Integrating iPads for Learning Science and Learning How to Teach Science in the Elementary Classroom

This presentation will discuss the use of mobile learning devices as a way of supporting preservice teachers in learning science and learning how to teach science. The integration of mobile learning for learning and teaching has become commonplace in K-12 and postsecondary education (Kukulaska-Hulme, Sharples, Milrad, Arnedillo-Sanchez, & Vavoula, 2009; Sharples, Arnedillo-Sánchez, Milrad, & Vavoula, 2009). Due to their mobility (e.g., size and battery life) (Peters, 2007; Wagner, 2008), mobile learning devices such as iPads provide greater flexibility for classroom applications. This presentation will focus on how a science methods course for elementary education majors integrated iPads through the semester-long course as a means for students to a) conduct science content research, b) develop products that showcased their understanding of science content and science teaching, and c) develop journal entries to summarize and demonstrate their views of iPad integration in the elementary science classroom. We will discuss the flexibility provided to students as they were encouraged and required to use iPads as a seamless component in their science methods course. We will also identify iPad apps that were both encouraged by the science methods course instructor and those that were initiated by the students and how students used both to complete course assignments and developed an understanding of how to effectively use iPads to support their learning in their science methods course.

The teaching and learning strategies discussed in this presentation were identified from a research project being conducted as a part of the mobile learning initiative of one university, Laketown University (pseudonym), that started in Fall 2011. This initiative, provided a) all freshmen students with an iPad and b) all full-time faculty with the opportunity to receive a iPad as part of a professional development program that would support them in redesigning their courses and conducting research on their course effectiveness. The elementary science methods course, serving as the context for the teaching and learning strategies that we are focusing on, is just one of many courses that were redesigned to integrate mobile learning. Our presentation will showcase both the effective use of iPads in the course and issues/concerns that were raised by both the faculty researchers and students throughout the semester-long course. We will reflect on lessons learned (e.g. students submitting assignments using multiple note taking apps) and how we will address these issues in the future (e.g. requiring students to only use Evernote for journaling and sharing work with instructor).

References