The "Right Ways" to Use Computers (Guest Editorial)

Lowd, Beth (October 1986). The "right ways" to use computers (Guest Editorial). The Computing Teacher. Eugene, OR: ICCE.

What are the goals of the computers-in-education movement? Is uncertainty about goals the reason that involving more educators is becoming more and more difficult? I think the answer is yes. Many computer enthusiasts seek change, and a great many of our colleagues are resistant to change. Some of our promises, our views of the future, don't sound so great to them. And I believe the reason has less to do with confusion over the goals for using computers than with disagreement over what the overall goals of education should be.

Face it. Many of the leaders in computers in education are innovators who originally entered education to make it better. We perceived the schools as less than perfect, autocratic, rigid, unimaginative, stilling, lockstep, teaching trivial rote learning, and peopled far too much by insecure teachers who needed to be dictators in the classroom or incompetents who could not make it in the competitive world. We have been looking since the '60s for ways to make schools more humane, thoughtful and child centered. We have tried other panaceas: open education, team teaching, discovery learning, etc. We are always ready to try a new idea which might make schools better.

So now we've hopped on this new, fascinating bandwagon called technology. Depending on our beliefs about the nature of students and teachers and the world's ills, we describe the goals of computer use in education in one of several ways. I list five of them below, which seem distinct to me, but I recognize that most people espouse parts of more than one of these points of view:

1. Computers can help make teaching teacher-proof, mechanize it, ensure learning, make possible the step-by-step mastery of the basics for every student, give immediate feedback and private correction, tell us when students are meeting criteria, make possible mastery learning by machine, teach the traditional curriculum better.

2. Computers can provide more levels for kids to work at, allow time for recognition of different needs and styles, help teachers manage diversity better, keep kids from failing by teaching them at their own levels, individualize, target, diagnose and prescribe, help each learner work up to his/her potential.

3. Computers can challenge the best minds, teach logic and critical thinking skills, help us train minds in the rigorous discipline of programming (the new Latin), become students' intellectual jungle gym, encourage students to see that there are multiple solutions to most real problems.

4. Computers with open-ended software can help good teachers revisit discovery learning, enrich the environment, let kids think for themselves, get kids away from memorizing facts to start analyzing data and synthesizing solutions, encourage cooperation and humane classrooms where mistakes
aren't a sin, empower the child to learn, motivate, simulate and stimulate complex problems for solution.

5. Computers can put kids in charge of their own learning, give them unlimited access to feedback and information and let their curiosity do the rest; they can allow teachers to be coaches, to give kids real tasks to do that are useful, to enrich the resources available to kids electronically, to give them access to real feedback from a learning community of their peers and others (not just the teacher).

Sound familiar? Can computers really do all of this? Do we want them to? Do most teachers want any of these scenarios? Do most administrators? With the resources and personnel now at our disposal, are any of these goals achievable on a nationwide basis?

The major publishing companies have taken the conservative view that the first and second (and maybe third) scenarios are possible enough to be marketable. We are inundated with software to individualize, reinforce, and manage the learning of traditional testable knowledge and skills. For some of us that is not enough. We want the fourth and fifth scenarios to begin to come true, too!

And there, I think, is the source of the confusion of goals. Do we want computers to help schools do more effectively what they have always done, or do we want to change the goals of the schools and thereby their methods?

My answer, and the answer of many who are in education to make the system better, is that computers bring us a golden opportunity to improve education through scenarios four and five. We want to make education not only more humane, but also more relevant to our rapidly changing world. Don't students who will live in the 21st century need different skills than those who lived in the past? Isn't the education that's needed for citizenship in the information age (and the nuclear age) any different from that which was needed during the industrial age?

Studies provide ample evidence that the emphasis in education should change. Basic skills are important, but not sufficient. Students need more practice in locating, organizing, analyzing and evaluating real data in this information-swamped society. They need practical experience in having to make decisions when given incomplete information, and in flexibly altering decisions as information changes. Schools need to be modeled less on the autocratic factory and more on an environment that encourages independent thinking, conflict resolution, and cooperative decision making.

I believe these changes are terribly important: the survival of our freedoms and even of the planet may depend on students' mastering some of these new skills. I also believe, strongly, that computers can help us achieve these changes. But we must face the fact that most educators are content with the status quo and see no need to revise the schools' goals. Our hurry to make changes is offensive to them, and it is making computers scary and unpopular by association. For example, those of us who would like to see changes happen quickly (i.e., revolution) too often denigrate computer uses which are fairly traditional (goals one and two). We make our colleagues uncomfortable by insisting that only goals three, four and five are acceptable uses of this wonderful new technology. In so doing, we turn them off from computers completely!

We must stop confusing the "right" goals for using computers with our unpopular idea that education must change. Computers need not be used exclusively to make these radical changes;
they can support more commonly accepted philosophies of learning as well. Moreover, encouraging people to use computers for tasks with which they are comfortable will keep them from becoming turned off entirely from the new technologies. The first three goals will do nicely for most people, and their magnitude will certainly put enough strain on the shrinking resources available to education.

Meanwhile, we should continue making our own classrooms as humane, stimulating and empowering as possible and try to create scenarios four and five for our students. We should share our methods with friends who show interest, concentrating on evolution, rather than revolution.

Outside of the classroom, we can work toward the development of new goals for the whole of education. We can join committees and councils and work there for recognition of the need for new skills to face a changing and dangerous world. Over time, as the need for new types of learning becomes slowly obvious, a consensus on the new goals will evolve. Then changes in methods, organization and attitudes will begin to take place, and we can show our colleagues how nicely computers can help them teach the new skills as well as the old ones.

[Beth Lowd, Computer Specialist, Lexington Public Schools, Lexington, MA 02159.]