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Technology and Ethics: Essential Graduation Requirements

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Technology, in its infancy, was an extraordinary advance for schools. Mainframes were purchased and rooms were set aside and special equipped to house them. They financed the installation of computers in classrooms. Typewriters were replaced in offices and words like "wan" and "lan" were added to the vocabulary of those helping us connect to the Internet. When the operating systems transformed from a DOS system to one in which we could simply point and click, comfort rose among those trying to use these machines.

Games for young children entered the classroom, rehearsing math facts, solving problems that reinforced learning that took place when listening to the teacher. Of course, for the middle school children, *Oregon Trail* became the rage for social studies classrooms. Clunky laptops appeared. Then the wonder of wireless made laptops even more enticing. (Although it is important to note that there are still schools that have little or none of this...and are still without some and many without robust wireless systems). Interactive white boards became the rage. Their potential to record what was on this new electronic blackboard and be able to offer it to the students, both present and absent, was embraced by teachers and parents alike. Students could touch the board to demonstrate their understanding of a fact or concept. Teachers were able to prepare lessons that represented concepts, showed brief videos, and helped students to learn in new and accurate ways, and they were able to be captured and stored for another time. Tablets and iPads appeared on the scene...and, with wireless capacities growing, their use proved valuable not only in classrooms for general learning. ELL and Special Education teachers found their capacity to reach their students and the availability of resources for them were valuable and bountiful.

Technology is a Marvel. Technology is Scary.

Just the other day there was a conversation on NPR about robots and how they are taking jobs away from people. For those of us old enough we remember that conversation when *1984* was a book about the future. The conversation is decades old. In some ways, it has become real. There are now machines/robots that can pick strawberries even through the night, allowing farmers to harvest 24 hours, around the clock. Also remember, it was machines that allowed milk producers to milk far more cows at a time, once it no longer needed to be done by hand. So, this has been a long time coming. And, yes, supermarkets now have "do it yourself" checkouts. 3D printing has opened doors for surgeons and elementary students alike. Printing an infant's heart before committing to doing surgery is life-saving. Printing a functioning prosthesis has been accomplished by elementary school students. And, do you remember when watches were for telling time? That was only yesterday. These are life changing and life-giving potentials. So our relationship with technology is both a marvel ...and scary.

What Does This Mean for Schools?

At a time when schools are feeling pushed and pulled from outside forces, this is another opportunity for the exercise of local control. Any time anyone or any organization can take action, it is empowering. Schools and the people within them need to feel empowered...for without that feeling, we are inviting students into a depressed environment, aren't we?

Technology is not a fad. It is a vehicle. Just like the computer has become the machine through which we can learn and create, technology will continue to push horizons outward and present possibilities for us. We have a responsibility to anticipate as we prepare students for college and career. Those preparations cluster in two major arenas: the use of technology and the ethical issues that surround it. Both are in the hands of educators. Both must become priorities.

Because technology allows us to learn from each other developing abilities and skills has become a free and open experience. Want to learn something...Google it. Watch instructional videos on YouTube. Watch a TED Talk. Go to a forum. Join a Twitter Chat...the list is endless. All are free. It is simply a matter of making room for the learning to be a priority. In schools and districts where technology and its access is limited, now is the time for the leaders to move up the priority for accessibility for all.

If we are to be held to national standards, even though the financial provisions are not equal, it is a local responsibility to do everything possible to maximize the students' and the teachers' accessibility to technology and its applications. Teachers and leaders alike have a responsibility to learn how to make technology a part of the education of our students...not an adornment. Just as it is part of our lives, it belongs as a part of our students' education in an integrated way. This takes time, dedicated funds, and continuous learning on everyone's part.

Ethics Are Paramount

Every technological advance brings ethical issues that push our thinking and determine who will become as a society. If we don't accompany the development and the use of technology with a focus on ethics, we will certainly not be preparing our students for college and career. As much as the use of technology will propel us forward in communication, learning, science, engineering, music, performance, etc., it will create dilemmas we cannot not imagine.

It is only with the strong dedication to model and teach ethical behavior, questioning, concern, and objective consideration of the results of actions that our students will be prepared for the unknown world in which they will live. We do not know how the world will unfold for them. But we do know that human choice will direct the unfolding...at least for now. As we responsibly continue to learn, understand, and integrate the power of technology ... and even replace some routine teaching behaviors like review, rehearsal, practice, some problem solving, creation and performance...teachers have the opportunity to focus more on the development ethical standards for behavior, consideration of ethics in decisions, and modeling ethical behavior. Leaders are required to do this too. College and career readiness will require technology but it will be scary if it happens without an commensurate development of ethics.