

## Statement of Purpose

Students of today are digital natives. A digital native is one who has grown up using and surrounded by technology. These students attend school where the most common teaching methods developed prior to the electronic age and have changed little since the Industrial Revolution. (Cookson, 2009). Even though employers, politicians, and universities demand students acquire the skills for 21<sup>st</sup> Century jobs, too often, teaching is rooted in 20<sup>th</sup> or even 19<sup>th</sup> Century methods. As students learn at low-level cognition levels, they are unable to make the connections between class content and life outside the classroom.

Individuals learn best when what they learn through authentic, real-world contexts. In order to contextualize learning in the classroom, technology must be incorporated. Lemke and Coughlin (2009) propose four ways that technology can enhance learning for the 21<sup>st</sup> century. Technology allows for the democratization of knowledge. The information is readily available to all. Teachers no longer need to be the gatekeepers. The second way technology can enhance learning is by improving participatory learning. Students have the ability to interact with their classmates, students from other countries, and experts in the field through internet based applications. Teachers can use technology to develop authentic learning scenarios for students by revising their current curriculums. The fourth way technology can enhance learning is through the creation of technology-based presentations. Technology plays an integral role in everyday life. Why then is technology so frequently absent in the learning process?

All students where I teach are required to take at least two quarters of all the science disciplines: chemistry, biology, environmental, and physics. Many of these students would not

choose to take chemistry otherwise. Students can choose between comprehensive or accelerated science. Regardless of the choice, the state standards are the same. In order to enhance learning in both sections, I aim to incorporate technology into the curriculum. The unit I will revise is a 10<sup>th</sup> grade chemistry unit on atomic theory. This unit covers the history of atomic theory, atomic structure, and the periodic table.

Jobs in the 21<sup>st</sup> Century call for a set of skills not entirely different than the skills needed in the past: critical thinking, collaboration, and problem solving (Rotherham and Willingham, 2009). These skills as state are not new, but an emphasis must be placed on teaching students using methods that promote the development of these skills while using technology. The use of technology in the classroom will provide students with guidance as to how technology can be used in a responsible manner.

While the Ohio Standards dictate what all students should know, teachers, as professionals, need to be creative in teaching in ways that allow students to use technology to learn. Meeting minimum state or national standards should not be the goal of educators. A science teacher's goal should be for all students to be scientifically literate. Science plays an ever-growing role in society. The general population needs to understand the basics so they can make informed decisions about how science issues can affect their lives.

By incorporating technology into the Atomic theory unit, the goal is to enhance student learning and increase interest in chemistry education.

## Works Cited

Cookson Jr., P. W. (2009). What would Socrates say? *Educational Leadership*, 1(67), 8-14.

Lemke, C., & Coughlin, E. (2009). The change agents. *Educational Leadership*, 1(67), 54-59.

Rotherham, A. J., & Willingham, D. (2009). 21st Century skills: The challenges ahead. *Educational Leadership*, 1(67), 16-21.