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CEP 816 – Teaching and Learning Across the Curriculum

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Final Project: Instructional Dream

The most essential thing for me to think about when incorporating technology into my curriculum is to ensure it is intentional and extends the learning experience for my students. It is not enough to integrate technology into classroom instruction for technology's sake, nor is it useful just to engage students - as tempting as this may seem. True and lifelong learning can only occur when technology is purposefully and seamlessly integrated with content-based, skill-driven assignments. It also must be utilized in ways that assist my students in envisioning the larger picture – how the aspect of technology they are using is relevant to their future lives as adults in the workforce and as productive members of society.

I would like my Instructional Dream lesson to revolve around the biggest concepts I have taken away from this course - the increasingly non-linearity of the Internet and its ability to support the collaboration of users whose thoughts and ideas would once never have come into contact. I believe it is essential that my students know how to use the Internet not just appropriately but also productively, so time can be spent creating and collaborating instead of searching for facts. I would like to use collaborative tools such as Google Docs, Twitter, and Wikis to do this. Any topic that I could possibly teach in middle school science has real world applications, and basing my curriculum around this would not just engage my students but would get them thinking deeply about current events and the world around them.

One of my upcoming science units is on the study of heredity. We spend some time learning about evolution, as well as how traits can be passed through generations. This is a natural area of interest for my students, as they love learning more about themselves and what makes them unique. I can definitely see some opportunities for technology integration in this unit, especially in providing differentiation – as I teach multi-aged groups of sixth through eighth graders who are as different in their ages and interests as they are in their strengths and weaknesses.

As an introduction to the unit, I would like to have my students explore the Internet for information about evolution. I imagine the task as similar to our Lima project, with more scaffolding and guidance as they most likely have not had extensive experience with deep exploration of the Internet. I would have them create their own unique Twitter feeds where they follow breaking evolutionary and genetic news, and where they could post their “take-aways” from their investigation of the Internet. With appropriate guidance, I would love to have my students respond to and elaborate on each others’ Twitter comments. I can see them getting excited to check on their feeds, to see what both their peers and the larger community as a whole had commented on their learning. This would also allow them to continually reflect on their learning, and make additions and corrections to their schema for evolution.

When it comes to the study of genetics, there is no better way to learn this than to have students investigate some of their own traits. I would love to have them create surveys (using an online program such as Obsurvey.com or Quizzegg.com) that measure traits of the students’ choosing (including some that are and are not inheritable, without them knowing the difference

quite yet), then allow them to post these surveys on a Wiki or Google Doc that is accessible to the general public. They could even link to the surveys on their Twitter feeds. Once they have had a large variety of people take their survey, they could analyze the data to determine which traits they believe can be passed on from parent to child, and which are acquired during a life time. This skill of data analysis – particularly when the data is not so “pretty” or contrived – is essential to being successful not just on the standardized tests of the later high school years, but also in adulthood.

As a summative assessment, I would have my students write a research paper on a genetic disorder or another topic of their interest relating to heredity. I can imagine utilizing the forum for collaboration that Google Docs and Wikis provide to allow my students to publish their work and critique each other. This would allow all students to interact with one another, especially those who would not normally be willing to speak out and share their ideas in class. Much as Richardson suggests in “Blogs, Wikis, Podcasts and Other Powerful Web Tools for Classrooms,” sites like Wikipedia truly represent the collaborative nature of the Internet: “There is much to learn in the processes of using [sites like Wikipedia] that can help our students become better learners – namely, collaboration and negotiation.” Once they had gone through the process of editing and revision – perhaps on our own wiki – I would love to allow my students to post a summation of their learning from their research on a site like Wikipedia. Not only would they be able to feel as though they were truly sharing their learning with the world, but they could also compare what they wrote to what is already present on Wikipedia to determine, in their mind, the truthfulness of what the site presents to its viewers.

Although many teachers fundamentally reject technology, believing that the essentials they learned in grade school are innately transferrable to today's students, it would be a disservice to our students to ignore the facets of a world increasingly powered by skills and technologies being developed as we speak. It is perhaps utopian to believe that technology can be flawlessly incorporated in all classroom spaces in the immediate future, but if educators continue to insist on professional development in these areas, and they make it a priority to ready the children of today to be the adults of tomorrow, we will continue to make strides in developing and opening our classrooms to these new ideas. It is ultimately my "Instructional Dream" for my students to understand that the Internet is not just a place to find answers, but to create their own answers for the betterment of the common good.