The Positive Effects of Technology on Teaching and Student Learning

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Introduction

Technology is such a big part of the world of w which we live. Many of the jobs that did not require technology use in years past do require the use of technology today. Many more homes have computers than in years past and increasing numbers of people know how to use them. Technology is being used by children and adults on a daily basis by way of web surfing, texting, social networking, interactive games, and in more ways. We are an evolving technological society and in many ways have become dependent on its use. Thus, the use of technology and teaching students have to use it has become a high priority in the public schools.

Today, there is a common focus on raising student achievement while integrating technology as a tool. Policymakers and educators are renewing their commitment to programs and instructional practices that to enhance maximum effects on instruction and student outcomes. Due to the large use of technology in the world in which we live, the use of technology in teaching and learning is essential if we are to make a lasting impact on how students learn. Now, with the onset of the Common Core Standards and their emphasis on technology, the use of technology will become an even bigger priority in schools (Cristen, 2009).

Position Statement

Technology has a positive impact on student learning. Technology causes students to be more engaged; thus, students often retain more information. Because of the arrival of new technologies rapidly occurring globally, technology is relevant to the students. Technology provides meaningful learning experiences. Technology also provides hands-on learning opportunities that can be integrated into all school curricular areas, including mathematics,

reading, science, and social studies as well as other academic subjects. It gives students opportunities to collaborate with their peers resulting in learning from each other. These factors combined can lead to a positive impact on student learning and motivation.

The Common Core Standards require more technology integration than the Arkansas Frameworks required (B. Tyler personal communication on September 8, 2014) . For this reason, technology integration is becoming more important in public schools. Students are now having to become more confident using computers (i.e. in order to take standardized tests presently an in the future). In addition, the Common Core Standards include many standards that require technology use by students, beginning at the Kindergarten level, in order for standards to be met. Essentially, this means that all classrooms and students will be required to integrate technology in order to meet the standards.

Another reason technology is a factor improving learning is the fact that technology is becoming such an integral part of our everyday world. Most jobs today require some type of technology use. Also, students and adults are using technology on a daily basis to communicate, get information in multiple ways. The prevalent daily use of technology in people's lives overall makes the use of technology very relevant to the students and provides a connection that will greatly benefit student learning.

Literature Review

Students today live in a very technological world. Most students use some form of technology on a daily basis including; texting, social networking, and web surfing. Students see these types of technologies as useful and extremely enjoyable. These very same students that are accustomed to these types of technologies will relate to using technology at school. If their

learning environment mirrors the ways in which they engage with the world, they will excel in their education (Christen, 2009). Technology can transform the classroom into an interactive learning environment.

Technology is a powerful contributor to learning if it is used to deepen students' engagement in meaningful and intellectually authentic curriculum. Technology is a tool. It should be selected when it is the *best tool* for students to learn. Technology can be a particularly effective tool for English language learners and can enhance the participation of children with disabilities. Children in elementary schools should begin to use familiar technology tools as a part of their academic program. Teachers should model the use of technology in support of the curriculum so that children can see the appropriate use of technology and benefit from exposure to more advanced applications that they will use independently when they are older (DePasquale, McNamara, & Murphy, 2003).

Many studies have shown the advantages of using technology in classroom instruction. Technology can be used as a tool for establishing meaningful projects to engage students in critical thinking and problem solving. Technology can be used to restructure and redesign the classroom to produce an environment that promotes the development of higher-order thinking skills (Kurt, 2010). Technology also increases student collaboration. Collaboration is a highly effective tool for learning. Students cooperatively works together to either create projects or they can learn from each other by reading the work of their peers (Keser, Huseyin, & Ozdamli, 2011).

One study that was conducted to determine whether Wiki technology would improve students' writing skills in a college English as a foreign language writing class showed benefits to using Wiki technology. Students were invited to join a Wiki page where they would write and

post passages and then read and respond to the passages of their fellow classmates. Students participating in the study reported that their receiving immediate feedback from the instructor was a benefit of using this form of technology. Students in the study also reported learning vocabulary, spelling, and sentence structure by reading the work of their classmates (Lin & Yang, 2011).

Another study was conducted to examine the experiences of pre-service teachers implementing technology in math lessons. The study shows a positive effect on student learning in mathematics. The pre-service teachers noted that the internet provided math activities at different levels, which gave students an opportunity to choose the level they are comfortable working. Findings showed that students were engaged during the math lessons using technology and students were able to discuss what they learned the following day. The teachers were surprised by the students' recall of the lesson. Some students who participated in the lessons believed that the computer helped them understand what the teacher was saying about the lesson. Technology can be used as a way to create a hands-on and meaningful math lesson (Herron, 2010).

