Collaborations for Transformative Learning Experiences: Technology Integration and Information Literacy in Teacher Education

Darrell Hucks, Keene State College, Keene, NH, USA Patrick Hickey, Keene State College, Keene, NH, USA Matthew Ragan, Keene State College, Keene, NH, USA

ABSTRACT

The purpose of this exploratory action research study was to examine how the modeling by a collaborative team of instructors regarding technology integration and information literacy would affect the quality of the lessons that elementary teacher-education students designed and taught in their field placements. The research was conducted over two distinct years with two different cohorts of methods students placed at a local elementary school that had received new interactive whiteboards, SMART boards, in every classroom at the beginning of the previous school year. Based upon field-supervisor/instructor observations, reflections, and oral and written feedback from host-teachers and students, an analysis was conducted to determine the effectiveness of the interventions. Findings suggest that teacher education students' level of engagement increased regarding the integration of technology, information literacy, ethical information use, and children were more engaged and actively involved during the teaching of methods students' mathematics and science lessons.

KEYWORDS

Collaboration, Co-teaching, Curriculum Development, Cyber Ethics, Information Ethics, Information Literacy, Lesson Planning, Teacher Education, Teaching and Learning, Technology Integration

INTRODUCTION

The integration of technology continues to inform how tomorrow's teachers are being prepared in teacher education classrooms today. Computers, laptops, LCD projectors, digital cameras and interactive whiteboards, computer software, and Internet access are now commonly found implements of information technology used in schools. According to a recent report on educational technology in public school districts by the National Center for Education Statistics (NCES, 2008), which surveyed the technology access of approximately 1600 public school districts in the 50 states and the District of Columbia, over 90 percent of those surveyed with a district network reported having access to the Internet.

Such was the case for the Riverbank School District, which currently serves a predominantly lower-socioeconomic, white, rural population of students. In 2010, the Riverbank Elementary School received a state technology grant that placed brand new interactive whiteboards (IWs), SMART boards, into every classroom the previous year, complete with Internet access available. In our undergraduate elementary teacher education program, the Methods 2 courses include both in-person

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class meetings on campus as well as a full day and a half field placement at a school. This course is typically taken by undergraduate elementary education majors in their junior year of study. The course requires them to teach integrated mathematics and science lessons (a total of six) during the semester in their field placements.

Ironically, when the first cohort of Keene State College (KSC) Methods 2 (M2) students entered their host classrooms in Riverbank at the start of the 2010 fall semester, the majority of host teachers held an assumption that their younger M2-student counterparts would be more adept than the teachers themselves were at using the SMART boards to teach.

However, upon further investigation, the M2 instructor-field supervisor (I-FS) in Riverbank discovered that most of the college students from KSC had very little experience in working with and teaching using interactive whiteboards. This discovery motivated the faculty instructional team to immediately secure some very basic interactive whiteboard training for the students on campus. But it raised a deeper pedagogical question for the I-FS in Riverbank in knowing that quality professional development regarding technology use should leave one in the position to move beyond the basics of knowing how to turn technological tools on and off-in this case quality professional development should lead to a deepening of engagement and exploration of the technological tool in question. Which lead to an immediate additional enhancement of the M2 course curriculum through the incorporation of a collaboratively designed learning experience for the students. This learning experience would be a targeted and transparent modeling by the Rich Media Specialist (RMS -Individual with extensive knowledge of rich media platforms who can help train faculty regarding the appropriate use of available tools and facilitate the development of media-intensive projects for students in courses.) from Keene State College's Center for Engagement, Learning, and Teaching (CELT's mission is to encourage and inspire excellence in teaching and learning. To promote, support, and develop effective learning environments, CELT cultivates collaborative relationships to facilitate professional growth and development across the Keene State teaching and learning community) and the instructor-field supervisor (overseeing the cohort of M2 students placed in Riverbank for the semester) of how to explore and integrate technology (specifically using interactive whiteboards) into students' development and teaching of their own mathematics and science lessons was done in the on-campus M2 course.

With the diverse nature and amount of technology available, institutions must seek out the variety of expertise within the different roles among the campus community. The research study presented here is the result of ongoing collaboration among three different entities at Keene State College (Education, CELT, and Curriculum Materials Library). This collective work can alleviate many of the challenges of the dynamic nature of technology and address the imperative inclusion of ethical information use. In addition, the collective focus can help ensure that all learning experiences are developed and presented with purposeful intention. This is the story of the collaborative work of the M2 course instructor and the Rich Media Specialist (RMS) in year one and the collaborative work of the same course instructor with the Education Librarian. It will also capture how having an institutional culture of collaboration can bridge any inevitable shifts in personnel and/or scheduling changes.

As a relatively new faculty member, students knew that the I-FS in Riverbank was originally from New York City and had a host of questions about what it was like for him to teach in an urban setting. Their interest and questions, coupled with the dynamics of new technology in their semester-long field placements in Riverbank, inspired the learning experience CELT's Rich Media Specialist, and the I-FS for Riverbank developed for the M2 students. They took all M2 students enrolled in the course on a virtual trip to NYC in the fall semester using the on-campus SMART board—an interactive learning experience/workshop they called, *The New York Experience: A Virtual Trip—Sights and Sounds of the City.*

The goals of this interactive technology-driven experience were to inspire the M2 students to engage themselves as educators so that they would, in turn, engage the children they would be teaching mathematics and science lessons to in the field, explore and integrate technology effectively, and

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