

Is Technology in the Classroom the Answer to Increasing Student Engagement? 1

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Student engagement in the classroom has always been the top priority for teachers. Administrators and teachers spend many hours going to conferences, reading about new methods and developing new curriculums that will help students to be engaged in the classroom. As technology becomes a significant part of many students' daily lives, schools have to consider incorporating technology into their curriculum to increase student engagement. There are many factors that administrators consider when planning to incorporate technology into their school's curriculum. Some of these factors are, technology and student engagement, technology use and student test scores, professional development for teachers to use the technology, student misuse of the technology, and ensuring that the novelty of the new technology will not wear off after a short period of time.

### **Student Engagement with Technology in the Classroom**

Student engagement can be a tough challenge, but is easily accomplished if a student's curiosity is sparked enough and the tools are there to help keep the engagement at a high enough level for achievement. "The social and technological contexts are important in that the student may engage others in her quest for information; perhaps sharing her resources and requesting input using social media tools (blogs, Wikis, Twitter, etc.), and in so doing, stimulates peer curiosity in the topic and in its exploration for answers" (Arnone et al., 2011, pg. 187).

Researchers show that, since students today have grown up with technology in hand, the best way to accomplish student engagement is to allow students to use what comes naturally to them: to allow them to have that information in hand when curiosity sparks (Trimmel & Bachmann, 2004).

One of the key factors to accomplish student engagement is for teachers to provide curriculums rich with technology integration. Teachers in Maine reported that students were excited to come to class everyday to work on projects that included laptops in the classroom and showed there was a significant increase in student attendance during the project implementation (Silvernail & Lane 2004). Students who are placed in real-world scenarios can be more engaged when they feel the material is of importance to real-life situations. Incorporating technology into their daily curriculum can enhance education by engaging them in something that already comes natural. This connected generation has an increased need to gain information immediately because they are always connected to that information. “Schools, accordingly, must capitalize on students’ natural inclinations as learners” (Shapley, 2011, pg 99).

So how do teachers begin to implement these engaging lessons in their classrooms? Teachers cannot provide a technology-rich curriculum until they themselves develop the 21st century skills necessary to navigate the technology.

### **Professional Development for Teachers**

One study showed that teachers who received professional development and became more familiar with technology were able to successfully use the technology for projects in the classroom (Dawson, Ritzhaupt, & Cavanaugh, 2008). Teachers who can use technology in their personal life are more likely to use technology in their classroom and integrate it within their curriculum. These educators can collaborate with colleagues to gain knowledge about different pedagogical methods. Some researchers believe that the professional development must be more rigorous and have time allotted for experimentation for teachers to learn to use it within the

classroom. "...[Third, the Technology] Immersion model assumes that teachers need effective professional development. High- quality professional development, as research demonstrates, should be of longer duration, and thus provide richer and more comprehensive learning experiences and time for practice and experimentation" (Shapley, 2011, pg 300).

### **If Technology Increases Engagement, Does That Help Student Test Scores?**

When deciding to implement a technology program in a school, administrators will always raise the question, "Will technology increase test scores?" Many factors can come into play when researching and deciding if technology can help with test scores. It is proven that technology increases engagement and can sometimes help with attendance, which are positive effects of technology that should appeal to many administrators. However, it is difficult to prove how technology affects students' test scores.

Many studies show that technology use in the classroom does not increase or make a difference in a student's test scores. A Korean study that gave each student a laptop over the span of three years showed no increase in test scores as compared to those that did not have laptops (Hur, 2012). The researcher also claims that the students received a high number of tutoring sessions that could have caused the data to be inaccurate. Clubertson et.al (2004) also did a study on modular technology education and its effects on student test scores that claimed there was no significant difference in test scores in reading, language arts, mathematics, science, and/or social studies. The researchers also felt that longer exposure to a technology education curriculum may produce measurable differences where his study did not (Culbertson, Daugherty & Merrill 2004).

**Student Misuse of Technology**

When providing technology to students there is always the risk of students not using the technology appropriately. Administrators have a fear that students will not only use the technology inappropriately, but will also not take the responsibly and care of the device given to them. Studies have shown, however, that in most instances when students feel ownership over their devices, they behave responsibly in regards to the use and care of those devices. In one study where students were given a laptop, “students spoke of the pride they felt in being responsible for their laptops and the care they took to ensure nothing happened to them” (Dowes & Bishop 2012, pg 12). This again goes back to giving the students the opportunity to be in a real-world situation that provides them with responsibility. In turn they will be more engaged and excited about school. When students use technology in the classroom, teachers may fear that students are using the technology for something other than projects or classroom assignments. The Korean study showed that, after one year, the novelty of the new computer wore off and students used the laptops to play games instead of being engaged in classroom studies (Hur, 2012).

**More Research Needed**

Many studies have been done over the years on how technology is affecting student achievements and attitudes, but many of these studies are not long-term or have no comparative data. In a study of the effect of computer use in science and technology lessons, the author stated that, “computer assisted teaching was observed to increase student success, it was noted that there was no change in students’ attitude towards science and technology lesson and towards computer” (Güzeller & Dogru 2011, pg 498). Studies of long-term technology use in the

classroom need to be addressed on several questions such as: How often do students have access to the technology at school? Is it a 1:1 program allowing them to take the technology home? And do the students have internet access at school and home? Most of the research work listed in this review concluded that more research is needed. As students' access to technology increases and they become more accustomed to using and accessing it, many of the factors that have affected research studies can be lessened. In the study of laptops in Korea, many students had extreme technical issues affecting the outcome of the study (Hur, 2012). As technology use becomes more natural for students, technical issues may not be a factor that will effect future research studies. Other studies have claimed that the findings are shallow and that with time, another study could possibly provide more concrete data. "We believe it would be important and useful to conduct further research to explore how the One-to-One Initiative evolves over time so that a more extensive discussion of the effectiveness of the project could be developed" (Storz & Hoffman 2013, pg 15).

### **Conclusions**

While technology in the classroom has shown much progress over the past ten years, student engagement in those classrooms with devices is still questionable. There are so many factors that must be considered, as well as more long-term research to establish whether this technology is affecting student engagement, thereby improving their achievement. Since researchers are still concentrating on the effects of technology on behavior working with easily measured data such as the comfort level of using technology, it may be another ten years before it's readily known how technology is effecting student engagement and learning.

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