Enhancing the Learning Environment with Technology

Abstract:

The purpose of my research was to determine the answers to the questions “What is the role of technology in the classroom” and “what impact does technology have on the learning process?” From the numerous reports that were reviewed, the overall consensus was that technology seemed to play the role of an enhancement to the classroom learning environment. When used in the correct context and curriculum, technology typically enhanced the learning process. However, as exciting as technology may appear to be, it can never be used as an educator substitute. Technology is nothing more than one of many tools that educators may be used to aid in the learning process.

When answering the second question, “What impact does technology have on the learning process?” Positive results were reported by both student and teachers and it is clear that technology has a vital role in transforming the classrooms of today into the classrooms of tomorrow.

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Introduction

The debate over the use of technology in the classroom has been an intensely argued topic since the early 90’s. While there are numerous supporters that are in favor of technology in the classroom (Fouts, February 2000), there are those who think that the investment in technology is not warranted. As stated by Larry Cuban, a professor at Stanford University:

“The introduction of technology into schools over the past two decades has achieved neither the transformation of teaching and learning nor the productivity gains that a reform coalition of corporate executives, public executives, public officials, parents, academics, and educators has sought.”

He further suggests that educators step back to “critically examine reformers’ assumptions about technology.” (Cuban, 2001) Is Mr. Cuban correct in his assumptions? Does technology deserve a place in the classroom?

In this report we will try to answer this question by examining three critical areas. The first area that will be examined is the positive attributes of technology on students, teachers and staff, followed by the second area which deals with the negative attributes of technology in the classroom. The final area that we will be examined is the Implications for future use of education technology. By researching these areas we should also be able to the answer of two additional questions, “What role does technology play in the classroom?” and “What impact does technology have on learning?”

Positive effects of Technology use upon education

Students

Students of today are definitely not the students of yesterday. They learn differently and they are constantly being bombarded with information from many different sources. In the past kds
generally received their information from text books, television, newspapers and magazines. However with the evolution of the digital age, kids now receive information via text messaging, Internet, blogs, television and numerous other sources. (Farris-Berg, 2005) They are multi-task learners, and because of that, the various studies that have been done seem to convey an overall positive effect from the use of technology in the classroom. Some of the benefits noted were:

- Students usually learn more in classes where they received computer based instructions.
- The amount of time required to learn their lessons was shortened.
- Students became independent learners and self starters.
- Students worked collaboratively.
- Technology gave students the skills they will need in the workforce.

Of course, there were a lot more positive affects noted by other reports that seemed to make the same conclusion. When computer instruction was properly introduced into the classroom, the level of learning appeared to have increased. (Schacter, 2001)

**Teachers**

In the past ten years there has been a strong effort to place computers in every classroom, and provide Internet access for all classrooms. What was the result of this effort? Over half the teachers who had computers with Internet access in their classrooms used them. One of the main things discovered was that teachers were able to use the Internet to research topics for future classes and use computer software to develop training materials for classroom lessons. They also used the Internet as a means to collaborate with fellow professionals. (Smerdon, Cronen, Lanahan, Anderson, Iannotti, & Angeles, 2000)

Teachers also started assigning web based assignments which required students to gather, research and analyze data. Students were also being required to create spreadsheets, and use word
processors which resulted in students developing better writing skills. (Kulik, 1994)

With the addition of technology to the classroom, teaching methods have shifted from the traditional instructor lead lecture method to a student centered type of learning, and materials now being presented by educators could not have been presented with the same level of effectiveness without the implementation of technology into the classroom. (Cradler, Freeman, Cradler, & McNabb, September 2002)

Administrators

With the careful implementation of right technology in to the classrooms, administrators have seen test score averages improve for state and national assessment tests, which translates into happier students, teachers, and parents. (Cradler, Freeman, Cradler, & McNabb, September 2002)

Negative effects of Technology use upon education

Students

Even though there have been positive strides made in the classroom, there still are issues that need to be addressed. One particular issue that bothers both student and parents is the limited access students have to technology. Most students point out that teachers are placing a high importance of technology on learning, however the amount of time students are allowed to access to school computers is rather limited. If the student does gain access to computers, it is generally in the form of a school computer lab, which has restrictions both time and Internet access. (Farris-Berg, 2005)

