My Philosophy of Tech: It's All About the Tools

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I plan to integrate a lot of technology into my teaching. Technology can be used to make nearly every aspect of teaching more efficient while at the same time broadening and deepening the experience for everyone involved. As a teacher I can use technology to help me grade student work more quickly and accurately while providing more transparency to parents so that they can be more involved from home. By shifting assessments to a computer and tablet delivery system I can save a lot of time which I can then put back into more individualized student interaction and creative lesson planning. There are many self guided learning resources available on the Internet. I plan to make use of these resources to provide additional support to ELL students and special needs students or to free me up to help them individually while the rest of the class uses the guided learning resources.

I think that effective technology use in the classroom realistically falls into all of the SAMR levels. As new technologies are developed they naturally either replace previously employed technology or they introduce new aspects to a lesson or completely transform the learning experience. There is a delicate balance to walk with any new technology between the excitement that it brings and the possibility of distraction that it causes. There are always pros and cons to weigh, and trial and error is a necessity. New tools bring new possibilities - sometimes in unexpected ways - so while I will always strive for the upper "Modification" and "Redefinition" levels in the SAMR scale, I will also not be afraid to simply replace old tools with new ones from time to time - as the resulting disruption can lead to new insights and serendipitous transformation of learning experiences.

I believe that students need to be stretched in both their skills and their imagination.

I will use any technology which does not stifle creativity and activity. Technology inherently makes certain tasks easier. But it is my firm belief that any technology which belongs in the classroom must also bring new levels of challenge and growth potential to its users. Students should be challenged by technology, not made complacent by it. If a task is made simple, then there must be a more meaningful and more complex task which is opened up by that technology - and it is my job as a teacher to nudge students toward that ever expanding horizon.

Research has shown that users of the Internet and its vast and rapid information storage capability begin to pay less attention to what they actually remember and learn - because they subconsciously "offload" information storage to the Internet, trusting that they can simply retrieve it as needed. (Ward, 2013) This is potential hazard for young students who are still building their storehouse of basic information about the world from which they will draw upon for all kinds of higher thinking. I will need to actively promote the use of mental memory skills in a culture which is rapidly giving up its ability to retain information biologically. I will require memorization of my students - especially in this age of "Google."

Researchers in neuroscience have demonstrated the importance of fine spacial motor movement in deep learning of language. In the age of touch-screens it is very important for young students to use fine motor skill while developing language skill. Even though typing has been shown to also help in language mastery, it is not as effective as handwriting for stimulating the neural connections linking written language with spoken language. (James & Atwood, 2009) There is a reason that the pencil is one of the most powerful pieces of technology in our educational toolkit. I believe that computers are tools for refining and

presenting the real work that is done with pencil, paper, and the human mind.

I will focus my student's use of technological tools for the purpose of organization, communication, and problem solving. Students need to learn to organize their lives and the information in it using technology. They also need to learn to use technology to express their thoughts and feelings and to comprehend the thoughts and feelings of others. Technology is simply a set of tools, whether new or old - and these tools can be used with creativity and skill to solve any number of problems. I want my students to learn to use tools to fix things and create things. I want them to be active participants in the world rather than passive consumers. This is not an easy task in the culture we are creating, but we have incredible tools at our disposal and minds which are highly adaptable. (Merabet & Pascual-Leone, 2010) It is possible.

In light of this, my ideal classroom would contain a mixture of new and old technology. There should be fast Internet connectivity as well as a library of paper books. There should be computers or tablets for each student as well as paper, pencils, pens, glue guns, scissors, rulers, calipers, a 3D printer, microscopes, magnifying glasses, biological specimens, glass lab-ware, scales, lenses, prisms, cameras, maps, virtual reality headsets, a smart board, a document camera, a weather station, a Wacom tablet, a laser thermometer, a multimeter, a sundial, and a cuckoo-clock. All of these highly advanced and specialized pieces of technology are tools which unlock and expand the mind and human skill set. I will use them all and my students will learn how to use them all.

We will use websites like ClassDojo, Kahootz, and Quizlet to assess our learning and organize our class life together. We will use Google Maps to explore the worlds places and cultures. We will use Khan academy to learn and practice new subject matter. We will use

Padlet and Google Apps to collaborate and We will use BrainPop to have fun while we learn and SchoolPenPals to make meaningful connections with student peers from around the world. We will explore engineering concepts with physics games and sandboxes on the Internet, while at the same time building simple machines with our hands and everyday materials. We will create art in both digital and physical form and we will learn by practicing being the same good citizens both off-line and on-line.

I agree with Vygotsky's theory that learning is primarily a social function. (Daniels, 2005) Preliminary research has shown that children who are led through a group process of reflecting on how they processed group tasks show marked performance gains over time. (Bertucci, Johnson, Johnson, & Conte, 2012) I think that collaborative social technology can be a powerful tool in actualizing that kind of group processing. While interaction through a technological medium cannot ever replace the power of direct face-to-face interactions, it can be an organizing and leveling factor in group dynamics - since some students who would not contribute in a real-time group evaluation may in fact be willing to offer up their feedback on group dynamics in the less threatening digital setting. This can then be used as a bridge toward more honest and direct face-to-face communication patterns. In a similar way classroom social media tools may provide a way to realize the critical social connectivity which is so needed by some special needs students who may otherwise disappear socially. By linking social media use with face-to-face peer interaction I hope to help students to more fully integrate their social media and embodied patterns of interaction.

The technology which is the birthright of our students offers a bright field of colorful opportunity even as its ominous social and environmental fallout looms. We have created

technologies which bring threats that are greater than any our species has ever faced. It seems apparent that we will need even greater technological prowess in order to weather the coming challenge. It is my intent to help my students become the next generation of innovators and creatives who can invent even better tools than the ones we hand them.

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