Technology Education in the Home


This year's editorials all focus on one specific problem—the inability of our educational system to adequately deal with the very rapid Information Age changes that are occurring throughout the world. Previous articles have suggested that our formal schooling system needs increased help from our informal educational system in coping with this problem.

**How Do You Spell "Print?"**

Several years ago, I heard a story that has stuck in my mind. The story is about a child whose parents are both educators with substantial interests in computers. The child was about five years old and was demonstrating his computer prowess to a visitor who was about 10 years older. The parents were in another room, but they could overhear the conversation. They were impressed as their child turned on the computer, loaded different pieces of software from floppy disks, and demonstrated a variety of games and other computer activities to the older visitor. At one point, their young child decided to demonstrate how to output materials to the printer. They overhead their child asking, "How do you spell "Print"?" The young child knew that using the word "Print" was the way to achieve a particular goal with the computer system, but had not yet learned to spell that word. Interestingly, the young child knew that older people, such as the visitor, know how to spell such words.

This story is both remarkable and increasingly commonplace. A child growing up in a computer-rich environment learns to use computers. With appropriate encouragement and help from parents, such a child can gain a wide range of computer skills before entering school.

**Coloring Using Crayons**

Many years ago, I was baby-sitting for a young married couple who had a four-year old child. When I noticed that there was a box of crayons and a coloring book sitting on the shelf, I decided to engage the child in coloring some pictures.

I remember being surprised that the borders of many of the pictures in the coloring book had been traced over using various colors of crayons. But, none of the pictures themselves had been colored in.

The child proceeded to select a new page and trace the border of the picture. The child concentrated on not straying from the border lines. Evidently this was the child's understanding of what it means to "color a picture."

Later in life, as my own children were learning to color, I made sure that they learned to fill in the entire picture! Surely, that is the main concept of coloring books.

What does this have to do with technology education in the home? A coloring book and crayons are a type of technology. My concept of appropriate use of the technology was coloring in the pictures, perhaps staying within the lines and using colors appropriate to the picture. As
my own children were growing up, I helped them to learn what I considered to be the "correct" concepts of using this technology.

**Computer Technology in the Home**

The total installed base of microcomputers in the United States is now one microcomputer per four people—about half the density of installed telephone lines. While the majority of these microcomputers are used in business and government, home use has been growing very rapidly. The home market is being targeted by most of the major computer manufactures with the expectation that it will soon surpass the business and government market.

Thus, an increasing number of homes of school age children have both computer facilities and one or more parents who use computers on the job. This sets the scene for a rapidly increasing amount of home education in use of the technology. The question is, what will children actually learn?

There are a variety of possible answers. The "How do you spell Print?" example illustrates the fact that many parents have both the knowledge of technology and the knowledge of education to help their children learn a great deal about use of the technology. It is clear that we now have many students in school who have grown up in a computer-rich home environment and whose knowledge of this technology far exceeds that of most of their teachers.

At the same time, we have many students in school who have had excellent access to computers as they grew up, but who have not had appropriate guidance in learning to make use of this access. In the same sense that coloring is more than tracing the outline of a picture, using computers is far more than playing games or making use of drill and practice programs.

But, how is a parent who is not an educator supposed to know this? Many parents feel that they are making a major contribution to their children's education if they provide the children with a computer, some educational software, and some computer tools such as a word processor. They lack the personal knowledge of use of computers in education to provide appropriate guidance and help to their children.

**Making Better Use of Home Technology**

This suggests one possible way to improve education. We need to develop a support structure for parents who have computers in their homes and who want to help their children learn to use them.

This support structure might be parents helping each other. It might be teachers working with parents. It might be students working with parents and with other students.

ISTE is exploring these and other options. One of the options is the possibility of ISTE starting a publication and/or a Special Interest Group for parents. Such a SIG might have local school-based clubs or chapters. If you have experience in this area and would like to help in the start of such a publication or SIG, please contact me.

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**Retrospective Comment 8/30/08**

The idea of ISTE creating a SIG for parents never caught on.
For those interested in the idea of children learning from children, please see the year 2007 (20 minute video Sugata Mitra: Can kids teach themselves? Available at http://www.ted.com/index.php/talks/sugata_mitra_shows_how_kids_teach_themselves.html