Another study found that integrating technology and peer-led discussions of literature can produce increased student engagement and motivation. Technology used in these small group discussions of literature includes wikis, online literature circles, and online book clubs. With these technologies, students were able to connect with readers from other schools, states, and even other countries. This type of technology is an assessable and motivational way to expose students to other ideas and cultures. These online literature discussions have the ability to create a sense of community and foster positive social interaction (Coffey, 2012).

Continuing advancements in technology change the ways all people live and work. The internet is becoming a common learning tool in many classrooms (Açıkalın, 2009). This means provide a meaningful learning experience for all students. Teachers today have many opportunities to use technology increasing the ways students learn.

Using computers and the internet has become an integral part of our daily lives. Therefore, one of the greatest vehicles for the 21st century is using technology for effective and permanent learning. The internet affects peoples' lives by increasing communication, expanding educational services, and increasing quality along with personal interaction. More emphasis has been placed on seeking, evaluating, organizing using and sharing information with others. The internet is the greatest source for information and the best way to quickly share and exchange information with others, The internet sharpens one's ability to search and analyze information (Tutkun, 2011).

The internet is being used as a source for teaching material. Providing information and communication technologies for teaching and learning will have some advantages. First, the students will play a more active role, which will help them retain more information. Next, follow-up discussions will contain more detail where students will become more independent. Last, the students will easily process new student-based educational material and their skills will increase (Tutkun, 2011).

In 2009, Van Meter Community School in Iowa adopted a one-to-one laptop initiative in grades 6-12. They also enacted a strong technology focus throughout the district. Since the launch of this program, the school has reported that there was an evolving atmosphere of respect, creativity, collaboration, and connection. They also say that independent thinking and learning

has prevailed at their school. Through this educational transformation, Van Meter has become a place where students can find their passion (Miller, 2011).

The students at Van Meter use their laptops for virtual reality programs and creating Prezi software slideshows, YouTube videos, and reading and writing blogs. At one school, one fifth grade girl talked about how she loved to present and show what she could do by using technology. The students at Van Meter are very excited about the learning activities that the laptops allow which is evident showing students' in learning. Students are being allowed to develop their abilities and strengths by doing activities in which they are passionate. The learning is immediate, motivational, and relevant. They are using technology to interact and exchange ideas, research independently, adapt to new situations, and take ownership over their own learning (Miller, 2011).

Because technology is a big part of people's daily lives, it is pertinent and vital that children learn how to use it at an early age. When children use technology tools in elementary schools, a sense of confidence and competence in their computer skills will grow as they get older. Many children today have access to a great deal of technology in their home; this access will result in students being comfortable by using technology at school as well. When elementary school teachers use and model different forms of technologies, they actively engage their students and create a stimulating work environment (Kenney, 2011).

A study to examine the effects of information and communication technologies on students' math and science achievement was conducted with 4,996 students in Turkey. The data was obtained from the results of The Program for International Student Assessment (PISA), a standardized test given to 9th grade students. The study results indicated that students' exposure to Information and communication technology at home and school had a positive impact on their

math and science achievement scores. Students' who spent a lot of time using technology were shown to have increased science knowledge. They also performed better on math skills. Information and communication technology has a positive effect on student learning and should be included in classroom instruction (Bulut & Delen, 2011).

A study conducted by Baytak, Tarman, & Ayas found that most students believe that their learning is improved by integrating technology into classroom curriculum. Students participating in the study reported that using technology in school makes learning fun and helps them learn more. They believed that technology makes learning interesting, enjoyable, and interactive. Children today love to learn by doing, interacting, and discovering (Baytak, Tarman, & Ayas, 2011). Using technology in classrooms has the potential to create increased student motivation, increased social interactions, positive outcomes, enhanced student learning, and enhanced student engagement.

Technology is capable of unlocking keys of learning with all students. This includes students with special learning needs. The Etiwanda School District in California has implemented a technology integration program district wide. Teachers received technology training and then began integrating technology into general education lessons on a daily basis. This program also included a practical technology support plan for teachers working with students with special needs. This plan enabled teachers to help these students by weaving technology resources into instruction in meaningful ways. The plan proved to be successful in the Etiwanda School District. The students with special learning needs are now meeting their IEP goals more quickly due to this technology integration. They are also improving their performance on district benchmarks (Courduff, 2011).

Conclusion

The evidence in this paper shows that technology has a positive effect on student learning expectations and outcomes. Evidence also shows that technology integration is becoming more common in public and private schools. Technology integration is shown to be effective in all age groups and is also shown to be helpful for students with special learning needs. To reiterate, technology integration has the following benefits: 1) increased student motivation; 2) increased student engagement; 3) increased student collaboration; 4, increased hands-on learning opportunities; 5) allows for learning at all levels; 6) increased confidence in students, and 6) increased technology skills.

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