



## Computers And Language Learning

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### LOCAL AREA NETWORKS

Norman Johnson, CALL Digest

Any ESOL program that has attempted to set up a computer assisted language learning lab has soon been faced with the logistical problem of distributing floppy disks to students. Floppy disks are perhaps the most vulnerable of all the computers components—both to damage and to theft. It is also often time consuming to hand out and collect even 15-20 pieces of software if a school has access to a number of microcomputers. Local Area Networks (LANs) are an alternative to this floppy disk-based approach to delivering courseware. In a LAN set-up, each student computer need not have its own disk drive. The computers are all linked together and the courseware can be stored on a *file server*, usually a hard disk storage device controlled by one computer. Students begin each session by downloading a copy of the courseware application they are working on into the active memory of their individual microcomputer. In this way each student doesn't have to load the program from a floppy disk.

The fact that LANs are potentially a much more convenient way to provide computer-based instruction is not the only argument put forward for this option. It is often claimed that LANs are a cost-effective approach to setting up a computer lab. In a lab of 25 microcomputers if you can avoid buying one floppy disk drive for each of those micros you will save between \$2500 and \$5000, depending on the price of the drives. This is not the only savings though. There are additional savings in instructional courseware. Twenty-five copies of every piece of courseware you want to use

adds up real fast to big dollars even if you are able to get *lab pack* discounted pricing. A *site license* from publishers to use their courseware on a LAN with a number of microcomputers simultaneously, can generally be negotiated that is more favorable than lab packs because you are doing away with the physical medium of the floppy disks. Publishers are also more willing to negotiate site licensing for networks because they can provide greater copyright security. (Students won't be illegally copying disks checked out to them for later use at home.) However, the true cost effectiveness of a LAN will be examined more closely in the following section on problems with LANs.

For the moment, let us continue with the reasons for a LAN setup. If several microcomputers are networked together with one equipped with a hard disk drive they can all benefit from the power of that relatively expensive peripheral. Thus a data base that might be too large for use by a floppy disk-equipped microcomputer could be stored on a hard disk and accessed by all the micros in the network. This increase in the power of each microcomputer in the network is achieved at a considerable savings over the cost of buying separate hard disk drives for each micro. Other peripherals such as expensive printers can be shared via a LAN so that you can increase student computing power and options for a considerable savings. Linking all of the micros in a lab together with a hard disk also facilitates research into both patterns of computer use and patterns of student errors. With the appropriate software, data that could not be easily gathered together from separate micros can be regularly monitored in a LAN. Finally the intercommunication among students possible with most LANs, opens up possibilities for structuring new learning environments for students. Cooperative learning activities could be designed where each student would have unique tasks that contribute to the success of the whole group project. While such projects could be designed for completion away from computers, too, it is possible that the physical setup of the lab would, in this case, ensure the independent work of all members of the group, limiting the tendency of one or a few members to dominate.

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IBM PC Network - IBM Corp., ISG Educational Systems, P.O. Box 2150, Atlanta, GA 30055. Several options available including bus and token ring architecture for all IBM microcomputers and peripherals. Price: \$572-\$648 per connection plus the cost of a hard disk drive (Educational discounts available).

Network 4 - Tandy Corp., Education Division, 1400 One Tandy Center, Fort Worth, TX 76102. A star bus architecture LAN for up to 64 of any of Tandy's personal computers or peripherals. Price: Contact Regional Education Coordinator (20% minimum educational discount).

Velan Classroom Network System - Velan, Inc., 530 Oak Grove Ave., Menlo Park, CA 94025. A hard disk-based, star architecture LAN for up to 64 Apple II, Macintosh, or IBM PC-compatible micros and peripherals. Price: Sold in increments of 16: \$3745 for the first group. Each additional increment of 16 connections: \$1595 (hard disk extra).

Elan - LanTech, 4501 North 22nd St., Suite 220, Phoenix, AZ 85016. A hard disk-based, bus architecture LAN for Apple II-compatible micros (except the IIc) and peripherals. Networking software price: \$300. DOS-based systems: \$164 per connection; ProDOS systems: \$263 per connection (hard disk extra).



## CALL IN OMAN

Vance Stevens, Instructional Developer, Language Centre, Sultan Qaboos University

Surrounded strikingly by mountains and within sight of the Arabian Sea, Sultan Qaboos University is the first and only university in the Sultanate of Oman. The first students through the doors in the fall of 1986, approximately 550 male and female Omani nationals, had almost all just finished their secondary education in Oman. The majority of these are science students taking all their science subjects in English, whereas many of the others are studying to be English instructors themselves. No matter what their curriculum, all students entering the university study some English as a second language, and many will continue studies in English into their third semester at the university and beyond.

The Language Centre provides courses for students in the various streams, and also has a self-access Student Resource Centre open to all students. The SRC comprises 4 rooms designated as language lab, video, reading, and computer rooms. In the computer room are 10 IBM-PC/XT computers with enhanced graphics adapter cards and enhanced color display monitors. Development of materials for the SRC is the responsibility of 3 instructional developers, two of whom spend most of their time with CALL.

Throughout the year prior to the official opening of the university, a handful of Language Centre staff had been at work preparing self-access and course materials. Many of these materials were designed to utilize the IBM-PC computers, which didn't actually arrive until March of 1986.

