

## Try It—Maybe You'll Like It

Moursund, D.G. (October 1998). Try it—maybe you'll like it. *Learning and Leading With Technology*. Eugene, OR: ISTE.

Computers are an innovation. In that sense they can be compared with other innovations such as cars, radios, television, and vaccinations for small pox.

Everett Rogers (1995) has spent a lifetime studying the adoption of innovations. His book (now in its fourth edition) is a treasure trove of stories about innovations that have been adopted and innovations that have not been adopted.

Rogers begins his book with a story about the innovation of boiling drinking water in a Peruvian village. All of the sources of water in this village were polluted. Typhoid and other water-borne diseases were a serious and continuing health problem.

The health services in Peru undertook a two-year campaign to convince the 200 families in the village of the benefits of boiling their drinking water to help prevent disease. The innovation was backed by solid scientific research. Within the village, the intervention was supported by 15 families that already boiled their drinking water, a medical doctor who visited the village to give talks on boiling drinking water, and a local public health worker who devoted a great deal of time to the project.

The innovation was not adopted. The two-year intervention resulted in only 11 additional families adopting the innovation of boiling their drinking water.

This Peruvian village has been extensively studied. Why was the innovation of boiling drinking water not adopted? In essence, the answer lies in the deep-seated culture of the villagers. The details of the culture are not particularly important. What we know is that a culture—be it in a village, in a corporation, or in a school—is hard to change.

### **Information Technology is a Complex Innovation**

Some innovations are relatively simple. Consider the situation when color television first became available. A potential customer could look at a color television set, learn about the availability of color programming, explore the cost of various color television sets, and make a personal decision about whether to adopt this innovation. A color television set is relatively easy to use, and it was not a big step to move from black and white television to color television. Eventually, widespread adoption occurred.

As compared to simple innovations such as radio or color television, the innovation of information technology in the school is very complex. The adoption of this innovation requires significant changes in curriculum, instruction, and assessment. It requires a certain level of group consensus in order to obtain the needed funds and changes in the infrastructure. It takes a substantial amount of staff development as well as a supportive infrastructure for schoolwide adoption of the information technology innovation to take hold. Moreover, information technology is a rapidly changing innovation. One can be an adopter of the technology, and a few years later find oneself classified as a laggard.

## **The School Culture**

However, there may be a deeper reason why relatively few schools have wholeheartedly adopted the IT innovation. The wholehearted adoption of IT requires a considerable change in the culture of being a school teacher.

The classical discussion of the school teacher culture points out the differences between a "sage on the stage" and a "guide on the side." The traditional model of a teacher is a person who is highly knowledgeable about the subject matter being taught and can "stand and deliver" instruction on this content area. The teacher has the knowledge, and the teacher helps the students to gain the knowledge through a combination of lectures, assigned readings and activities, tests, and so on. This "model" or description of a teacher represents a deep-seated culture that is accepted by teachers, students, school administrators, and parents. This culture is highly resistant to change—even when research and the testimonials of experts point to better ways.

## **Trailability**

One of the key ideas in Everett Roger's book is the "trialability" of an innovation. Can a potential adopter try the innovation without making a full and major investment or commitment in the innovation? By and large, information technology in the schools has not provided an easy path of trialability. The threshold for getting started has been rather high.

Gradually, however, the threshold has been lowered. The early adopters have led their schools to having a substantial amount of hardware, software, and connectivity. Students have learned about information technology at schools and at home, so they have an increasing base of knowledge and skills. Large numbers of teachers own a computer, and educators as a whole have a significant and growing knowledge about how to make personal use of information technology.

## **Project-based Learning**

It appears that conditions are now ripe for relatively wide scale adoption of information technology-assisted project-based learning (IT-assisted PBL). Many teachers already know about project-based learning that does not make use of computers and have experience in using it in their teaching. It is a relatively small step to try IT-assisted PBL. This step can be made using whatever current IT knowledge and skills the teacher and his/her class have, and whatever hardware, software, and connectivity are available to them.

A teacher who designs and implements an IT-assisted PBL lesson is taking a step in the direction of a significant cultural change. The teacher is becoming a guide on the side and a person who role models lifelong learning. Moursund (1998) contains a substantial amount of information to help such a teacher make this important step.

## **References**

- Moursund, David G. (1998). Project-based learning using computers. Eugene, OR: ISTE.
- Rogers, Everett M. (1995). Diffusion of innovations. NY: The Free Press.

## **Retrospective Comments 11/4/00**

It is interesting to look at the various technological innovations that come to market, and to see which ones are subsequently widely adopted. For example, consider cell phones. The telephone itself is a technological innovation that is relatively easy to adopt, because "talking" is

something that most people learn while they are very young. Talking face to face with a person, and talking via telephone, are two different things. It is fun to watch a young child learn to do this and to develop understanding that they are able to talk to a person who is not located nearby. Clearly some learning is required, but this is a good example of near transfer of learning.

Before cell phones became prevalent, many people had cordless phones. The step from having a cord telephone to having a cordless telephone is small—another example of near transfer of learning. The step from having a cordless telephone to having a cell phone is somewhat larger. However, it is well within the "easy" range for many people. The process of getting a cell phone and arranging for the needed cell phone service can be somewhat confusing, but has become easier with time. And, many people find that having a cell phone is highly advantageous. Thus, throughout the world, many hundreds of millions of people have acquired cellular telephones.

Three uses of microcomputers also tend to fall into the "easy to learn and to adopt" range. Hundreds of millions of people throughout the world now use a word processor, e-mail, and browse the Web. The movement from using a typewriter or from hand writing to using a word processor requires only a modest amount of learning. (Of course, with just this modest amount of learning, people use the word processor like a typewriter, and they do not take advantage of the "power" of a modern word processor.) Similarly, it is relatively easy to learn to use e-mail and to browse the Web at a beginning level. Most users of e-mail and the Web have not yet learned to use many of the powerful features of these aids to communication. For most people, all three of these microcomputer uses provide significant benefits relative to the learning and use efforts that are required.

As we think about more sophisticated uses of word processing, e-mail, and the Web, and as we think about uses of other microcomputer tools, we see that the road to adoption is more difficult. It tends to require significant formal training and considerable effort to learn to make effective use of a spreadsheet, database, computer graphics programs, and so on. Moreover, the advantages of learning to use these tools are not so evident to many people.

For a teacher, the step to integrating IT into the everyday curriculum is a still larger step than merely learning to use a variety of computer tools. The teaching and learning processes are complex. Classroom management is complex, and having the students using computers in the classroom and in a computer lab can make it more complex. Dealing with a variety of computer hardware, software, and connectivity is a major challenge to a teacher. When all of these difficulties are taken together, it is easy to see why widespread adoption of the innovation of fully integrating IT into the everyday curriculum will take a long long time.

### **Retrospective Comment 9/2/2008**

I hate to admit it, but sometimes when I read one of my old editorials, I am impressed. *Try it—maybe you'll like it*, falls into that category. It helps to explain why ICT is having such a small impact on our educational system.

It also contributes to insight on the issue of first-order and second-order uses of computer technology. First-order applications require relatively little learning and change on the part of people making an adoption. See my May 1997 editorial *Beyond Amplification*.