USING THE MICROCOMPUTER TO TEACH LANGUAGES

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The potential of microcomputer assisted instruction in language education is enormous. Microcomputers have enriched our curriculum objectives and have given us new ways to guide, teach and reach our students.

It took years before designers of automobiles accepted the idea that they were cars, not "horseless carriages" (S. Papaert), and likewise the first attempts to apply computer technology to language teaching reflected the methodologies of the sixties. Now that language teaching experts have begun to collaborate with computer experts, programs are being produced which optimize the microcomputer as the most important learning device since the invention of the printing press and textbook. Alfred Bork states that for the first time in hundreds, perhaps even thousands, of years, the computer is moving us toward situations in which most learning is interactive. If language is the expression of one's personal relation or vision of the world, interaction is the essence of language; and if the computer enhances this, its potential in language education is revolutionary.

Microcomputers in language learning is being explored across a whole range of activities involving teaching. Besides functioning as a routine teacher, an "electronic blackboard," the microcomputer can be a creator, an informant, a provider of environments, a source of fun. These are not only justifications for the use of the computer, but also indicate necessary changes of attitudes and approaches.

The computer can give individual attention as a tutor which assesses the learner's reply, responds to mistakes and gives

explanations. It guides the learner and modifies the material presented according to the student's performance. Different modes of presentation are available for the learner to choose from. Such variety and flexibility are very difficult to achieve with traditional means of language instruction. The value of instant feedback is one of the most obvious benefits of the computer. Language teachers praise the necessity of active participation, the sharpening of critical analysis, language acquisition, the development of accuracy and study discipline which using a microcomputer requires.

The computer can be a partner in discovery, an opponent in an educational game, or simply an informative source that answers questions, gives examples, stimulates responses or conversation.

Computers can be used individually and can eliminate affective barriers which exist in classes or groups. They can be effective remedial aids as well as dynamic challenges for faster advancing learners. Computers are infinitely patient and tirelessly consistent. They never have negative biorhythm.

With the advent of video games, the magnetic fascination of color and visual effects have been applied to language teaching programs. Movement, sound and graphics undisputably have a positive effect on learner motivation.

Some of the tedious work of teaching like simple corrections and drills can be done by computer to free the teacher for more valuable activities like creative preparation and direct contact with the students. Class groups can have many different configurations depending on activities guided by the computer and overseen by the teacher.

The record-keeping capacity of microcomputers is very significant because it gives precise information about the progress of each learner which, in turn, can help teachers to evaluate material and methods. A.B. Ellis and Kenning both emphasize that this process of evaluation of the very practices being automated can, in the long run, be the greatest advantage of the computer because it pushes the teaching profession to analyze what goes on in the classroom and reassess the basic tenets of the educational process.

Computers cannot do everything. Even though computers

now can be attached to tape recorders to provide cues or record answers, most of its operation is with written languages. Computers operate in a predetermined fashion and even though they can be programmed to anticipate most learners' right and wrong answers, the machine does have its limits. The computer's contributions to the course is only as good as the quality of the programmer's abili to meet contingencies.

Other drawbacks include difficulty to go through a lesson as easily as leafing through a book, the additional strain of reading from a monitor, rather than a page, and the development of good original curriculum material is costly and time consuming.

Many times language teachers become very anxious when faced with the possibility of using microcomputers. Fortunately, new technology has made microcomputers much more "user friendly" - (easy to use). In the case of the car, an effective driver can use the vehicle with basic instruction and practice in the operation of the controls, such as the steering-wheel, clutch, brake, etc, without having to have profound knowledge of the mechanics under the hood. Likewise, a microcomputer can be very effective and useful with very simple operational instruction. As with anything, additional expertise can offer more possibilities to the user, but initial use of a microcomputer can be quite easy.

To become a "computer literate" simply means knowing how to turn a computer on and off, use an applications program and save data on tape or diskette. At higher levels of literacy, one would understand a programming language such as BASIC. It takes only a passing familiarity with BASIC to copy programs published in books and magazines. With increased literacy, you can tailor published programs to individual needs. At higher levels of literacy, you can write your own programs.

The means of establishing an interaction between man and machine is done through INPUT and OUTPUT devices. The most common input device, the means for the user to communicate with the machine, is the keyboard, which is almost identical to a regular typewriter keyboard.

Other means of contact with the computer used for teaching applications are touch screens, light pens, joysticks or paddles like those used for video games, graphics tablets, trackballs, voice

command, etc. The output device or means by which the machine communicates with the user is most commonly a visual display unit (VDU) which is a video monitor or screen. A video monitor can be black and white, optic green, sometimes amber or full color. Most standard monitors are about 12-15 inches but since a microcomputer can be connected to almost any television or video projection device, display size can be as big as the largest projection screen. Micro-computers can communicate by means of printers, sounds, graphics, and even voice simulation.

