

The Role of Technology in Realizing Educational Goals

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Impact of Technology

We need to join the revolution--the Computer Revolution. People have discovered that computers can make life easier and better. Despite some pockets of anxiety, people are generally optimistic about the Information Age. Information is becoming one of the key cornerstones of our economy. We are moving from physical labour to mental labour, trading muscle power for brainpower. Interest in computers is essential to not being left behind in today's society. Understanding what computers can do and how they can impact the future, especially future jobs, is highly desirable. Computers are enhancing, not limiting work, and changing, not controlling the way some jobs are performed.

Society is recognizing that it will not be easy to get through the rest of life without knowing something about computers. The educational system has been given the responsibility of making students aware of the computer's importance, versatility, pervasiveness, and potential for good and ill. It seems that everywhere you turn today there is a computer, so becoming computer literate is very important.

The Information Age involving technological advances, and particularly the Computer Revolution, is here to stay. Computers are not a fad. During the year 2000, an estimated 13 million, or 53% of Canadians over 15 years of age, said they used the Internet at home, work or somewhere else in the last 12 months. This is dramatic growth from the approximately 18% of Canadians who reported using the Internet in 1994. Computers show all the indicators of acceptance and beyond--they are shaping society in fundamental ways. Computers have moved into intimate corners of our lives. The number of jobs requiring computer skills has increased from 25% of all jobs in 1983 to 47% in 1993. By 2005, it is estimated that 65% of jobs will demand computer skills.

Technology Critics

The use of technology in the classroom is not without its critics. Experts seem divided on whether there is any good evidence that most uses of computers significantly improve teaching or learning. Many other experts feel that history may be repeating itself where successive rounds of new technology have failed to deliver on its promises. Ordinary people often fear the unknown, and therefore practice avoidance. Still other people feel intimidated by computers, fear computer errors, invasion of privacy, job loss or change, and depersonalization.

It can be said that computerized learning inevitably forces teachers to adjust their style. It can also be said that the push for technology in schools has taken precedence over other scholastic priorities. With this in mind, suggestions have been made that most schools would probably be better off if they threw their computers into the garbage. The money would then be freed up for developing good teachers and teaching practices. A prudent society needs to control its infatuation with progresses in technology and its inevitable costs.

Supporters of Technological Literacy

In favour of the new technologies, experts believe that unless all students have equal access to computers, the gap between the "haves" and the "have-nots" will widen. In many cases, that is one more good reason why Federal funding for computers in schools is being pushed, and why an increasing number of

jurisdictions are requiring the use of current technology for teacher re-certification.

Computerization of our schools must take place in today's world. Computer literacy must be taught as early as possible or we run the risk of students being left behind. To make the work force more competitive in an increasingly high-tech world, learning computer skills must be a priority. It is a reality that computers are becoming more accessible to more people. A whole new generation of children is growing up that is perfectly comfortable with using computers.

Technology Mandates for Schools

Many parents and teachers feel that computer education is a necessity. Parents want to be sure their children are not left behind in the computer age. The pressure is on schools and districts to acquire computers and train teachers and students in their use.

Parents who are given a choice of sending their children to a school that has modern computers, state-of-the-art software and well-trained teachers, versus a school that doesn't have those resources, will in most cases, choose the former. Parents are driven by what they see their kids doing or not doing in school. They see how in their own lives the way technology is so much a part of what they are doing.

Technological literacy should include how technology, society, and the environment are interrelated, as well as how technology is used to manage information. Students and teachers need to understand how technology shapes and is shaped by society, and the risks and benefits that result from technological developments. Students and teachers also need to understand how technological problem-solving strategies can be used to take advantage of opportunities for innovation.

One can readily see that the computer is a powerful tool that can be used at home and at school. Teachers can incorporate the use of the computer into their curriculum, but first they must become familiar and comfortable with the computer themselves.

