

Technology and Vision
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As citizens of the Digital Age, technology is an integral part of our everyday lives, but it should also be a part of each student's education and learning process. As technology use becomes more and more prevalent, the big question becomes how can we use these digital tools to help our students become more successful in the learning environment. Even more important, the use of these tools can, and should, provide teachers with an adequate way to *engage* all learners. As we take the steps to prepare meaningful and engaging instruction, educators need to be prepared to see the vision that lies ahead and how technology use should look in the future.

The Cobb County School district has begun to develop their own vision and belief about technology use in the classroom. Their belief focuses on the idea that "technology and its utilization enhances the quality and delivery of education and is an important part of preparing children for life in the 21st century" ("Use of technology," 2008). The essential parts of this statement are true, but it is important to note that technology and its vision in the classroom needs to be taken to the next level.

As Creighton (2003) states, "many educators mistakenly believe that effective technology integration correlates with how much hardware and software is available in the classroom and/or our labs" (p. 68). Technology is not just about the use of computers and technology tools in a classroom. It is more about effectively engaging our students through quality instruction by the means of technology use. When teachers focus on the access of technology, they are not allowing their students to achieve the highest levels of thinking and instruction. The amount of technology available is really not as important as how technology is effectively implemented in the classroom.

According to ISTE (International Society for Technology in Education), technology use in the classroom should be based around the needs and abilities of the students as stated by

ISTE's essential condition of "student-centered learning." Focusing on the needs of the students lends itself to a constructivist approach in the classroom. Constructivism is an instructional theory with the belief that students should "build knowledge structures in their own minds rather than have the knowledge implanted by the teacher" (Creighton, 2003, p. 44). Constructivism is a means to provide engaging instruction in our classrooms and it is the direction technology use needs to take.

When looking at constructivism and engaging, student-centered learning, it can be beneficial to look at the roles of the teacher in the classroom. As Creighton notes, the teacher roles for engaging learning can be defined as follows (2003):

- Facilitator. The teacher provides environments, experiences, and activities for learning by incorporating opportunities for collaborative work, problem solving, authentic tasks, and shared knowledge and responsibility.
- Guide. The teacher acts as a coach and adjusts the levels of information and support based on the needs of the students.
- Co-Learner and Co-Investigator. Students may become the teachers and teachers may become the learners. (p. 71).

To effectively implement engaging technology use in the classroom, the roles of the teacher has to change from the leader and the master to the support system that allows for student-center learning to take place. Teachers should "no longer be the providers of information but instead would be the explainers, the context providers, the meaning makers, and the evaluators of information that kids find on their own" (Prensky, 2008, p. 2). While the role of the teacher needs to change and evolve, the role of the students may look different as well. Students should

no longer be considered a blank slate that teachers just fill with information. Creighton (2003) defines the roles of the students as follows:

- Explorer. Students discover new concepts, connections, and skills by interacting with the world, materials, technology, and other people.
- Cognitive Apprentice. Students observe, apply, and refine by using the same processes real-world practitioners use.
- Producers of Knowledge. Students generate authentic tasks and products for themselves and the community that allow students to synthesize their knowledge. (p. 73).

As the roles of the teacher and student in the classroom evolve, the technology use will soon follow providing students with a meaningful application of technology integration.

Classroom teachers should aim for more than student compliancy. Student engagement is more powerful than basic completion of assignments. Students must be actively involved in their learning to gain any depths of understand. Reflecting on constructivist learning, students will develop deeper understanding through their own exploration and production; therefore, active engagement is an essential component to technology use in the classroom. Dagget (2008) states:

Students must be actively engaged in their own learning process. The student has to do the bulk of the work. Schools cannot improve the academic performance of students by doing something *to* them. Students must be actively engaged and take responsibility for their learning. Being actively engaged in the learning process gives purpose and direction to student aspirations. (p. 1).

The appropriate application of technology use will allow not only for active learning, but it will also allow for students to take responsibility for their learning.

Technology integration is more than learning from computers. There is a clear distinction between learning “from computers” and learning “with computers.” In the article “The Learning Return on our Educational Technology Investment: A Review of Findings from Research,” the difference between the two is clarified by Reeves as follows:

When students are learning “from” computers, the computers are essentially tutors. In this capacity, the technology primarily serves the goal of increasing students’ basic skills and knowledge. In learning “with,” by contrast, students use technology as a tool that can be applied to a variety of goals in the learning process, rather than serving simply as an instructional delivery system. Students use the technology as a resource to help them develop higher order thinking, creativity, research skills, and so on. (as cited by Ringstaff & Kelley, 2002, p. 6).

As we look to the future, it is important that engaged learning through technology use becomes a reality in our classrooms. It is easy to see that technology integration will continue to grow as an overwhelming force in our society and workplace. To be successful in the 21st century, students will need to become adults who are critical, technological thinkers. It is the job of the current educators to prepare the students and learners for what is to come. To be an effective and authentic educator, it is crucial to make learning experiences based on the real world. The real world is filled with technology use such as the Internet, Facebook, iPhones, and video games; therefore, these elements need to be brought into the classroom to create meaningful opportunities that students can apply to their school experiences as well as their experiences at home. Strong technology experiences in the classroom can be infused in the curriculum to develop stronger understanding, but it can also be used for long term purpose of preparing our students for their future endeavors. For example, “using technology within the

curriculum framework can enhance important skills that will be valued in the workplace, such as locating and accessing information, organizing and displaying data, and creating persuasive arguments (Ringstaff & Kelley, 2002, p. 27). Ultimately, technology use in the classroom will lead to well-prepared individuals in the real world.

In conclusion, the use of technology can allow for educators to creating engaging and real-world based classrooms. In order to create these ideal environments, teachers need to be willing to take technology use to the next level to create higher-order learning opportunities. The best educators will create a student-centered classroom that seamlessly blends effective technology practices within the instruction. Ultimately, these learning experiences will create leaders and critical thinkers who are prepared to succeed in the 21st century.

References

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