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Cover Page Footnote
The author is Chair of Computer Programs at Bank Street College. She also consults with educators in the New York area to help them use computers effectively with children.
COMPUTERS: WILL THEIR MAGIC SURVIVE SCHOOLING?

Barbara Dubitsky

The time is 3:15. The date is late September 1987. Two adults have met the children whom they are about to tutor; they are outside the computer lab at Bank Street College, armed with juice and cookies. They ask the children what they'd prefer to start with, a snack or work on the computer? The answer is an immediate and unanimous "computer." With such a magnetic tool in our hands we educators need to think hard about how best to use it in the education of ourselves and our children.

A few years ago computers were new and exciting. For many of us they still are: they offer children a vehicle for creative graphics and written expression and a degree of independence not often available in school. They offer educators a model for exploring the intricacies of education and educational reform and they have revitalized the interest of many teachers in their work. For others of us computers are as dull and mundane as mathematics. Children and adults have been introduced to computers in ways calculated to "turn them off." Such practices as presenting material about the computer without computers present, introducing material too quickly, too early, or in a rote manner have made many people feel computers are not for them.

Many computers are in classrooms because enthusiastic teachers brought them. The teachers were struggling to learn as they were teaching the children; they taught the children what they knew and the children, in turn, taught them. The teachers were interested in the details of the children's work, since all of it was so new to them. When a child produced an imaginative piece of work, the teachers showed genuine excitement. Since there was no computer curriculum, the children and the teachers could pursue their own interests. The teachers were free to follow the lead of the children.

We observed junior high school classes in a suburban school's computer lab over a period of a year when the teachers were learning the Logo computer language. The classes, though not ideal, were often very exciting. The children were working on projects they had devised themselves. One teacher had learned to produce musical
sounds on the computer and taught this technique to her students; some of them were incorporating delightful musical passages in their computer games and demonstrations. The atmosphere in the computer lab was alive and exciting. The children were learning Logo as a tool for solving the problems and challenges they had set for themselves with the help of their teachers.

Two years later, we returned to find a "bigger and better" computer lab--five times the size of the old one with three times the number of computers. But there was a deadly feeling to the place. As we looked around we discovered little booklets beside the computers with directions diligently followed by the children. The teacher told us proudly about their new curriculum, neatly packaged in sequential booklets. She was elated; we felt devastated.

How do we save the computer from becoming another non-functioning piece of curriculum? Whitehead tackled this problem in The Aims of Education; he discussed how subject matter that is exciting in one generation turns by the next into "inert ideas"--that is to say, ideas that are merely received into the mind without being utilized, tested, or thrown into fresh combinations." He bemoans the fact that education becomes "the passive reception of disconnected ideas, not illumined with any spark of vitality" (p.1).

There must be a way to rescue the computer, a machine that has captured the interest of both children and adults, from dying an "inert" death. We must save it from the boring textbooks and tests in which we find school mathematics buried.

Is there an inherent problem with any new learning tool? Are computers exciting at first but become dull once one learns more about them? Video games were so exciting to young people a few years ago that adults became so fearful they tried to ban them from public places. But the novelty wore off and the ban proved unnecessary. Computers in general are different from video games: they're useful for everyday work; they're diverse, malleable and ever-changing. People get more attached to them the more they use and learn about them.

Although curricula do not inevitably make a subject dull, we believe that once teachers have a curriculum to follow, many stop learning more about the material. Many no longer look at the children and at what they are doing; instead they focus on whether the children are "getting" the prescribed material. In other words they are no longer exploring the material or new ways to present it to
children. When the teacher stops learning, what she teaches is no longer vital.

Here are some suggestions to teachers to prevent this:

--Use the computer for your own work.

--Think about the relationship between your personal use of the computer and your goals for student use. Would students find personal needs and desires for computer use that are different from yours?

--Find ways to use the computer that enhance what you already teach. Think of it as a tool rather than as a subject.

--Give the children the opportunity to teach you new things on the computer. For example, bring in a piece of software that you haven't learned to use. Let some children learn it on their own so they can teach other children and you.

--The computer is ever changing; do a little exploring of new software and hardware. And keep on experimenting with other uses of what you already have and know.

--Be self-reflective about how you learn. The computer offers an interesting opportunity for teachers: the opportunity to learn something new of an intellectual nature. How do you learn? What do you use to learn new material? Do you like to read a book about it? Do you like someone to show you? Do you like to learn alone or with another person, in a formal class setting or in a casual manner?

--Spend some time not "teaching." Just sit and watch what the children are doing at the computer. Listen to what they have to say; use their ideas and paths when taking your next steps in "teaching" them.

As we find ways to use computers well, we may stumble on methods to revive those other withered subjects that fill our schools. If we succeed in keeping children turned on to computers, we may gain insight into how we drained the excitement out of other subjects.

And, by the way, how did a subject as exciting as mathematics ever become dull and routine?

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References