Excellent examples of how a school of the future should look are all around us. Go into any modern office, high tech business, or military office and look around. You will see a phone and computer on every desk. There are also laser printers, fax machines, copiers, scanners and other devices critical to success in the “Communication Age”. The computers are part of a local area network and often have Internet access. In addition, there are digital computer projectors and a whole host of communication equipment to allow remote conferences with people around the world. This description is very accurate for many Air Force offices. I Am an Air Force Reserve Officer and work in just such an office during my summer breaks.

These high tech offices are possible of course because of large budgets and the understood need for this technology at every level of the organization. There is on-the-job training and paid classes to ensure all employees are properly trained in the use of this technology.

I am a realist and do not expect public education to make the kind of commitment to technology that we see in the business world, not yet any way. Change must come from grass roots support within the communities served by our schools, and from every level of the educational system itself. I will focus primarily on the school I teach at now, since that is where I can have the greatest impact. I will also include a few ideas for change at the district level too. I believe in the axiom of thinking globally and acting locally. That is my focus therefore as I explore the question of a school that does things differently to prepare students for the future.

First, a vision of a school 20 years from now. In this school, class sizes will be smaller from Kindergarten to high school, and computers will be an integral part of the entire school complex. Class size ideally being 20-1 or less at all grade levels. Everyone from students to principals will have access to communication devices that will be fully networked within the school and to the world at large. The number of computers per class will vary by grade level, with middle schools and high schools having more. Even the support staff will have access to this technology and training in its use.

Students will have access to entire libraries at their consoles and as a matter of routine will communicate with other students, teachers, and even experts on various topics from the curriculum being studied. Students will be working on a variety of learning projects developed around a learning theme for the month and at any given time a visitor to the class will see individuals working on personal projects of interest and collaborative group projects related to the theme. These students will use well developed problem solving skills to accomplish their assignments, depending on each other to work through any difficulties they may encounter. Teachers will still teach lessons as needed, but we will spend a significant part of each day as a guide and coach assisting students in their discovery of knowledge. Effective teachers know they cannot be the single fountain of knowledge that so many see themselves as now.
How can a school move in this direction today? Education and a committed staff is the starting point. A supportive and informed administration can provide help and clear many roadblocks. A community that is behind the necessary changes, and is a respected partner in the process will be critical to the ultimate success of this evolutionary change.

One more important element when starting down this road needs to be considered. I often hear of the educators who “refuse to change” or disagree with the chosen path. People often refer to them as problems to be swept away. I can think of nothing more undemocratic in a country that prides itself on valuing the individual and protecting the rights of minority opinions than those attitudes of intolerance I have heard. Those who disagree must be heeded and their opinions should considered a valued part of the change process. If these people are not embraced, regardless of how difficult it is, change will ultimately fail to live up to its potential, or even fail completely. Dissenters provide the necessary whacks on the side of the head that zealots of change often overlook.

The Change Process

The school I envision will certainly have technology, but there will be much more than just that component. Using the knowledge already out there about how the brain functions and individual learning styles, there will be room in this school for every type of learner and educator. Everyone will be valued for their individual skills and contributions. Teacher and community education about brain based research and learning styles should start taking place first.

Part of this education should include demonstrating how information technologies can be used to enhance the learning environment within the school and at home. A partnership must be forged between school and community so that parents know what they can do at home to support their child’s education.

The growing partnership in this change process between community and school will result in a natural alliance with the local businesses. They will see one of the benefits of the proposed changes as a better educated work force. These social changes will be a driving force in the reallocation of the funds needed to support the cost of technological improvement in our school.

Enlisting the help of the PTA and using the monies generated by the various fund raisers, our school could completely update its computer lab and place additional computers in every classroom that wished to have them. Reallocating some school funds could purchase more classroom computers and other essential communication technology equipment. Grants should also be applied for, because there are federal, state, and local business grants available to those who apply.

