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Moving Forward With Technology

by Gail Ellenbogen

Future? If we look into the future of technology, what are we talking about -- one, ten or twenty years down the road? In the technology world, the future is right around the corner. Today there are many new developments and tomorrow you will hear of a dozen more. It is very hard to look too far into the future because of all the developments that are going on at the moment.

Right now trends in using technology are being developed by educators. At the same time, the computer industry is creating new hardware and software products to meet the needs of schools. Networking (in classrooms or labs), multimedia, teacher tools, and hardware modifications are all part of these growing trends.

Developments in hardware, telecommunications, and multimedia that are gaining momentum in the field of education are described in this article. Some have been around for a while but are now catching on and growing; some are new ideas or products that will enhance or change the way computers and other technology are being used.

Hardware

The hardware future is pretty much unknown. New hardware products are being continually developed by the computer companies. Each company has its own research and development department that keeps news of products under development quiet because of the competition. Therefore, any information about the distant future is left to speculation.

Many new products that are coming on the market give us some clues, however. First of all, computers themselves are changing. The Apple Company came out with the MAC SE/30 which is a faster machine than its predecessors. It also has a larger hard drive for more storage and will be able to read IBM data disks. Similar developments by other companies indicate that computers will continue to be easier to use, faster, and more sophisticated.

Many types of add-on boards and devices to hook up to the computers seem to be growing and causing some ripples in the market and in the field of education. One area that is fast gaining momentum is the capability of producing quality music (Jordahyl, 1988). As interest continues to grow, we can watch for better external equipment and add-on boards to produce top quality sound.

In April, Apple computer came out with a new add-on board called an Apple II Video Overlay Card (News Plus, 1989). This board allows the combination of computer graphics with video images so that users can overlay graphics on the video signal. This product should have an impact on the educational market. For example, it fits in very well with the multimedia trend. Many new pieces of hardware are under development and we are sure to see new products continue to appear.

Telecommunications

Another trend that is occurring now and will extend into the future is telecommunications. Telecommunications is electronic communication of information utilizing computers. Telecommunications has been around for a long time, being used in business, for pleasure, and somewhat for education. Now more and more uses can be seen in schools.

Telecommunications is fast becoming an integral part of making the world a smaller place to live. We can communicate with people around the world. Currently projects are going on in the schools that attest to this. In some projects students are using telecommunications to speak with children from other countries. Students have visited other nations and have come back and continued their learning through electronic sharing with the students they have visited. There is also a project that hooks various countries together and communication occurs among students in all of the areas represented. These students are learning about each other through telecommunications.

More and more of these communications projects are going to occur in the schools. Not all of the projects will involve contacts around the world, but can take place from classroom to classroom and school to school as well as state to state. There is a "Young Astronauts" program for children in schools. These children connect with a special phone number via the modem to receive pertinent information about the young astronauts club, astronauts, and events at NASA. Out of the University of Michigan is a telecommunications project in which students are engaged in a variety of simulations. These simulations are for children of all age ranges and they involve social studies, politics, science, and other subjects. Many other projects are occurring at various levels. Children are sending information and news to pen pals, and others are writing letters to Santa Claus (Colborn, 1989). In this issue, Crooks describes a classroom unit that revolved around telecommunications contacts. These current projects in the schools are indicators that the use of this type of communication is going to grow.

As we move into the future we will be able to hook up and gather information from all over the world in an instant. Through the many online services that already exist, individuals can gather information, buy products, talk to other people with a common interest, make airline reservations, get the latest stock market quotes, use as a library, and take courses (both for personal interest and university credit). In the future, the equipment and software will have more functions and be easier to use. Telecommunications is here today and will be even more prominent in the years ahead.

Multimedia

Multimedia is a trend of the future. Through a blending of VCR's video, graphics, sound, computers, and other technologies, multimedia presentations can be created by teachers and children as a way of enhancing learning.

Although many educators have started to use multimedia in their classrooms (see the article by Dodd in this issue), the use of this technology is in its infancy. The trend will be growing and growing, however; many of the manufacturing companies are aware of the interest of educators and are rapidly developing both software and hardware for school purposes.

Software companies have come out with specific packages to create multimedia products. Currently software is available with which to put together a slide presentation which combines video, sound, graphics, and text. Titles can be overlaid on films that are produced by teachers or students (Marvelle, 1988; Wilson, 1989). More software is in the development stages that will make it easier to create and use multimedia materials.

Besides software, there are many pieces of hardware that work together to produce multimedia. The computer can control the presentation if it is run on its own. Videodisc and videodisc players are being used in classrooms. Now the videodiscs can be controlled through the computer, any part of the disc can be used to enhance a lesson. The disc can contain a lot of information and the segment that is needed can be accessed quickly and easily.

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Moving Forward With Technology

The next level of multimedia is interactive video disc technology. Interactive video disc technology brings together various tools which can influence teaching methods (Phillipo, 1988). Instructional material is brought to the learner electronically. The information that the learner receives is contained on the disc and is controlled by the learner and the computer.

The video discs are 12 inches in diameter and contain 54,000 images on each side. These images can be reached in a matter of seconds; it is not necessary to scan the whole disc to get to one section like you have to do with a tape. There is a newer version that is called CD-ROM disc which is much smaller and able to contain more information (Phillipo, 1988).

Teachers are discovering the potential of this teaching tool. Many teachers are even beginning to create their own units utilizing these materials. Different authoring languages are available to create these lessons. Teachers who are willing to devote time and energy can create interactive programs of their own.

As the technology industry continues to grow and change, we will see many trends develop. Some of these trends will stay alive and grow and some will pass on while new **future** trends take their places. We need to continue to look at technological developments and make decisions as to which ones will be the best for our situation.

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