

Computer Usage in the Classroom

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Abstract

Computer use and availability in the average classroom has dramatically increased over the last thirty years. In the past three decades, a classroom teacher was lucky if one out-dated computer was available for use. Also during this time, a computer's main use in a classroom would be merely word-processing or a drill and practice method of instruction. Many improvements have been made in the quantity and quality of computers in the classroom. However, the overall lack of in-depth teacher training, the improper use of technology, and the incredible variation in the amount of technology available cause many problems.

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Introduction

Computer use and availability in the average classroom has dramatically increased over the last thirty years. In the past three decades, a classroom teacher was lucky if one out-dated computer was available for use. Also during this time, a computer's main use in a classroom would be merely word-processing or a drill and practice method of instruction. Many improvements have been made in the quantity and quality of computers in the classroom. However, the overall lack of in-depth teacher training, the improper use of technology, and the incredible variation in the amount of technology available cause many problems.

Past Use of Classroom Computers

Computers have been in the classroom since the 1970's (Morrison and Lowther, 2002). At that point in time they were much larger and did not have as much pedagogical uses as they do presently. Their use started as a punch card system for some secondary schools. These early computers would have had little more computing power than an average calculator does today. With the

advent of the micro-computer, the modern concept of computers in the classroom was born.

This concept began with some school districts having a computer room. These computers were generally Apple computers and often outdated. Their primary purpose was word processing however after a period of time, multiple game developers, like MECC, developed educational games to be used with the Apple computers (Forbes, 2005). Progress was consistently made from lab to computers in the classroom, to in some instances a fully integrated classroom. There are still many dilemmas when it comes to what the proper use of computers in the classroom is, but it continues to become a larger focus of the schools.

In 1999, a well circulated survey indicated that no more than 20 percent of teachers felt confident of their ability to use computers in their classrooms (Oppenheimer, 2003). This information is duplicated in a survey which was announced at the National Educational Computing Conference. The results of this survey

stated that 28% of teachers felt they needed much more training and 51% of teachers felt they needed a bit more.

Teacher Training

The main problem addressed in the two surveys is with the insufficient training given to the teachers that are expected to instruct the students with the technology. Teacher training is important because, "the same software could be put into two classrooms, and in one classroom it's used horribly, and in the other it's fantastic. It's all got to do with the teacher." (Oppenheimer, 2003). This problem occurs due to a primary concern for schools and equipment vendors, instead of teachers and students.

Another cause for this lack of training is that correctly training teachers requires an investment of money, time, and serious commitment. This is "a commitment that hasn't generally interested education's policy makers." (Oppenheimer, 2003). Lack of training is not always the problem. Sometimes it is unsuccessful training that causes problems.

Unsuccessful training has become a large problem in the past couple years. This problem is two-fold. First of all, it leaves the teachers confused and sometimes in worse shape than they were without any training. Secondly, it is a waste of funding that is at times extremely hard to come by in a district's budget. Too often, a training session consists of "an auditorium watching an instructor project a set of pre-programmed visuals, from a CD-ROM, onto a screen at the front of the room. They put fifty people in a room for two and a half hours." (Oppenheimer, 2003). The solution for this is hands-on learning.

Hands on is needed for one main reason, to allow the teachers to remember what they have been taught. "If students, young or old, don't have an opportunity to immediately practice what they are taught they will forget the new concepts as quickly as they learned them. This is particularly the case with technology." (Oppenheimer, 2003). A way some schools are combating the loss of knowledge is with workshops after school or on the weekends. There has

been moderate success with programs like these (Oppenheimer, 2003).

Misuse of Technology

Even when teachers receive proper training, there are sometimes problems with technological devices being misused in the classroom. According to Mrs. Forbes, it is not the ability to use the computers that always lacks, but the desire to use it (Forbes, 2005). She says that, if an educator uses technology in their lesson, the students can and often do become engaged and thrive (Forbes, 2005). One specific example of lack of desire that she stated was, teachers would take their students to the computer lab and let the students surf with no supervision or expectations. This resulted in no academic advancement from the use of technology. She also comments, just with any object in the classroom, if a computer is overused for a single function, the children will become bored and lose interest with the class (Forbes, 2005).

A way to combat this misuse in the classroom is to emphasize purpose for activities. If students and faculty alike see purpose in activities, they will appreciate and learn better from the activity. Mrs. Forbes also stated that if students are taught the proper way to search for topics, they will not become frustrated with the process of gather information.

Misuse of computers in the classroom is just one way that problems occur in the classroom with technology. There has always been a gap between the haves and have-nots in our society. Technology is no different. The so-called "technology gap," as it has been referred to in the past is the difference between the amount of computers and ability to maintain these computers in lower economic level schools versus higher economic level schools.

The technology gap has narrowed in the past couple of years. The amount of computers in the lower economic level schools, often inner city schools, has increased dramatically since the 1990's when the Clinton administration (Oppenheimer, 2003). An example of this attempt at closing the gap was in 1996 when approximately 30,000

computers came to the Harlem schools (Oppenheimer, 2003).

The Current Situation

The attempt by the government to shrink this gap is commendable. However, the idea is flawed because there is not the follow up with technical support. In an excerpt from *The Flickering Mind*, "They spend fifteen thousand dollars on each room and then they forget about it." (Oppenheimer, 2003) This small excerpt demonstrates just how many of these schools are operating.

This technology gap is not just prevalent in larger cities like Harlem, New York. The city of Erie, PA also has problems like this (Forbes, 2005). Mrs. Forbes has taught in two different school districts. One of these schools was an urban district. She describes it as "having the most technology in a room that she has ever seen (Forbes, 2005)." The other school that she was in was a suburban school with a high socio-economic level. She described this school district as having a mediocre amount of technology (Forbes, 2005). Even with this polar opposite, Mrs. Forbes stated that the suburban school had better usage of technology in the school.

The reason for this was two-fold. First of all, the students of the suburban school were already acclimated to the use of computers. This was due to the increased percentage of students using computers outside of schools in the suburban school district. This extra usage and familiarity with computers allowed students to come to school and focus when on the computers. The students from the urban school would typically try to surf the internet while expected to do school work. Secondly, the school in the suburban district had the support staff to keep their technology running. In contrast, while the urban school obtained grants for the hardware, there was no staff to maintain the equipment.

Sometimes, schools are almost forced to use computers. An example of this is a school with both the funding for computers and technology assistants is a district in Forney, TX (Ishizuka, 2004). This school district has grown by leaps and bounds. The population explosion has caused a minor problem. The

district population growth has caused it to run out of books for its students (Ishizuka, 2004).

As a solution to this, the district has moved its entire textbook supply to electronic copies. The district has received special funding for being the first in the nation to convert completely to electronic copies of textbooks. This conversion is a benefit to the students because the students can conduct a simple keyword search for a topic and search more than 2,000 works. Another advantage is that the district can keep updated copies of all books on hand without costing the district extra money. The final advantage to this advancement is the load that is removed from the students' backs. An average student's backpack can weigh upwards of thirty pounds. This is over three times more than the weight of a typical laptop computer. The main downfall to the conversion to electronic books is the cost of the notebooks computers. Overall, the school district is very hopeful that this system will succeed and thrive (Ishizuka, 2004).

Conclusion

Overall, there are advantages and disadvantages to computer use in the classroom. Some schools excel with interfacing computers with the classroom, while others have failed miserably. In the end, the success of a computer program in a school comes down to the desire of those initiating and implementing it. However, even with some failures, computers have become a large part of the American curriculum and will continue to be so.

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