

Chapter 15

Using Digital Stories in a College Level Course on Rocks and Minerals: Lessons Learned

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EXECUTIVE SUMMARY

Digital storytelling juxtaposes the time-honored teaching and learning achievements of storytelling with the modern student's affinity for technology. Although not commonly used in college science classes, the author incorporated digital storytelling in an upper level undergraduate geology course for majors at the University of Wisconsin, Whitewater. The overarching purpose of this exercise was to integrate the affective domain of learning within the course context. Informal comments from students indicated that this goal was indeed achieved by this exercise. Students identified technological difficulties and the time commitment necessary to create digital stories as the major hurdles they faced during the exercise. In this chapter, the author describes the course design, learning objectives, educational benefits, and strategies to overcome potential challenges of incorporating digital storytelling in college level science courses.

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INTRODUCTION

Rocks and minerals have played an important role in human history since before the first human picked up a piece of flint and shaped a weapon. According to the Mineral Information Institute (MII, 2010), nearly 6 billion tons of rocks and minerals had to be mined for US consumption during 2009 alone. Thus rocks and minerals are an intimate part of our day-to-day experience. Traditional mineralogy and petrology courses for geology majors mainly emphasize the geophysical, geochemical and tectonic significance of rocks and minerals, but largely overlook the personal connection we have with them. In my “Rocks and Minerals” course taught at UW Whitewater, I wanted to underscore the deep connection of rocks and minerals in students’ lives.

Storytelling is a time-honored teaching tool that transcends the boundaries of space, time, culture and language. I wanted to use the power of storytelling to highlight students’ personal connection to rocks and minerals. Digital storytelling is the ideal vehicle for exposing today’s technology savvy learners to the traditional practice of telling stories.

Digital stories use a range of digital multimedia, such as still or video images, text, voice-over and background music to present information on a specific theme or topic (Robin, 2006). They provide excellent multimedia-based vehicles of interdisciplinary, constructivist, project-based learning (Ohler, 2006). Because of the personal nature of stories, students take ownership of their stories and thereby, of their learning. Digital stories can be used to develop written, oral and multimedia communication skills, critical thinking skills, analysis and synthesis of complex situations, and for increased retention of the course material (Kearney, 2009). They also promote creativity in the curriculum.

Pedagogical advantages of digital stories are manifold (Robin, 2006), and more and more educators are using digital storytelling in K-16 classrooms (Schuck & Kearney, 2008; Raimist, Doerr-Stevens, & Jacobs, 2010). The benefits of using digital storytelling in college level science courses, however, remain largely unexplored. Despite this, digital storytelling seemed a promising educational tool for my Rocks and Minerals course.

Digital stories are, first and foremost, stories. They revolve around the unique experiences, perspectives and reflections of the storyteller. Digital stories require the storyteller find personal meaning in the course content. The stories then emotionally engage viewers with the content material by means of evocative imagery and music. In short, digital stories address the affective domain of learning (Krathwohl, Bloom, & Masia, 1964), as they require that students reflect on how they value the world around them and examine their chosen places in it.

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