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## Perceptions of technology in schools

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## Perceptions of technology in schools

### Abstract

Since the middle 1900s, technology is becoming utilized more and more in the public schools (Olds, 1989). The electronic and computerized technology equipment, in the schools are changing very fast due in large part because of the computer compared to the 1970s electronic technology and the 1980s digital technology (Veen, 1991). Today, computers are faster, store more memory, contain graphics, video, and sound capabilities. Also modems are used for accessing the Internet and e-mail. Most technologies are becoming digital for better performance and output (Knapp & Glenn, 1996).

PERCEPTIONS OF TECHNOLOGY IN SCHOOLS

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## Chapter One

### Introduction

#### Technology in the schools

Since the middle 1900s, technology is becoming utilized more and more in the public schools (Olds, 1989). The electronic and computerized technology equipment, in the schools are changing very fast due in large part because of the computer compared to the 1970s electronic technology and the 1980s digital technology (Veen, 1991).

Today, computers are faster, store more memory, contain graphics, video, and sound capabilities. Also modems are used for accessing the Internet and e-mail. Most technologies are becoming digital for better performance and output (Knapp & Glenn, 1996).

Electronic technology in the schools has been around for more than 40 years in the forms of radio and film, in the 20's and 30's, television and tape players in the 50's, 60's and 70's, VCRs, and computers in the 80's and 90's. The computer has become the most dominate technology used in the schools today (Olds, 1989). Today when educators discuss new technologies they are talking about computers and related hardware.

The field study in education describes what educators today call Instructional Technology and/or Educational Technology (Olds, 1989).

Today computers can assist in performing many instructional assisting capabilities usually performed by other communication tools. Some of these instructional assisting capabilities are telecommunications, teleconferencing, copying, graphics, text, video, the Internet and the World Wide Web. Some of the equipment used in assisting instruction in the classrooms using computers are CD-ROMs, modems, printers, scanners, and computer disks. All of these listed equipment can be used in the classroom by the teachers as well as the students (Bozeman & Baumbach, 1995; Barron & Orwig, 1995).

Because of the computer capabilities computers are being used increasingly in the schools today. Approches to instructions in some schools have changed dramatically for the better. Schools with few computers have experienced little instructional change (Pearson, 1992). Lack of federal and state funding is one reason given for few computers in the schools. Particular schools may acquire special funding from the federal government to buy or lease computers if they meet

government qualifications. The lack of finances in schools causes inequity among schools within each state (Knapp & Glenn, 1996).

However, the inequity problem is changing for the better, in that, poorer school districts are now obtaining computers, but the change appears to be moderate (Grabe & Grabe, 1996).

There were times when the equity issue in the schools were less of a problem than today. Initially computers are used generally by principals and administrators for storing vast amounts of data and general office use. Today, students are targeted by schools to have access to computers in the classrooms and in computer laboratories. This student access has increased the amount of schools' technology budgets (Milone, 1989).

#### Purpose

The purpose of this research paper is to examine the perceptions of technology used by the public, school personnel. The following chapters contain a review of literature on the subject of perceptions of technology used in American schools.

## Chapter Two

### Review of Related Literature

This chapter presents a review of the literature examining perceptions of technology in the schools by the, administrators, public, students, and teachers created in part by the incorporation of technology into the schools, especially the computer.

#### Computers in the Schools

When technology in the schools is being discussed by the public, most of the time it's about computers and their role in the classrooms. Most public constituents think and feel that computers are and should be in each classroom. This is often not the case in schools (Smith, 1995). Computers in the classrooms are very expensive to obtain since each student in each classroom should have equal access to computers.

Teachers feel computers would alter their daily classroom routine and design extensively. They feel discipline should be stricter due to the expensiveness of the equipment. The curiosity of the students needs guidance (Smith, 1995). These are types of decisions teachers make about technology in their classrooms. Their decisions do not cover the overall technology inclusion in their schools (Cuban, 1995). Teachers feel



decisions of implementation of computers in the schools are out of their control and in the hands of the principals and the administrators. They also feel they have little say on how to use the computers to their fullest capabilities such as how to use it in the classroom, .ie, tutorial, games, etc. or using the Internet or not. (Olds, 1989). The decision to use classroom-base or laboratory-base computer systems are most often based on economics. Principals usually get the last say in how to allocate funds (Knapp & Glenn, 1996; Olds, 1989).

