Can Computers Teach Values?

Values education strategies can be adapted to microcomputers.

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We wrote this article with the aid of an Apple personal computer, a machine identical to those currently found in thousands of schools. We elected to use the computer not so much because of what it does, but because of what it doesn't do. It doesn't become impatient. We can work with it continuously, or pause and reflect, yet never lose the machine's attention. It serves us steadfastly and uncritically. These simple capacities alone have already endeared personal computers to many adults and children. A recent study (Cox and Berger, 1981) reports that children who use personal computers show positive growth in four areas: attitude toward school work, sense of freedom, self-control, and problem solving.

While the appeal of CAI for most curriculum programs rests in its patience, computers have other attributes that can facilitate the development of values. For example, the behavior of a computer is predictable. It is oblivious to the personal appearance and background of the user. It cannot detect a user's sex, race, or even personal hygiene. A computer cannot be shocked, angered, or embarrassed. Teachers, on the other hand, being human, are vulnerable to communicating a variety of subtle but powerful negative reactions to what children tell us about their feelings, attitudes, and beliefs. At a very early age children begin to understand the hidden meaning of a furrowed brow or the tone of sarcasm. Our gestures and intonations can project a totally different message than what we are saying with our words. Not so with a computer.

In helping children learn how to inquire and examine their own emerging value systems, most educators agree that unintentional negative reactions by teachers are deleterious to youngsters' self-concept. Couple this with potential ridicule from student peers, and one can readily see why values education has been a delicate and controversial issue. In short, a teacher or classmates may prove to be a student's worst enemy in the process of values education. However, a student using CAI in the examination, evaluation, and acquisition of

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values would be able to do so with mature guidance in an environment free from potential rejection or scorn.

Another pitfall for teachers of values education is the invasion of a child's right to privacy. Well-intentioned teachers often expect self-disclosure beyond a student's limit of psychological safety (Lockwood, 1977) by demanding deeply personal revelations from participants who are not prepared to discuss their more private thoughts. The computer, in contrast, has no misguided need to get to know "the real you."

The computer, then, is ideally suited to the role of facilitator in values education. It inherently possesses the Rogerian qualities of genuineness and congruence. It can even be programmed to positively regard *anyone* who uses it. A student using CAI gains a sense of protection as well as a constant source of appropriate feedback while exploring and integrating feelings, beliefs, and behavior.

Wagman (1980) has reported that the use of a self-paced, interactive PLATO computer-based Dilemma Counseling System resulted in generally high quality solutions to psychological dilemmas. More important, most subjects evaluated the PLATO Dilemma Counseling System as interesting and not too impersonal.

Computers have also been programmed to pick out key words from a respondent's statements. The computer program then formulates open-ended questions from key words, which causes the respondent to focus and further clarify feelings. In other words, the computer can assume the role of a nondirective counselor. Using a program called "Doctor," Holden (1977) describes a conversation between a computer and a troubled young woman who began with a common complaint:

Human: "Men are all alike."

Computer: "In what way?"

Human: "They're always bugging us about something or another."

Computer: "Can you think of a specific example?"

Human: "Well, my boyfriend made me come here."

Computer: "Your boyfriend made you come here?"

Human: "He says that I'm depressed much of the time."

Computer: "I am sorry to hear that you are depressed."

Human: "It's true. I am unhappy."

Computer: "Do you think coming here will help you not be unhappy?"

Human: "I need some help. That much seems certain."

Computer: "What would it mean if you got some help?"

Human: "Perhaps I could learn to get along with my mother."

Computer: "Tell me more about your family."

While we are not advocating that computers be used in schools for this purpose, this conversation does illustrate how a computer can be used to help people think about their feelings and values.

Values Education and Computer-Aided Instruction

Of the many different values education strategies that have been used in K–12 classrooms, two strategies have received widespread attention. Both of them, values clarification and values analysis, are aptly suited to being used as a basis for software development. They are theoretically compatible in at least three major ways (Beyer, 1979).

First, both approaches are centered on helping students make decisions. Second, both assume that values are developed within the individual. Each approach, then, helps students to articulate and clarify values, and to arrange them in some type of hierarchy which, in turn, helps to guide behavior. Finally, both approaches engage the student in eliciting value-related statements or behaviors and then subjecting these behaviors or responses to examination. Thus, values clarification and values analysis serve as a mirror in which the student examines what is valued in terms of reasoning, consequences, and individual well-being.

