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**Citation for author's accepted version**


**Citation for publisher's version**

What do computers know about language teaching?

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A cartoon in a 1980s computer magazine showed an early primary teacher standing in front of an orderly array of desks filled with attentive small children. Next to the teacher, on her desk, were three one-piece computers piled one on top the other. Like a set of alphabet blocks, the monitor of the top computer was filled with a large ‘C’, that of the middle one with an ‘A’, and the bottom one with a ‘T’. The school principle stood beaming at the door, and the teacher was saying to him, ‘And when we get more computers we’ll be able to make even longer words!’

Sometimes people seem to use computers more because it’s faddish than because it’s useful to do so. As an actual example, it is now faddish to put university course materials on the World Wide Web, but for one class I know of these materials consisted solely of the handouts and OHP transparencies that were being presented in the lectures. Having such materials on the Web had only one advantage: it enabled some students to obtain them from home. Regrettably, some other students with older computers (including a friend who thus came to me for help) could not handle the (.pdf) format used, so they would have been a lot happier to have been able to get the materials in print form from the university library.

While I’m a bit cynical of the faddishness of computers, I’m nonetheless a great believer in their tremendous potential in language teaching and learning. Here I will first try to show you why and how computers can provide crucial tools for language learning — some day soon, I hope — and then go on to note some ways you can find out more about what computers can do today.

The computer as ACE

The computer’s main benefits for language education can be summed up by the acronym ACE, for Automation, Communication, and Environment. Of these, automation (A) is the oldest and most mundane. The computer is exert at helping students work through the more regular drills, routines, and tasks that the individual learner may find useful, but which can becomes deadly boring if a teacher should subject an entire class to them, regardless of individual needs (as in the bad old audiolingual days). If I want lots of drills or practice to help me master lengthened (geminate) consonants in Japanese or the irregularities of German verbs, my computer never tires, nor does it deflate my ego through the way it corrects my horrid mistakes.
This automation is not new with computers: forty years ago the same was done with audiotapes in the language laboratory. However, computers do make it far easier to pick and choose what spoken or written drills, exercises, or tests one might want to do and redo. They can give us truly interactive learning materials that do not depend on the presence of a teacher at all.

Perhaps the ‘A’ might thus also stand for ‘autonomy’, but in fact not all students really like to study alone. In a study of student attitudes to online language teaching materials, Felix (2001, p. 308, 320-1) found that students vary — as always — and that on the whole about a third of them preferred to work alone with such materials, a third with a partner, and a third in a group, although these proportions varied somewhat between two different studies, as well as with gender and age.

For those who prefer human company, however, the development of the internet means that computers can also enable learners to communicate (C) and interact with each other, with their instructors, and even with people across the globe. Not only can they do this through email and chat groups, but the possibility for interaction can actually be built into the instructional material, so that students can work collaboratively on such joint tasks as simulations and problem solving, a collaboration emphasised in a recent NTU project on online learning (see ##). For language learning, of course, such collaboration could provide valuable practice in using the target language for real communication — if language software designers thought of providing for it.

At the moment, of course, communication over the internet is most commonly through typing out written messages, which for some purposes is greatly inferior to the way people can interact in a classroom. Accordingly the main advantage of computers is currently how they allow communication over even vast distances between people who may or may not be online at the same time (the wonderful thing about email and discussion groups is that the messages wait patiently for someone to come and read them). However, as the internet and its tools becomes more powerful, people will increasingly interact by voice as well as in written words and diagrams, and will even be able to see each other as they do this. Internet communication is destined to become so convenient that few may want to bother to make a long trek to meet in a classroom.

As for the third type of potential, I wasn’t sure what to call it, but an ‘E’ for ‘environment’ will do. One of the great weaknesses of a classroom full of language learners is that it is just that: it’s a classroom rather than the many other contexts in which people actually use the target language, and one full of learners rather than models of fluent speakers interacting for real purposes. Hopefully the teacher is a fluent speaker, but typically he or she can only model how a fluent speakers talks
to less fluent ones (the students) for educational purposes and make believe, It’s a bit like a bird trying to fly on a broken wing.

