EDUCATIONAL TECHNOLOGY AND EFFECTIVE GROWTH
IN SECOND LANGUAGE CLASSROOMS
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ABSTRACT

This presentation was given at the International CALICO Symposium in Tokyo, Japan, December 1985. The humanistic approach to language teaching is emphasized. Four paradigms applicable to computer assisted learning programs are cited: Instructional, Revelatory, Conjectural, and Emancipatory.

KEYWORDS: convalidation, humanism, individualization, problem solving, discovery, simulations, branching, authentic activity

I thank the organizers of the third international CALICO Conference for extending this invitation to me, and the Office of Public Affairs of the American Embassy in Tokyo for supporting my participation. This conference has been a venue for thoughtful exchange among computer and media specialists, linguists, language methodologists, and professors of the Humanities. I am pleased to have a part.

I welcome this opportunity to face up to the computer again after more than ten years of having distanced myself from its application to the analysis and teaching of languages. My self-imposed exile from the field of educational technology was due largely to my unsuccessful attempt to employ the computer in analyzing sociolinguistic data, which I had collected in research leading toward the doctoral degree. Finding it impossible to get the kind of correlations I desired from the computer, I resigned myself to work manually. The breakdown was not that of the computer, but one of communication since I was not conveying clearly to the programmer assisting me my objectives in the study.

My 1974 experience emphasizes what we have heard much about already at this conference. Language specialists must communicate clearly their objectives to the computer specialists developing programs for them. It is only through teamwork and a dialogue between understanding participants that computer assisted language learning (CALL) can be developed.

We live in the age of technology; and we are experiencing the computer revolution. But it would be wrong to expect the computer to have the same impact upon language teaching as it has for some sectors of society—the travel industry immediately comes to my mind as an itinerant ESL teacher. Creative language development requires an interfacing with human beings. The Stanford University experience with computer instruction in Armenian is a case in point. Some years ago, Stanford offered computer assisted language instruction to two students of Armenian, seeing in the computer a cheaper alternative to a live teacher of the language. Before the end of the semester, both students had dropped the course (Holmes 1984, 103). Computers assist in learning, but they do not replace interaction with teacher or peers.

This conference benefited from the futuristic vision of the technological specialists, and the pragmatism of practicing or former teachers working within the constraints of budget and student receptivity. From the opening sessions, we heard from and about creative teachers adapting the use of the computer to real learning environments. Norman Johnson and Elaine England shared insights from their experiences adapting existing programs or using authoring systems to enrich the acquisition environment of the classroom. Professor Takefuta, in his opening plenary, gave us a functional taxonomy of the computer in language teaching; he created no pie-in-the-sky expectations, but sought to identify a role which the computer could play within the Japanese university student setting.

Interactive videodisc learning packages demonstrated by Joan Rubin and Andrea Charman show attractive supplementary materials now available for use in the foreign language classroom. These are a prototype of what we can expect to be available in the future to schools having adequate funds for purchasing such systems.

Examples of sophisticated computer technology in Professor Southworth’s demonstration of a Global Teleclass, and the work of Dustin and Nancy Hueston at the world’s first computer-based school in Utah, serve to inspire, even though duplicating these activities may be beyond the reach of common mortals within the teaching profession.

Two voices, interestingly both from Jesuit institutions, were raised during this conference to express concern that our enthusiasm for technological innovation not detract us from the humanistic goals of education. In his talk this afternoon, James Alatis of Georgetown University reiterated the Humanistic goal of education: “To make people responsible, integrated personalities; to enable people to achieve an understanding with people of their own society and people of different cultures.” Being married to a graduate from a Jesuit institution, my ears are open to Jesuit views.
In pursuing this idea of education as a process of self actualization, enhanced through mutual understanding and appreciation of peoples, I cite the views of still another Jesuit, Charles A. Curren, who wrote:

_Industrial depersonalization and the mass quality of computerism both heighten the necessity of a renewed sense of the uniqueness of each person. Each one must personalize this: I must begin to regard myself in a special way. The end effect of this can open to me all kinds of experiences in the realization of my worth as a total person._ (Curren 1972, 2)

Curren sees mind, body, and spirit working as one. Individuals recognize their worth in the regard which others show to them; and they show their worthiness in their regarding attitude of others. Central to Curren’s philosophy is the concept of convalidation, persons mutually conveying a sense of unique worth and dignity. The influence of Curren’s spiritual teacher, Jesus Christ, is clear, but so too is the influence of his academic mentor Carl Rogers. Curren joined Rogers in criticizing contemporary education as overly stressing the cognitive, and avoiding affect. Both sought to humanize education, responding not only to the professional needs of students, but to their emotional needs as well. It is not an easy task to train teachers to be sensitive to the affective development of their students. It is no easier to program a computer to be responsive.

The computer works on the basis of rational programming. Good programs reflect the programmers’ ability to predict learner responses, using branching to accommodate to their direction of thought. But the actions of human beings are not consistent products of rationality. As teachers, we cannot anticipate student moves; we have to be ready to listen to students, and observe them, and adjust our interaction with them accordingly. This live element, of caring and sharing, must exist between the participants if real communication is to occur.

Curren’s SAARD acronym has application to the classroom employing CALL as it does to the traditional instructional environment. The students’ need for Security, Attention, and the willingness for focus their Attention can be facilitated through CALL. Even Aggression, the second A in Curren’s acronym, can be positively harnessed and serve as an emancipating force in CALL. Reflection and Discrimination in its positive sense—the fine tuning of understanding—can be promoted through computer activities. In adapting SAARD to the CALL classroom, the teacher monitors the computer to insure that it is accommodating to the learner’s sense of security, and promoting a thought stimulating environment for language growth and experimentation.