Working With Technology

Information and communication technologies are transforming the way in which people work. Because of these new ways of working, it is imperative that all people have basic skills and knowledge about computer technology. Employers are constantly seeking employees who are technology and information literate. The education of new knowledge workers requires emphasis on information access through the use of computer technology. The use of technology can dramatically change the nature of the teaching and learning process. Students need to be able to write and manipulate their writing using word processing; to locate, access, manage, and evaluate data in databases and spreadsheets; and to create and use information networks.

Moving Beyond Basic Technologies

Historically, educators have used technologies in their teaching when it seemed appropriate. As teachers have gained experience with technology, they began to use a variety of media to include alternative learning and teaching strategies in their classrooms. Technology has provided teachers with opportunities to extend or replace concrete experiences. The use of overheads, films, and videos can be replaced by using presentation software that can produce text, graphics, video, and animation. Students can also be given the ability to access the teacher by using E-mail.

With the introduction of computers in the classroom, students have been seen paying more attention to what is going on. The medium catches the attention of the viewer. A dry factual presentation can be

resurrected and given new life and gusto because of the combination of visuals and text. Computers have the ability to make an otherwise tedious learning chore more fun and thus easier for any subject. The computer as a tool in a good teacher's hands becomes a very powerful accessory to complement the teacher's efforts. As long as we have technological influences in our world, it is only practical to learn as much as we can about them and to effectively and purposely implement them in the classroom.

Knowing how to access information rather than memorizing information is central to coping with the rapid changes in society. Up-to-date, and in most cases up-to-the-minute, information is available through the Internet. Downloading information from the Internet opens up a whole new world to the computer user. Students, and all citizens of the world, must learn as much as they can about this new technology and use it to their best advantage. It is as though we have an unlimited resource that is only hindered by our imagination.

Working with computers, and particularly using the Internet, brings students valuable connections with teachers, other schools and students, and a wide range of professionals around the globe. These connections also add variety to the school day, give a sense of real-world relevance, and help broaden the educational community. The Internet, when used carefully, offers exciting academic prospects. But the free nature of Internet information also means that students are confronted with some real dangers. These dangers can be limited through acceptable use policies, proper supervision, and student and teacher training.

Technology today offers many challenges and opens the door to new opportunities. For many teachers, getting involved with computers, multimedia, the Internet, and new ways to deliver education will be the most exciting and rejuvenating experience of their professional lives. Sites on the Internet such as Classroom Connect on the Net, Discovery Channel School, Kathy Schrock's Guide for Educators, PBS Teacher Connex, and Surfing the Net with Kids offer a variety of ways a teacher can add to and improve education and instruction.

Technology in Society and Education

Education does not exist in a vacuum. It is influenced by societal events constantly occurring around it, and technology is one of those influences. Students should be taught to use technology in beneficial ways with the emphasis on computer proficiency, not merely as a single path to an end. They need the tools and the knowledge of what those tools can do for them, in order to succeed in today's society of information and technology. In order to survive the Information Age and the challenges it poses, and will continue to pose, we must embrace the new technology.

Technological literacy has become one of the common essentials of learning. The teacher's use of technology has a significant effect in promoting learning through various modes of presentation. It may not be necessary then, in every circumstance, to teach technology itself in isolation to all learners if the learner has already had the opportunity to use technology in achieving other educational goals. This learning can take place through manipulation of words and ideas using word processing, working with programs that manipulate shapes and locations of objects, running photographs and video through presentation software, and a variety of other organized experiences with selected computer programs. By incorporating the computer in instruction, where appropriate, the achievement of the goals and objectives of education can be enhanced.

Technology's Bottom Line

Teachers and experts alike, who have observed students exploring, creating, and communicating through

the use of the computer, have noted conceptual growth, intuitive leaps, increased self-confidence, risk-taking, sharing and helping, and self-correction. It has also been observed that while technology is being used to deliver instruction, the learner is also acquiring skills in dealing with technology.

The bottom line is that we can't let all the glitter and glamour awarded to the potential of technology to lead us to believe it is a panacea to everything that ails the education system. The primary focus of the use of the computer at all levels is to support and improve learning.