Whereas motion pictures first began to provide the general public with vicarious experiences in sight and sound, the advent of videos was a boon to language teaching because even individual students could view, rewind, and review them as they pleased. Computerised multimedia can allow even greater control: students can pick and choose which video clips to access and review, perhaps even with accompanying transcriptions, translations, explanations, and exercises. And to the extent the video material is reasonably authentic and interesting it can provide memorable models of language use in context. Perhaps the ‘E’ could stand for (virtual) ‘experience’, but the way it goes beyond the experience of sorts one can get in the classroom is in the way it can show the context or ‘environment’ for language use.

One problem with creating good computerised multimedia is that video material made specifically for language teaching purposes tends to be come across as artificial, sometimes glaringly so, while computerising the relatively authentic material produced for other purposes (e.g. entertainment) depends on gaining or buying permission from the copyright holders. A Japanese colleague of mine solved the problem by obtaining permission to computerise documentaries produced by the US Department of State on a range of topics of general interest, such as disability.

Another problem with computerised multimedia is that it is too demanding on “bandwidth” to be very useful over the average internet connection: it just takes too long to download. Fortunately computers themselves having increasing come to have the speed and memory to cope with multimedia supplied on CD-ROM (which can contain some ninety minutes of video clips in such limited but useable formats as QuickTime) and DVD (which can contain a full movie in much better quality). A recent South Australian project to supply English language teaching over the internet to China thus supplied audio and video material separately, on CD-ROMs to be inserted in the local computers, so the internet could more quickly convey the remainder of the lesson material.

This and other aspects of the South Australian project provide a good example of how to avoid the “faddiness” of online learning by exploiting its strengths while avoiding its weaknesses through the provision of other resources, notably human tutors, both locally in China and over the internet in Australia. Perhaps this is also a harbinger of the future of education in general, with more popular courses catering for hundreds of thousands of students around the world, who can get in touch with a tutor in London or Johannesburg if the one in Darwin has gone to bed.
Where to find out more

I wish I could tell you how to put your hands on wonderful computerised language learning material, but what’s currently available often leaves something to be desired. Even material prepared at some expense commercially tends to fall down on the authenticity of its multimedia; this seems to be true of the above South Australian material as well as commercial software I was able to sample at a recent conference in Japan. As nice as it may look and sound, it still tends to look and sound a bit more like language learning materials than like real life.

Even so, there is certainly material available that can be useful in teaching and learning of a range of languages. A good place to start may be with Beyond Babel (Felix 2001), a book and CD-ROM launched at a joint session of the ALAA and AMFLTA conferences in Canberra last year. This provides an excellent guide to dozens of World Wide Web sites that provide resources for studying various language, including ESL; the resources are grouped into eighteen different categories, including integrated materials, self-contained tasks, cooperative ventures, chat sites, magazines for creative writing, and so on. With the same material on the CD-ROM all one needs to do is click on the URL (site location) to visit the site.

A final section in this book also reports the results of two research studies on student attitudes to the use of such online material. One interesting finding was that students tended to prefer to use such material as an addition to face-to-face teaching, while the use of such materials for distance education without a tutor was considered the worst option (Felix 2001, pp. 308, 330). Of course, this could perhaps change as online materials improve and students become more used to them. Another interesting finding was that the response to the online materials were ‘overwhelmingly positive’ for the students involved in the study, but that another group of students had become so frustrated with technically difficulties in using such material that they actually dropped out of the study completely (Felix 2001, pp. 314). There is nothing magical about putting materials online; nothing makes up for bad design.

Some of the best language learning material is not available on the World Wide Web, of course, whether for commercial reasons or because it relies heavily on multimedia. Even so you can often get information about such materials over the Web. For example, a site by Thompson (1999) provides links to information about and reviews of multimedia software, as well as other information. You might also take a look at my own on-line review (Black 2000) of a couple of software packages I was able to examine. For more general background on theory and well as practice in computer assisted language learning (CALL), you might check out the on-line publications of such specialists as mark Warshauer (n.d.) and, in Australia, Andrew Lian (n.d.).
References