Another item that bothers students is assignment requirements. Some of the projects students are tasked to complete require the Internet; however teachers are failing to allocate sufficient class time for the students to conduct their research. This in turn has restricted student’s computer access time to the home. (Farris-Berg, 2005)
Students are also not being taught the skills they need to succeed in college. Due to the limited amount of computer time or lack of time for other curriculum, students are not being taught the basic computer skills they need to succeed in the college environment or job market, which means that kids have to learn these skills either in college, or on their own. (Farris-Berg, 2005)

Another issue appears to be a difference in views regarding the Internet. Students view the Internet as a communication tool first, and then as a tool to complete course work. Students are multi-taskers and are being bored with old teaching styles and methods that are not challenging them. (Farris-Berg, 2005)

**Teachers**

Some of the negative effects being blamed on teachers have to do with lack of technology funding and poorly designed staff development programs. (McKenzie, 2001) Because of the lack of training, students quickly realize they have a better understanding of technology than the instructor, which in turn causes a lack of respect for the teacher. (Farris-Berg, 2005)

Teachers were also being blamed for policies created by the Information Systems and the administration staff to limit Internet access. Students and parents thought teachers played a larger role in granting computer access when in actuality, the rules and policies being dictated were being imposed at much higher level outside of the teacher’s control. (McKenzie, 2001)

**Administrators**

Administrators are failing to fund and design extensive professional development programs for school faculty and staff members. Due to this lack of understanding, computers that could be used to enhance the learning experience are sitting idle. (McKenzie, 2001) Administrators are also defining too restrictive Internet use guidelines that are hindering student access to technology and creating negative attitudes to the teachers.
Implications for future use of education technology

Suggestions for effective use of educational technology

In order for technology to be effectively used in the classroom, it must first begin with an effective ongoing teacher training program. Teachers consistently show that they are interested in technology, but they need the opportunity to develop their skills. (Cradler, Freeman, Cradler, & McNabb, September 2002)

Once a robust, ongoing training program for the faculty and staff has been established, student concerns will need to be examined, including more lenient policies to give kids greater access to the Internet and computers. (Farris-Berg, 2005).

The final item that will be implemented is the merging of technology with classroom content to present materials in a manner that will be interesting and stimulating to the students. Learning should be a fun and engaging process. As students have clearly stated, text based learning as boring to them. (Farris-Berg, 2005) They are multi-taskers, and can they hunger for technology.

Trends and future possibilities

The Internet has opened up new possibilities for the classroom. Traditional classes are being replaced with online learning. Students no longer are being confined by demographics. Instead what we will continue to see is the emergence of a global community, where students around the globe will be communicating their thoughts and ideas with each other. In order for students to be able to take full advantage of this new community, teachers will need to step up to the plate, and develop new learning styles, that will captivate students attention and provide them with the skills they will need to succeed in the emerging global economy. Administrators, will also need to develop policies and procedures that will aid instructors in becoming the educators of tomorrow.
Conclusion

After looking at all the data from various reports, the answer to Mr. Cuban’s question is pretty obvious. Yes, technology does deserve a place in the classroom and technology has definitely shown a positive impact in the learning environment. In regards to the question “what role does technology play in the classroom?” From the data obtained from numerous reports, technology’s role in the classroom will be to continue to be an enhancement to course curriculum. It must be remembered that even thought technology is very cool; it is just one of many tools available to educators to enhance the learning process.

In regards to the question what Impact does technology play in the classroom? The answer to this question is simple. Technology enables teachers to present materials in such a way, that it captivates their audience which reinforces the concept that teachers can never be replaced by technology due to the fact that they are the individuals who will be needed to guide students in “Higher-order thinking skills.” (Cradler, McNabb, Freeman, & Burchett, May 2002)

Granted, there were some negative effects experienced by teachers, administrators and students, but the negative aspects seem to have culminated from an overall lack of planning, direction and funding on the part of school administration. With that in mind, the administration staff will need to sit down and reevaluate their technology use plans, to incorporate the necessary changes that will ensure a successful implementation of their technology use plans into the classroom.
References


