

## **Technology in Education Midterm Exam**

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### **Part One: Interview and Analysis**

For this midterm exam, I interviewed my mother, Sharon. She is currently a registered nurse at St. Luke's Hospital in Cedar Rapids, Iowa. As a high school student, she attended Western Dubuque High School in Epworth, Iowa. I asked her about the use of technology in her high school, her perceived effectiveness of the technology, and the ways technology could have been used differently (the interview questions are located at the end of this paper).

My mom said she remembered using very little technology in the classroom. The technology they used was limited to overhead projectors, videos and films. She said that in most cases the overhead projector was used for lecture notes and that the films and videos were used to supplement lecture. She said when technology was used, it was closely tied to the lesson and it was associated with learning. Not all of her high school teachers used technology though, she remembered math being the only class that used overhead projectors, and that her other classroom teachers relied solely on the chalkboard for any notes given in class. She said that she didn't feel as though she benefited from the technology used in the classroom, she thought it was more beneficial to the teachers because it helped make their job easier. She also thought the technology was taught ineffectively, specifically films and video. She said that films and videos were rarely introduced and that they were never discussed after the film or video's conclusion. She said that technology would have been more beneficial to her if it had been used as a modeling tool. She gave the example of having interactive software that taught about the parts and functions of the human body for a science class. Overall, my mom felt that she would have taken the same amount of knowledge out of her high school experience had technology not been present.

After interviewing my mother, I found that her experiences with technology sounded very similar to the ideas I've read in Healy and Cuban's books. The idea that teachers use technology as a teacher break was expressed in Cuban's book, *Teachers and*

*Machines*. He discussed one school's classroom use of an educational television program called "Thinkabout". "Thinkabout was shown in the afternoon and provided a welcome break for teachers after the often intense pace pursued in the mornings... Thinkabout provided fifteen minutes twice a week that I didn't have to plan or teach" (48). In the case of my mom's high school, it seems that even the students knew that class films were a time to slack off.

My mom also talked about how many of her classes relied on the chalkboard for classroom instruction, as opposed to the overhead projector, film, or video. This could have been for a variety of reasons, but on page 65-66 of Cuban's book he states, "The chalkboard and textbook were efficient, flexible technologies providing students with the same information... those technologies incorporated into routine teacher practice responded to daily classroom needs without undercutting the teacher's control of the class." This could have been the reason why only a few my mom's high school teachers used technology in the classroom.

Even though my mom thought the technology was closely associated with student learning and curriculum, she felt that it was ineffective in the manner it was presented. In Cuban's book, he looked at how a handful of teachers used technology when paired with classroom instruction. "Two of the eight [teachers] made some effort either to prepare the entire class for the particular program or to hold a follow-up discussion on the contents of the quarter-hour lesson... Except for those two teachers, we observed no other preparation or systematic follow-up of the lesson's contents" (45). If my mom's school would have used technology the way Healy suggests in *Failure to Connect*, I think it would have been more effective for both the teacher and the students. Technology can contribute to learning if, "... we are not expecting it to do what it cannot... if technology is not substituting for important developmental experience... [and] if the technology complements a well-planned curriculum" (245).

I think that my mom's school followed many of the same patterns Cuban and Healy suggested in their books. Too often, teachers mistake quality technological learning for nothing but an easy way to pass time. Unfortunately, this still happens in many of today's classrooms. In Healy's book, she recalls a classroom visit with an 8-year-old girl who was learning math with the support of software. Healy asked her how

she liked learning math from the computer, she replied, "I don't. It really gets boring and sometimes the answers are really confusing. I really liked math, but now..." (62).

I believe that the reason technology was ineffective in this high school, was because teachers didn't feel that it related to the curriculum. According to a quote in Cuban's book, teachers are more concerned with the holistic view, "[teachers] worry more about whether a student is learning how to read than whether he is still confusing 'saw' and 'was'" (60). I think teachers want to be sure that the technology they are using is beneficial to the students and that it supports the curriculum they teach. "[Technology] seldom met the test of efficiency that teachers applied to instructional tools" (67). Technology use may also have been lacking due to staff development or technical support. On page 86 of Healy's text, she says this about teacher training, "Teacher education [of technology] is the most critical component and also one of the most neglected." Healy also refers to technology support in a similar manner, "Budgeting for adequate technology support has usually been left out of technology packages. Teachers cannot be expected to teach and to repair machines" (86). Another reason for technology's limited use may have been due to the manner in which technology was introduced into the classroom. According to the Cuban text, many teachers were left out of the technology decision-making process, as well as its introduction into the classroom. "... Teachers whose questions have been unsolicited, much less unanswered, close their doors and use what fits their students" (67). Until teachers are provided with technical support, curriculum integration processes, and knowledge of technology applications, technology will never be used to its utmost potential. Today's teachers, can become the change agents that turn the use of technology into one of the most powerful learning tools schools have ever seen. "Technology's potential to impact teaching and student learning may never be realized unless teachers learn to integrate it thoughtfully into their subject matter goals and activities" (Hughes, 1).

## **Part Two: Technology Implementation**

### **Diffusion:**

1. **Gather information of technological use** – Information collected should be relevant to technology use in schools. It should include positive and negative aspects of technology use, and the affect it has on student learning and motivation. It should not be material that is inaccurate or falsifies the use of technology in the classroom.
2. **Organize information into a presentation** – Information should be organized to facilitate a quality presentation of technology use in the classroom. The presentation should include examples of quality educational software and examples of appropriate curriculum integration of technology. It should not include “edutainment” software, or software that does not assist in meaningful learning.
3. **Present information to faculty, administrators, and school board members** – The presentation/presenter should raise questions about the use of technology among the audience presented to. The presenter should accept criticisms and questions about the use of technology, and he/she should be knowledgeable about technology in order to address any questions that may arise. Schools should support those who are “willing to denote energy and commit to change” (Healy, 67).
4. **Establish plan, goals and outcomes for district’s technology use** – The presenter should create a list of potential technology goals and outcomes for its use. The presenter should welcome suggestions and leave “holes” for other members of the faculty and staff to fill in. Everyone should be involved in this step. “Teachers ask very different questions of new classroom technologies than do administrators, school board members, state and federal policy makers, and scholars” (Cuban, 67).