Through the use of school and community volunteers the school’s computer lab and library could be opened up certain nights of the week. This would allow interested people to come in and get training in how to use the equipment, or just to have Internet access available for those who do not have it at home. The library, which is next to the computer lab could be used for meetings and training in the change process taking place. The emphasis in the first years should be in current brain research and its implications for the classroom (Brain research is generally very supportive of communication technologies, Insult To Intelligence by Frank Smith). The computer lab will allow access to the most current information available since its computers are already connected to the Internet.
Release time for teachers to attend computer and Internet training courses should be provided. In addition, teachers with computer expertise should be given release time to help train and mentor others with less experience in using the computer for classroom learning (Computers and Classrooms: the Status of Technology in U.S. Schools). Teachers will need plenty of time to learn how to most effectively use computers in their classrooms, so there needs to be ongoing support until everyone is comfortable with the use of these new technologies.

Teachers should be kept current with the newest technologies available. They are the ones who will have to use them, so teachers need to have ongoing training and experience in using these technologies.

Computer fluency should be attained not through “computer classes”, but rather through meaningful real world application of this technology. I don’t think using computers should be an end in itself, instead it should be a means to that end. Teachers and students should be using computers as word processors, spreadsheets, databases, graphic arts, multimedia, and research tools. They should be tools for thought.

As I have said, computers and information technology is only part of the picture. Change at my school and within the school district should include a review of current teaching techniques and structures and an exploration of what current research says is most effective. Computers can help as a research tool. Our school should begin the process of looking for the most effective ways of teaching and learning. We should look into the ideas suggested in Brain-Based Learning and Teaching by Eric Jensen.

As our school evolves into a twenty-first century learning center, the teaching staff will need to stay current with what works well at other schools by communicating with them through the Internet. We can learn about their successes and avoid the mistakes that other schools have learned from. Ideas that I have encountered over the years that deserve exploration are multi-age settings, teaching techniques that utilize the differences in learning styles, gender differences, and creating a positive brain based learning environment in the school. Many schools have explored these concepts and could certainly share what they have learned. Schools and school districts no longer have to be isolated. We can share with other school systems virtually anywhere in the world.

All of these ideas will take time and commitment from a dedicated group of people. The educators must take the lead and enlist the community we serve to help make this a reality. Our school community and the larger community of the school district can put pressure on the school board to allocate additional resources to allow every school to purchase the technology and training necessary to expand access to advanced communication technologies. The ultimate goal is to send students out the door who can compete with skill and confidence in our increasingly complex world.

At the state and national levels, we as individuals could write letters and get involved in writing bills to allocate more money for the purchase and support of technology in our schools. It is an especially good time to go after a slice of the vast budget surpluses we have in our country today.

School financing should be reformed in this state to help the underfunded school districts to gain parity with the richer school districts. The first step is to level the playing field with respect to ADA payments. Many small rural school districts still get less funding than their larger neighbors in the cities.
Another funding mechanism for schools to acquire the technology they need is to give meaningful tax breaks to businesses that donate money, technology, or expertise to their local schools. Business partnerships hold promise for schools if we can deliver students who are technologically fluent and can contribute to our community as workers and consumers.

Conclusion

If this school I envision for the future is to be realized, it will require small steps that must begin today. Teachers, students, and parents who are reluctant to change can be won over by sound and focused leadership. Gentle persuasion and mentoring, not threats or force of mandates will win over almost every educator. And those who cannot get past the fear of change can still make valuable contributions as teachers. From the primary grades up it is possible for teachers to collaborate with each other in their teaching duties. This should allow those teachers who are reluctant to embrace the new technologies to contribute by teaching lessons without them. The other teacher can do the lessons where technology is most useful. Through this gentle modeling most reluctant teachers will come around. Our new technologies hold tremendous promise if we are focused on the goal of producing students who are technologically fluent and ready to tackle the problems of the world they will face as adults.