Once the computers arrived, Language Centre staff, whose expertise with computers ranged from expert to total novice, accepted them with varying degrees of enthusiasm. But almost all of the current complement of 40 Language Centre faculty, many of whom had never used computers before, have come in the past year to integrate the computers into their personal work routine. Whereas for months finding a computer from among 20 in the Language Centre offices was easy, it is now getting to where the available workstations are almost always occupied, and (during the summer) teachers have begun to overflow onto the 10 student machines in the SRC. This suggests that teachers, working in an environment that provides adequate computing facilities and supports and encourages their use, find these devices useful and spontaneously learn to use them to increase their output and efficiency.

Teacher use of the computers is almost exclusively for word processing, both in English and in Arabic (our Language Centre, a language centre in the true sense, offers courses in both languages). However, some use is also made of statistical packages, database management systems, graphics utilities, and programs for generating crossword puzzles. Furthermore, the Language Centre is developing a concordance program through which an analysis of science texts in use at the university is being made. It is intended to use this analysis to develop language learning materials reflecting actual usage of the language. Additionally, several staff members are tied into the mainframe via terminal emulator boards, and these have access to (among other things) a CAI authoring system and campus-wide communications system to which, unfortunately, the students as yet have no access. Finally, some CALL courseware development has taken place in the form of speed reading and text reconstruction programs.

Developed by Dave Poulton, the chief technician at the Language Centre, Speed Read displays short text passages on the screen either for a set period of time or until the student presses a key, at which point reading speed is calculated. Students are then given multiple-choice comprehension questions which they attempt first without recourse to the text, and then with. The program is set up so that teachers can enter texts, questions, and expected right answers.

The text reconstruction programs, known collectively as Text Twisters, were developed by Vance Stevens, one of the Instructional Developers at the Language Centre, and Steve Millmore, a programmer in the Computer Centre. Text Twisters comprises several reconstruction games; i.e., Hangman, a whole-text deletion game, cloze and cryptogram generators, and sentence and paragraph jumbled. In each case, the computer permutes the text in some way, and the students have to restore the text to its original. However, students also have the option of simply reading the texts if they wish.

The programs run on pure ASCII text files, which makes things easy for the materials developer, as ASCII text can be created easily enough or simply adapted from materials already developed on word-processor. At the Language Centre, for example, all or any of the text entered for use with the concordance program—that is, the contents of several science texts—can be used with the Text Twisters programs. As far as the students are concerned, they are provided with a variety of ways to approach a given text, depending on their mood, preference, and style of learning.

The SRC also uses a variety of commercial software. The most popular program is a typing tutor, which attracts students with its flashy game component (we don't know whether it teaches them to type). We also have a vocabulary puzzle game and some twist-a-plot stories in the SRC. We have on reserve several adventure games, subject matter tutorials, word games, interactive mysteries, study aids, grammar-reading-writing games and tutorials, and commercial speed reading and text reconstruction programs. However, we intend to develop facilitating materials before setting these out for students.

Future plans for CALL include the development of in-house adventure games and a series of interactive grammar lessons

directed at Arab students. Also, ways of developing skills in reading and writing in conjunction with those in word processing are being explored, as a means of using the communications potential of the IBM mainframe as a catalyst for communicative interchanges between students and teachers. Finally research is planned into the attitudes of students and teachers towards the computers, and into how the computers are used in learning English.

Though in existence for only two years, the Language Centre at Sultan Qaboos University has deeply immersed itself in CALL. Students and teachers alike have taken well to using the computers, with both groups showing themselves to be receptive to what has for many been a new and unfamiliar medium. The Language Centre, and the university in general, are well equipped with computers and technical support, and relations between the Language and Computer Centres have been conducive to rapid CALL development. The university administration favors efforts in CALL and encourages links with the international community. Given this environment, the prognosis is for continued practical, yet innovative development in computer-assisted language learning.

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## Call For Participation

What: *ESOL Software Applications Fair*

Where: TESOL '88 in Chicago; March 8-13, 1988

### Details:

- 1) The *Software Applications Fair* will provide computer-using ESOL teachers with an opportunity to briefly describe one of the programs they are using, as well as explain how this computer application fits into their total ESOL curriculum.
- 2) *Format*: Presentations will be limited to 20 minutes and should include a brief description of what the program is, a demonstration of how it works, as well as comments on how this is perceived to fit into your ESOL curriculum. There will be more than one presentation given simultaneously and there will be Apple, Commodore, and IBM hardware available for the presentations. Presentations will possibly be repeated two times.
- 3) *Handouts*: Each presenter should prepare 50 copies of a one-page handout which includes a one paragraph summary of the program features, a one paragraph summary of how it is integrated into your curriculum, and information on the availability of the program—the address of the publisher and the price.

Name \_\_\_\_\_ Telephone ( ) \_\_\_\_\_

Address \_\_\_\_\_

Software you'd like to present:

Hardware Needed

1st Choice: \_\_\_\_\_

2nd Choice: \_\_\_\_\_

[Please copy the above response form and return it to Norman Johnson, 2364 Friendly St., Eugene, OR 97405 by Dec. 20th if you are interested in participating. Those selected will be notified by January 15, 1988. Thank you!]