CALL is not a Hammer and not Every Teaching Problem is a Nail!

Changing Expectations of Computers in the Classroom

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CAI and CALL Application in Taiwan

Past

When looking at CAI (Computer Assisted Instruction) and CALL (Computer Assisted Language Learning) in Taiwan (R.O.C.), it is clear that application of these technologies, in the classroom, is in its embryonic stage. Through a combination of factors, computers have generally not entered the R.O.C. language scene. These factors include, but are not limited to:

- General lack of computerization of schools in the R.O.C.

An observer outside of Taiwan would be surprised that one of the world's technology manufacturing centers actually has been slow to adopt computers in its schools. This situation, however, is undergoing change as the R.O.C. Ministry of Education places more emphasis on computer use in educational institutions.

- Lack of access to mainframes and minis, on which many CAI and CALL software was originally developed

Computer departments have traditionally limited access of their mainframes and minis to computer majors. Since PCs have existed only since the early 1980s, most software, and especially powerful software often needed in CAI, has been developed on mainframe computers. This has changed, however, as PCs have taken over as the workhorses of the computer revolution and computer departments quickly upgraded their machines, thus leaving many "outdated," yet still useful, 8086, 80286 and 80386 computers with no users. On the software side, 80386 and 80486 computers, combined with modern programming technologies (Sarna & Febish, 1993) can match and even surpass the computing power of many mainframes in existence only a decade earlier.

- Needed technology only recently commercialized, i.e., powerful computer packages: 80486 CPUs, sound cards and CD-ROMs

The rapidly dropping prices of computers has allowed English departments to gain access to used machines as well as newer 80486 machines. Economies of scale in the manufacturing and distribution of "multimedia" compatible computers now means that for under NT$40,000 (approximately US$1,500) an individual system can be purchased that runs the most up-to-date software capable of producing moving graphics, video and good quality sound.

- Expenditures of time and money for non-computer based "language labs" that are not perceived as successful teaching tools

The factors cited above are of a structural nature and have not been influenced by language teachers. One last factor I will cite is directly related to language teachers and the previous "technology solution" for language learners, i.e., the audiolingual methods, from the late fifties and early sixties, as applied in the language lab. Although many of the motivating theories have since been supplanted, the language labs go on. Schools nearly everywhere around the world automatically include labs as part of any English program (Strei, 1979).

It is likely that negative experiences with language labs has led teachers to be skeptical of new technologies in the classroom. Many

Taiwan schools have installed language lab equipment that allows a class of students to listen to recorded conversations through headphones, equipped with microphones, while a teacher can send instructions, listen into and monitor students through a central control panel.

Often, the engineers who installed such equipment did not understand all the features and installation requirements and certainly had little grasp of the pedagogical applications. The result was that at many locations, these language labs simply have became glorified, and expensive, tape players. The equipment actually served to separate the students from the teacher and encouraged less motivated students to daydream through the class period. Such experience is not unique to Taiwan, nor is it new, but may be endemic to language labs (Kirpal 1979). Teachers are often placed in these labs with no training, not even a manual on the lab's features and use, while a class of fifty students wait for the teacher to assimilate. With teachers struggling to find use of the technology they already have, it is unrealistic to expect them to quickly swallow another "technology solution" pill.

Present

In the past decade, numerous academics have examined the application of CAI in Taiwan classrooms. From the very start, teachers have realized that computers have enormous potential. Of special interest is the realization that CAI may be especially useful in the Taiwan situation where writing students are often at a low level of skill attainment and class size is large (Chen, 1988).

Many teachers, domestic and foreign have observed that students generally have a positive attitude toward technology in the classroom. Studies have consistently shown that students have positive attitudes about computer technology being used in the classroom and that such technology does have a positive impact (Warden, 1995; Chen, 1988; Nash et al., 1989; Brady, 1990; Herrmann, 1987; Johnson, 1988; Phinney & Mathis, 1988).

However, such attitudes and results may simply reflect the "normal" outlook of most people who live in the Computer Age. Academics such as Pennington (1991) and Thiesmeyer (1989) warn of rushing into CALL without solid evidence of its benefits. Such caution is justified since all of the cultural signals being sent every day, support the believe that technology is good, and that specifically computers are helpful in nearly every human endeavor. Even expressing the slightest doubts about the usefulness of computers is likely to result in one being labeled as a Luddite. Classroom research of CAI must avoid such dogmatism and not make any apriori conclusions.

Future

Clearly, adoption of CAI and CALL approaches will not, and should not, spread until measurable benefits can be seen not only for students but also for teachers. More research into actual results of CAI application results must be performed. All too often, CAI is becoming confused with multimedia and the Information Superhighway. These are useful tools, but are they germane to CAI? I would assert that they are not CAI simply when they are used in the classroom. Although many apriori conclusions can be reached about their effectiveness, it is only after careful research into results that a tool can be justified as having CAI application.

Researchers must make a determination about the pedagogical outcomes of new, and old, CAI software. Some points important to any CAI investigation include:

Avoiding Hawthorne effects that are common in this area

It is quite obvious to any group of students that they are being observed when said group is allowed access to computer equipment and software while others are not. Even the use of class time to introduce computer language labs and/or software rips away the mask of the researcher. Rather than creating research situations that invite the Hawthorne effect, researchers should look into applying some type of technology to all groups being studied. Some groups are actually using the teaching technology in question, while others are receiving a placebo.

Not questioning attitudes about technology

Direct questioning of subjects about the technology in question is certain to illicit inaccurate and irrelevant information. First of all, societal pressures encourage positive responses towards technology. Anyone, especially young people, who does not like technology often is of the opinion that such an attitude is a reflection of his/her own deficiencies. Secondly, direct attitude questions about the material being tested is simply not accurate. If we were to show Mickey Mouse cartoons to one group of students and then had a

different group of students read Shakespeare, the results from a direct question about material is obvious. Although details about comprehensible input could be argued ad infinitum, language researchers must understand that it is results that matter and not intermediate attitudes, which are shifting and vacillating at best.

Not judging the software interface but looking for real language improvement results

Somewhat related to the above point, this problem stems from interfaces that today can include animation, actual video clips, dialogue and music. The multimedia revolution has arrived and anyone who looks at some well produced, slick multimedia titles cannot help but to be impressed. However, it is not uncommon that the newness factor wears off quickly and a multimedia title that looked so slick the first few viewings is later found to be empty of real content. The computer screen that shows moving colorful pictures is interesting to the teacher who buys the title, but we must consider the students who will use the software many times over in their attempts to improve their language skills. Will such moving pictures and sound look good after the tenth time around, or will they simply become an annoyance? Content must be paramount in our investigations.

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