tool that was used to produce it.

Computers have already been compared to many things, including books, different kinds of machines, and even teachers. I remember reading at least one article extolling the advantages of replacing teachers by computers which obviously should be done whenever a teacher can be replaced by a machine. I will, however, compare computers to something else; something that has been claimed as one the most impressive success stories in the development of capitalism. That something is the pencil. And what is most impressive about the pencil is its extremely low cost. You pay for something that is made of a delicate thin rod of graphite encased in wood carefully smoothed and painted on the outside, and sometimes transported over thousands of miles you pay for all that less than 50 cents.

COMPUTERS AND PENCILS

The most striking similarity between computers and pencils is price; both are extremely cheap. In terms of cost and benefit, computers are cheaper than anything else available today including pencils. Let me give you just one example. The third edition of *Library of the Future*, a CD-ROM published by World Library, contains 1750 novels, plus volumes of poetry, scientific documents, plays, and religious works, interleaved with a variety of video clips, all at a suggested retail price of 149 dollars which means that the price of each novel goes down to less than 9 cents of a dollar; based on the suggested price; in terms of the real street price it will probably cost much less. That is, for the price of one pencil you can buy something like a dozen novels. That is cheap.

So, I think computers will be extensively used in language teaching, not necessarily because may

attract and motivate students, but mainly because they are becoming extremely cheap. It will be impossible not to have computers in schools.

Now, let's see some of the differences between pencils and computers, when both are used as tools. There are two basic things we can do with a pencil: writing and drawing. There are four basic things we can do with a computer: writing, drawing, animation, and sound.

Let's start with writing. Writing with a pencil involves a close, intimate relationship between the author and the paper. They are so close to each other that the feelings and ideas of the writer can be directly transferred to paper. It is a kind of osmosis, without any processing or transformation. If you allow me a literary figure, it is like putting a carbon paper between the author and the page. In computer terminology, we can call it analogical. Every movement with the pencil, produced by the author, is reproduced on the page. Even style of presentation can be analogically transferred to paper. If the author is angry, for example, he will press the pencil harder and the handwriting will be darker, producing automatic bold analogically. Although graphology is still a marginal science, some people believe that the signs written on the page can be analyzed to study the personality of the author. This is only possible with the pencil.

Writing with a computer is a completely different experience. The paper, the final product of our writing, is removed from our sight; we write into a space that is between us and the paper. This space is filled with computer memory. This memory translates our thoughts into binary digits, which, physically are some tiny sequences of light and dark, but which of course are invisible to the naked eye. That is, our thoughts are deconstructed into these

particles of light and dark and then reconstructed, combined and recombined in many ways so that we are never sure of when we are looking at the final product. The very page that we seem to see printed on the screen replaces itself sixty times a second. So that what looks like a final, finished product is pure, ever-changing process, a text ready to be modified sixty times a second.

The analogical experience of writing with a pencil is now replaced by the digital experience of writing with a computer. There is no longer any similarity between the movement of our fingers and the letters drawn on the page. The same finger stroke, depending on on the moment the key is depressed, may produce a letter, delete a sentence, or replace a whole paragraph. A combination of strokes can be amplified into a whole procedure, such as rewriting the text in a different format, hyphenating words at the end of lines, or even correcting typographical mistakes.

Let us look now in more details at some of the things that may happen in that space filled with computer memory that lies between writer and paper. The first thing you notice is that your intimacy with the paper is lost. You are no longer alone when you write, but surrounded by different assistants, which transform your individual writing task into a team project. Do you want to order the references alphabetically? No problem. A sorting engine can do that for you automatically. Do you want to find a synonym for a word or express a concept for which you are not very sure which words to use? Use the built-in thesaurus. Do you want to check the whole text for misspellings? Use the spelling dicionary. Do you want to quote from some famous authors? Put a CD-ROM in the drive and just paste the parts you want without even having to type the words.

Of course, from your own home or office, you can also connect your computer to other computers and other people using computers, so that you exchange what you write with them. Many articles today are cooperatively written like that.

Some authors argue that the difference betwen reading and writing is very small, that they are just two sides of a process that is basically the same. In the computer this difference becomes even smaller. Are you reading or writing, for example, when you paste portions from an an electronic text? Or when you move a paragraph in your own text? The emphasis on the process, which occurs when we write with a computer, makes us spend much more time reading our own text than writing it. All this seems to intregrate reading and writing into just one process.

In terms of drawing, the computer offers you the possibility of drawing without having to draw. The need to analogically move your fingers according to the shape you want to see on the page is partially gone. Circles, squares, curves and practically any shape are now drawn automatically or through a simpler movement, such as drawing a circle by moving your mouse in a straightline. You envision your drawing or paintings in your brain, or use the hints from the resources available in your own graphics software, and produce what you want digitally.

One of the main points with computers today is that they are extremely underused. We are not prepared to exploit them to their full potential in meeting our own individual needs. One of the most serious problems with computers is that they can store and process data in huge quantities, much more than we are able to provide. The result is that we are feeding

them with garbage. A look is what is available in CD-ROMs or even in the Internet will prove this point. You sometimes have to go through so much garbabe to get what you want that you just give up in the middle of your search.

Public services such as telephone companies were also caught off guard, both in terms of quantity and quality of the lines available. In terms of quality, modern and fast error-correction modems can make up for poor transmission, but in terms of quantity, there is no way to replace the lines that have to be available. In our country, where a telephone line unbelievably costs more than a full multi-media computer, I see no solution to this problem in the near future.

REFERENCES

MENCONI, Darlene. O mais novo membro da família. *Veja*, v. 28, n. 25, p.66-70. 21 de junho de 1995.

LIBRARY of the future. 3 ed. USA: World Library, 1994 [Tel.: 800/443-0238].