Laboratory-based systems are seen more often as the way to go with computers in the schools by school administrators due to its cost and ability to monitor the students more efficiently (Smith, 1995). Principals like this approach because it gives all students equal access since every student has access to computers in school. Teachers feel good about this approach because of the little or no change in their day-to-day classroom routines (Smith, 1995); Milone, 1989).

Classroom-base computer systems and laboratory-base computer systems are both seen by students as positive because they just want access to this technology. Students have little or no say in how or what technology

is used in the schools. Schools are now asking students for more input in decision making in computer technology since more and more students have computers at home (Smith, 1995).

As stated earlier, many schools have limited computer access for students due to financial constraints that limits the number of computers they can buy. The fewer computers owned, the fewer number of students who have access to those computers. The maintenance and new software programs also add to the overall technology budget each school must deal with. Needed materials in other areas like building security, DARE program, or officer friendly. This financial deficit may cause many schools to lag behind other schools in technology use due to the lack of computers for the students to use. If computers help students learn faster and more, students without computers are lagging behind computer- assisted instructed students. (Jarvis & Rennie, 1995).

#### Student's Perceptions of Technology

There is an active role students play in learning with technology. Students develop skills to piece together information from several sources and to make decisions in completing a project or activity. Students

are also active with each other in pairs, groups, or whole-class projects or assignments. Cooperative work groups can be arranged by the teacher or students can select their partners. Working collaboratively is an efficient and effective way to use computers because repetitious use of equipment is eliminated and saves on maintenance and material costs (Grabe & Grabe, 1996).

Due to their ability to control the subject matter, students often look to computers more than television to pass the time in school and at home. Depending on the computer software, it maybe effective in it's instructional value. The student may become empowered with his/her work and become more self-confident because of ownership of his/her learning. This changes the student's attitudes about learning, school, and most importantly, helps the student gain self-confidence (Knapp & Glenn, 1996).

The student's ideas of technology are based on the classes where it is used and the way the teacher uses it in that classroom (Jarvis & Rennie, 1995).

In comparing traditional instructional strategies in writing and a computer-supported approach, all of the students in the computer-supported approach felt more favorable towards their instruction than the traditional

method of instruction because the students felt more personal control over their learning, and the ease in use of the word processing software in correcting and spelling enables them to feel more successful in writing (Zellermayer, 1996).

However, Cuban (1995) stated this was not to be true for all students. More middle-income students have access to computers than do low-income students. Also, Black students have less access to computers than Whites. And non-English speaking students have less access to computers than Blacks students (Cuban, 1995). This inequity suggests that many students have little or no access to computers and other technology. The question of equity may have a profound effect on some students abilities to use technology in learning equally due to the lack of computers in the schools because of a lack of necessary funding (Cuban, 1995).

#### Teacher's Perceptions of Technology

Parents and businesses view teaching as a business necessity for the necessary skills for training their future employees. Teachers view teaching as creating good citizens, intelligent individuals, and developing proper morals and values as well as training future employees. Teachers have very specific ideas of what

their classrooms should be like. If technology is used in their schools, they want to have some control in it's use in their classrooms. They also want to decide how it is to be used, when it is to be used, and what it is to be used for, and if it can be correctly used at all in their schools (Cuban, 1995).

Many teachers display hesitation towards technology use in their classrooms. Sometimes students pick up on this and perception may influence them to be hesitant towards technology. It is evident that the students' perceptions about technology mirrors the teachers' perceptions (Jarvis & Rennie, 1995). Teachers have demonstrated very little change when it comes to technology in the schools. They seem reluctant to use it because of a lack of training in the technology areas such as computers and the lack of say in its implimentation (Cuban, 1995).

