Teachers have the opportunity and the obligation to lead the much needed reform of the current educational system in this country. Technology will play a big part in that reform. It is not the availability of technology that will make the difference. It is the teachers’ effective use of the technology that will make the difference. The teacher is the most important ingredient for success when using technology.

Many of the techniques presented in this article originate from the Technology Integration Project (TIP), a program for high school math and science teachers funded by Eisenhower grants. There are many issues concerning the implementation of technology in education. We will attempt to present the “tip” of the iceberg concerning the whys and hows of using technology in the classroom. The use of specific pieces of software will not be discussed in detail because software changes so rapidly that the usefulness of the information will soon be outdated. It is important that you learn how to choose, implement, and integrate software.

This article is divided into five sections that address these issues. First, why use technology? Second, types of computer software. Third, how to effectively select software. Fourth, software integration strategies. Finally, how to effectively plan lessons integrating the chosen software and integration strategy.

**Why use technology?**
Your major role as a teacher is to facilitate learning. This is done either by directly giving students information or helping the students to find information for themselves. Current learning theories stress the role of the teacher as a facilitator helping students to create their own knowledge (Newby, Stepich, Lehman, & Russell, 1999; Driscoll, 2000). Technology can provide students with opportunities to discover and create knowledge thereby permitting the teacher to take on the role of facilitator. However, the direct dissemination of information is often necessary and appropriate. It is your job to figure out which approach is best for each lesson (or part of a lesson). It is also up to you to determine which tools you will use.

Technology can be a very effective tool when used properly. Computer software should not be used for the sake of using computers in the classroom. Just like a piece of chalk and an overhead projector are tools for teaching and learning, so are computers and computer software. Not only do good teachers know what tools will be effective for a lesson, they also are able to determine the best use of these tools. Software needs to be selected thoughtfully. So must the implementation strategy. Technology can be used by the teacher and by the students. It is up to the teacher to decide which method or combination of methods will be most effective in the classroom.

When students pair up or work in small groups with the computer, they learn much more than the subject matter. They learn to work collaboratively, a skill that today’s employers are looking for. Students learn how to compromise and help each other. They learn from each other which helps dispel the notion of the teacher as “all-knowing”. It puts the responsibility for learning more on the students than on the teacher. The teacher becomes a facilitator more than a presenter of information. When used correctly, technology in the classroom can help the students learn how to learn. If we help our students learn how to find information on their own, we are providing them with a most valuable skill. This is perhaps more important than any factual knowledge we impart.

**Types of Computer Software**
**Drill & Practice and Tutorial Software**
Two of the most popular types of computer software used are drill & practice and tutorial. Drill & practice programs present questions and provide feedback. Tutorial programs take this a step further by providing the user with information prior to the drill & practice. Both tutorial and drill & practice
programs can be used by the teacher for demonstrations. A teacher can set up a projection device and present to the entire class.

One popular use of this type of software is for remediation purposes. The computer is infinitely patient. It will allow students all the time they need and will never get frustrated with the learner. (How many teachers can say that of themselves?) These programs are often in a game format so the students are more eager to continue practicing. Such programs are often used by several students at a time. This type of software is also good for make-up work if the software content matches closely the objectives of the lesson missed. Tutorials can also be used for enrichment. They can provide students with the opportunity to explore areas not covered in class.

Simulation Software

Simulation programs are another type of software often used by teachers when a real situation is not available or if it is too dangerous, too time consuming, or too expensive. Simulations are a very effective way of having students learn by doing. For example, chemical experiments that are extremely dangerous can be performed by students using a computer simulation. Students gain the knowledge necessary without the danger involved. Another type of simulation involves students running a business, city government, manufacturing plant, or other organization. Using computers, students get to experience consequences of their decisions. This would be impossible in the real world.

Everyday Applications

Other types of programs, often referred to as "tool" applications, are equally important in the classroom. These programs are those used for "practical" purposes. Regardless of the subject matter, students can be encouraged to use word processors, databases, and spreadsheets. You, as a teacher, can use the computer for activities from attendance and grades, to rest construction, and to communication with your colleagues via e-mail.

The Internet

Access to the Internet provides students with the opportunity to explore the world without leaving their seats. Surely there is something out in the real world that is applicable to your subject matter!

There is no escaping technology. Sign up for one of the on-line services (although you must be warned that getting on-line eats up a tremendous amount of time before you know it). As you become more experienced, you will become more willing to explore different software programs. This leads us to our next topic of discussion, software selection.

Software Selection

There are two types of software selection. One deals with the evaluation of software for purchase, whereas the other is concerned with selection of software for a specific lesson. This section will deal with the evaluation of software for possible purchase.

System Requirements

Regardless of where you get your preview software, the first consideration is the system requirements needed to run the software. System requirements include what kind of operating system and how much memory is required.

Many software producers are currently releasing their software on CD-ROM disks instead of or in addition to 3.5" floppy disks. Before you order software available on CD-ROM, you must make sure you have computers that have a CD-ROM drive.

Where to Obtain Software for Preview

Now that you know the basics of what you have to look for when choosing software, you may be wondering where to get software to preview. Producers of educational software such as Sunburst, Tom Snyder, and Davidson publish their own catalogs and have web sites. Other companies such as Educational Resources are vendors of software produced by a number of different software companies. Most of these companies offer a preview option on computer software. A complete version of the software is shipped to the customer for preview. If the software is not returned within a set time period (usually 30 days), the customer will be billed for the software. Under these circumstances you are expected to observe all copyright laws which include not making any copies of the software or permanently installing it on a computer.

Another preview option offered by some companies is to receive a demo copy of their software. The demo copy gives the potential customer a "feel" for the software but is limited in what it can do. For example, the producers of HyperStudio provide free preview copies of their software that allow you to use the program and examine many of its features, but does not let you save much of your work.

What to Look for When Previewing Software

Once you acquire the software for preview there are a number of things to examine. Sometimes software is not too expensive and may be worth purchasing for use with just a few curriculum objectives. Other times the software is more expensive so you want to get as much out of it as possible. To determine if the software is cost effective, you may want to ask some of the following questions. For how many different courses or curriculum objectives could it be used? Is it appropriate for the students you teach? How user friendly is it? Does it come with any supplemental materials? What would it cost to get multiple copies of the software to use either in the classroom on a few computers or in a computer lab?

It is usually possible to get "deals" where you pay for additional copies of the software at a lower price than the original purchase price of the software. Sometimes you pay to obtain permission to use a copy on a specified num-