A recent book, _Computers in Language Learning_ (Higgins and Johns 1984), does a fine job relating computer technology to the overall needs of the learner. While eager to tap the potential of the computer and utilize systems of artificial intelligence, Higgins and Johns remain cognizant of the learner’s need for structured practice and communication with living souls. Citing an earlier study on computers in education, the authors identify four learning paradigms applicable to computer assisted learning programs. I will consider these paradigms in connection with promoting affective growth through CALL.

The first paradigm is the Instructional, with content or subject matter of central concern. In this model, the computer reinforces the input provided by the text or the teacher, or it serves itself as the source of input.

Within this paradigm, the computer may serve as an electronic blackboard, offering graphics, color, highlighting, and ability to perform transformations or other textual mutilation in describing the structure of the target language. The computer can provide a variety of drill and practice sequences to enhance the students’ grammar and vocabulary skills, providing a structured, sequenced program to supplement the meaningful, but less structured, less focused communication-rich activities taking place in the foreign classes of today. For the shy student, the computer can be an effective nonthreatening tutor. Information is presented and repeated as often as the learner requires; the mode of communication is instructional and entirely nonjudgmental.

Within the instructional paradigm, the computer can serve as an electronic workbook, superior to the traditional workbook because of its ability to provide immediate feedback. Moreover, it can provide an array of activities to be selected independently by the learners which allow them to work on the discoursal level. A teacher selecting reading passages for different ability levels or subject content can program the computer to make mutilations (deletion, insertion, substitution, reordering) and provide literally hundreds of individualized learning activities for the students. Printed workbooks can not offer the variety nor tailored approach to the individual student which computer programs can do. And immediate feedback is available to the student with no superhuman feats expected from the teacher. Students have indicated that they appreciate the attention given to grammatical mistakes which they do not (and probably need not) receive in the communication oriented classroom.

The second paradigm is the Revelatory, whereby learning results from discovery and experiential activities. The computer can engage students in simulations and role plays which require them to process linguistic data. Working in groups rather than individually, students are empowered to intervene in life-like situations. They may prepare maps or keep records (on the computer screen or on a worksheet), consult dictionaries, and talk among themselves in finding strategies to solve a problem. _Flight 505_ (BBC / International Learning Systems [Japan] Ltd.) puts students into a social situation wherein they determine appropriate action through a realistic human experience tailored to the future professional needs of business students. Branching stories in the spirit of “Choose Your Own Adventure,” the developmental reading series for children, give the new language student a sense of creating language; and in doing so, they provide an outlet for pent-up feelings of aggression that may result from too controlled a language program.

Simulations within the Revelatory paradigm can focus upon problems or processes; they may be real time or move-based. With move-based simulations, teachers can create a rich environment for language exchange among their
students; and as the screen holds motionless, the learners interact and negotiate in the target language to activate the next move on the display screen.

In using the computer for experiential learning, there are three essential phases. First, the teacher briefly the students on the simulation activity, contextualizing and relating it to the student's real or fantasy world, and providing the essential information to perform the activity. Phase two is the execution of the simulation, which ideally will involve rich language exchange among the students. In the last phase, students debrief: they inform the teacher about their experience and the teacher receives this information in a nonevaluative understanding manner.

The third paradigm, the Conjectural, is in its early stage of application to computer assisted language learning. With the conjectural model, students test their hypotheses about language, gaining knowledge through experience in the language. The conjectural model institutes a role reversal wherein students quiz the computer. They may feed in structural or functional data which the computer processes for correct form or appropriate use. Following their session with the computer, the students report back to the teacher the rules under which the computer was operating. In a structural program on S-ending (Higgins and Johns 1984, 72), students test out real or invented words to form a noun plural or third person singular of the verb. In a debriefing session with the teacher, students may be able to identify errors which the computer has made because of mass nouns or irregular verbs being fed into the computer. Though the teacher is the final arbiter for correctness and/or appropriateness, students have the satisfaction of having their intelligence and integrity acknowledged as they occasionally "trick" the computer. Convalidation is at work here, in this case in a three way relationship between the learner, the computer, and the teacher.

The last paradigm cited by Higgins and Johns is the Emancipatory wherein the student performs "authentic labor," or tasks valued for themselves rather than as a means for fulfilling future goals. Professor Southworth's teleclass is a fine example of this model. Students interacted with students across the miles and across cultures. They were engaged in a significant human experience. Electronic journals and report writing via the computer (word processing) are economical, common place implementations for using the computer to emancipate students from language activities of basically a training nature. The computer is engaged as a means of self expression.

It is significant that Higgins and Johns (1984) conclude their book with the caveat:

We do not know yet whether the computer is a suitable supplement or aid to the vast bulk of work done in classrooms or by learners on their own...We do not know whether CALL has equal value for students at all levels, or whether it favors one particular level...CALL programs should perhaps be treated as resources, in a library, rather than elements of the curriculum. (86)

In this statement we have a reaffirmation of the crucial role teachers and students share in the technologically assisted classroom. Decisions about the learning environment—what the tasks should be, how they should be sequenced, and how much time should be allotted—belong to the teachers and students if the goals of education, identified by the student and/or prescribed by the administration, are going to be achieved.

But the student's cognitive growth should be attended by correspondent affective growth—growth in one's knowledge of oneself as an independent, competent, feeling, aspiring, valuing human being. For students to understand their values, feelings, and aspirations, they must enter into communication with something more than an artificial intelligence. It is our job as educators to make sure that this is the case.

Bibliography


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