Teachers who have been trained in using computers and their softwares, use technology in many ways that help in their teaching and in their daily routines. The use of computers in the classroom is strongly effected by the beliefs, skills the teaching styles of the schools, and routines of the teachers. When computer software requires teachers to deviate too much from what

they are trying to accomplish, they decide not to use the computer or the software at all. They feel their experience and skill outweigh the benefit from the use of the computers (Veen, 1991).

Teachers recognize there may be a problem for students in learning. They ascertain the problem, then glean a possible solution. It seems it is not just learning how to successfully use the technology, it is also the application to their lessons, as well as the teaching strategies used. The software often causes teachers to have problems with it (White, 1995).

Teachers need the technology to work for them and not compete with their approach to teaching (Veen, 1991).

Pearson (1992) believes there is a need for what she calls "empowering teachers for technology" in order for technology to be used properly. It starts with defining resources in the form of teacher education, encouragement, incentives, curriculum materials, and continuing on-the-job- support in adequate amounts. Just putting computers in the classrooms or schools is not enough. Someone must be empowered to use this technology for it to be effective. Preferably it is the teacher who will use it. One reason why many teachers

are so reluctant to use new technology is that they have not taught how to use it. They do not get the resources to make decisions on how to use the technology.

Pearson (1992) reflected that as knowledgeable as she was about computing and specific software, she simply did not have the time to plan the kind of integrated computer experiences that would make significant use of the technology. She felt the need for support with computers and their software.

Teachers fear for their jobs due to the growing requests for technology to be implemented into the classroom. They feel that the more technology does in instruction, the less teachers there will be needed instructing. This is due to CBI, artificial intelligence, and others (Cuban, 1995).

Cuban (1995) cites Papert's premise that there will not be schools in the future because of the expansion of computer capabilities and their software. He further cites Perlman who suggests that the technological revolution is totally transforming the role of learning and teaching in the modern economy. Perlman predicts that the teacher in front of the classroom talking to students will have as much of a place in the 21st Century's learning enterprise, as the blacksmith's shop

has in today's transportation system. The teacher will become outdated due to the future technology like artificial intelligence instructors.

Cuban (1995) cites Perlman's premise that classrooms will become outdated as well as the whole idea of school buildings because children and adults alike will learn from computers, especially at home using distance education. Students will learn by individual progress rather than having to wait on less advanced students. Most training of business' and schools will be learned by using the computer in the privacy of the learner's own home or business offices at their own desks. Businesses will be investing in software training rather than people to train their workers. Universities and colleges are already using distance learning for some classes. Perlman feels that post-high school learning will take place in the home or on the job. The most advanced student will progress and become successful, while the less advanced student will struggle until he or she learns the software.



## Chapter Three

### Conclusions

The literature of this paper refers to the perceptions of technology in the schools, especially computers as it pertains to the public, school school personnel, and students.

With regard to technology, specifically computers in the schools, the public's perceptions are of computers in each classroom as the only technology in the schools. Computers in the schools can be one of two types of systems used; classroom-based systems which can be expensive and problematic due to potential disruption of classroom routine. Laboratory-based systems which is less expensive and gives equal access to all students throughout the school. Laboratory-based system are perceived as the ideal system to implement by school officials due to the convenience and economic factors.

The student's perceptions of technology in the schools is that they learn more and faster than with traditional instruction and they enjoy it immensely.

Students' perceptions of technology can be influenced by the teacher. However, students generally feel more favorable towards computer instruction in writing than towards traditional methods of instruction.

The teacher's perceptions of technology is that they need more control over the manipulation of technology in their classrooms. They feel they need more training in learning how to use the technology properly and effectively. Many teachers' perceptions of technology in the schools are that it is a great tool, but each school should have a technology specialist to assist the teachers and the students. Teachers feel they should be empowered to use technology properly. They fear that technology may one day replace them as teachers in the classroom. They feel that technology will be used in every aspect of teaching and administration.

Students will need only to use the mouse or voice activation to register for classes, access the classes they are registered for, access homework information, and enter information onto the computer for their lesson and receive a grade for a corrected and checked lesson.

Students grades can be accessed by parents with home computers simply by entering a school and student identification codes. The parents may discuss the grades with the teachers without leaving their home or place of employment. Lessons taught to students can be accessed by parents to assist in their child's learning.

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