Even a single microcomputer can be effective for an en-tire school. Traveling on a cart from room to room, the computer can fulfill a wide variety of classroom needs. With planning and scheduling all the teachers can gain experience in using the com-puter in the classroom. Gradual introduction encourages maximum use of equipment and welcomes more units.

Connected to a large color TV, a portable, single micro-computer can be used as an aid to instruction for an entire class. In some primary school rooms, the class sits on the floor around the computer. In other instances, an overhead monitor is used. It is possible to group up to five students to work in a team around one microcomputer. Single students can do remedial or ad-vanced work alone without disrupting normal class activities. In the opinion of Lathrop and Goodson (1983, p6),

> "Three students seem to make an ideal working
> group at the computer. One student working a-
> lone may concentrate too hard on the computer
> rather on the process involved, and two stu-
> dents are apt to take turns 'working at the
> computer.' Three students will often watch
> each other and discuss the process, develop-
> ing their communication and social skills as
> well as their thinking and reasoning skills.
> These types of interactive exercises enrich
> the usual classroom environment."

Several microcromputers may be installed in a lab setting - a minilab of five to twelve microcomputers to a full lab of twelve or more, used as a learning center. Careful thought and planning of the physical set up and the management of materials is essential

for optimum use with minimal, but efficient supervision.

The adequate hardware and increasingly accessible prices make Computer Assisted Instruction (CAI), Computer Language Teaching (CALT), Computer Assisted Language Learning (CALL), a reality. But equipment is not enough. The true magic depends upon a well-written, carefully selected set of instructions, the program, that activates the machine and unleases its power for your use (Lathrop and Goodson).

"Software" is another word for computer programs. Software or programs most commonly used in school situations come on floppy disks which are inserted into the disk drive which reads the instructions the computer should perform. Software can be bought commercially and are used as easily as a tape cassette or record. Unlike tapes and records though, computer software must be "compatible with" the brand of hardware being used. For example, a program for an Apple microcomputer will not run on a Commodore or vice versa. Most commercial programs are publisned in magazines, journals, etc., which can be copied; these are "public domain" programs. These also must indicate with which hardware it is compatible.

Types of software used in language teaching (CALL, CALT) can be classified according to the type of interaction.

Drills can provide practice and review, and extension activities for students. Drills can be very effective in the classroom as part of a lesson.

Tutorials, on the other hand, guide the student through preprogrammed lessons. The student is given the information and then asked questions. A wrong answer takes the student back over the same information. The computer becomes a tutor and gives private classes on concepts that the student is not sure of. The program gives the student immediate feedback and clues to help find the correct answer.

Simulations allow us to bring new experiences into the classroom. They permit us to set up "a real life" situation where the outcome of the simulation will depend on the decisions made by the students. Useful learning occurs because the student is "living" the languages and the language becomes meaningful.

Problem solving programs help students develop the ability to analyze a given problem. We find these programs are one of the highest learning-teaching experiences because the student is using a variety of skills.

A word processor is a computer program that serves as a writing aid with many powerful editing tools. This program makes it easier for students to type, revise, store, and print text. If students want to make a change they press a few keys and the work is done. They do not have to worry about the margins and they can correct on the screen. We find this program allows the students to share their writings with peers and teacher as a source of feedback. The computer eases the rewriting process, the students will go back and make changes because the process is so easy. The students' work can be saved and printed out.

One of the most helpful guides for an evaluation criteria of educational software is contained in Lathrop and Goodson (1983), Courseware in the Classroom. The amount of educational software available is rapidly increasing, but quantity is not necessarily reflecting quality. Great care must be taken in choosing software and integrating it properly into the curriculum.

Alfred Bork (T.H.E. Journal, October 1984, Vol. 7) indicates some characteristics of poorly designed educational software which language teachers should take into consideration:

. failure to make use of the interactive capabilities of the computer;

. failure to make use of the capabilities of the computer to individualize instructions;

. use of extremely weak forms of interaction, such as multiple-choice questions;

. too-heavy reliance on text;

. too-heavy reliance on pictures, when these pictures play no important role in helping students learn the material;

. use of material that is entertaining or attractive but that is only vaguely educational;

. context that does not fit anywhere in the curriculum;

. focus on games that have no educational merit;

. use of long sets of instructions at the beginning of
   programs that are difficult to follow - even for teachers
   and difficult to recall;

. heavy dependence on auxiliary print material;

. presentation of segments of content that are not placed
   in context; and

. use of material that fail to hold students attention.

The Age of the Computers has brought us whole new dimen-
sions and capabilities in education. Along with change comes anxiety
to leave the old behind and embrace the new; living and making a
revolution does not have to mean abandoning all of the past for an
untested future. In education we cannot afford to be so reckless.
We in language education must use this unique opportunity which
computers offer: to enhance the capabilities of teachers, not re-
place them, to motivate our students to learn. discover and simply
delight in understanding, rather than turn out robots, to create new
educational systems, instead of sticking together expensive, head-
less hodge-podge just for the sake of technology.

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