A unique feature of CAI that is extremely useful for accomplishing the common goals of these two approaches to values education is branching: a process by which one decision leads to a discrete cluster of options. A different decision would lead to an entirely different set of options. The branching procedure gives the student a speedy, objective, and comprehensive view of options and possible consequences, which helps the student examine a position in relation to several choices. Student input can be incorporated into an existing program, which then increases the branches (choices) being offered.

For example, the Pie of Life activity developed by Raths (1978) could be transformed to a software program in the following way. Suppose a menu of typical activities from reading to watching TV to talking on the phone were displayed on the computer's monitor. Students could use the keyboard to assign the number of hours they spend on the various activities. Next, the computer would generate a pie graph to visually portray their use of time in a 24-hour day. The computer could then ask the respondents if time spent on any activity should be decreased or increased. Finally, the computer might prompt users to write a contract if they wished to change their management of time. This information could be stored and recalled at a later date by students to assess their progress.

Most other values clarification techniques are also well suited for use with a personal computer. Values continuums and forced choice statements are easily managed via CAI.

The computer can also store and display other students' responses, but without revealing individual identities. This allows learners to observe how their attitudes, beliefs, preferences, and other indicators of values stack up against classmates' without compelling anyone to defend a position or to attack another's choice. The computer's vast storage capacity permits access to a much broader base of data than just one classroom. In fact, the responses of the entire population of a school system could easily be compiled, stored, and shared.

Figure 1 presents a values analysis flowchart, which not only conveys information but acquaints the reader with the first step in computer programming: the development of a flowchart.

Movement through the flowchart consists of the following interactions: The computer generates a value-laden issue. The student then considers the alternatives and the probable consequences provided by the computer, or the student may enter his or her own alternatives and possible consequences. These entries then are incorporated into the program and become available to other students who may use the program in the future. Thus, students directly contribute to the overall development of the program. The computer can then either directly present data that would help the student assess the desirability of the possible consequences, or refer the student to sources where data can be researched. Finally, the computer asks the student to make a choice or decision. As with values clarification, the student has the option of requesting the

computer to anonymously display other individuals' decisions on the issue.

On the Brink

Some of our greatest human accomplishments have consisted of determining our physical limitations and developing tools to compensate for them. Just as television has revolutionized communication, the personal computer is on the brink of revolutionizing education. Personal computers are commonly being used to present questions, score answers, and keep records. While these applications are appropriate and labor saving, the personal computer has capabilities well suited to more complex curricular and educational problems. When applied to values education, the personal computer provides interactions that promote reflective analysis while ensuring discretion and psychological safety.

The gap between theory and practice is in part a gap between technology and application. As developers of curriculum, our responsibilities lie in the area of application and practice. Creating software, using approaches similar to those we have presented, is a step in meeting that responsibility. ■

References

Beyer, B. K. *Teaching Thinking in Social Studies*, 2nd edition. Columbus, Ohio: Charles E. Merrill Publishing Co., 1979.

Cox, D., and Berger, C. F. "Microcomputers." *Science and Children* 19 (September 1981): 28–29.

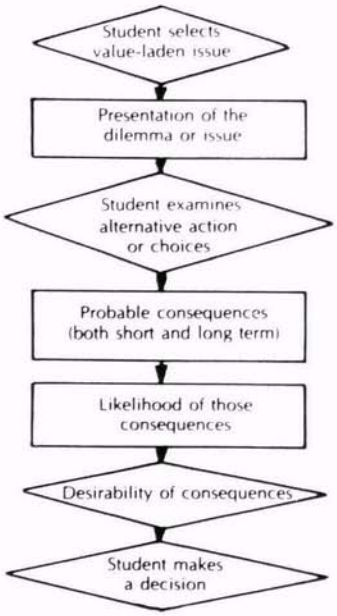
Holden, C. "The Empathic Computer." *Science* 198 (October 7, 1977): 32.

Lockwood, A. L. "Values Education and the Right to Privacy." *Journal of Moral Education* 7 (October 1977): 9–26.

Raths, L. E.; Harmin, M.; and Simon, S. B. *Values and Teaching*. 2nd ed. Columbus: Charles E. Merrill Publishing Co., 1978.

Wagman, M. "PLATO DCS: An Interactive Computer System for Personal Counseling." *Journal of Counseling Psychology* 27 (January 1980): 16–32.

Figure 1. Values Analysis Flowchart.



Rectangles represent presentation of information and diamonds are those parts of a program where choices are made and branching occurs.