The New York City Subway: Graduate Students Explore Technology Integration Through Curriculum

Abstract
The purpose of this roundtable discussion is to talk about the design of Integrating Technology into the Curriculum to Support Learning and Inquiry, a course for degree-candidate students at Bank Street College of Education. The course was structured around a study of New York City subway stations. This curriculum-based model allowed students to engage in an authentic, project-based learning experience using both technology and non-technology tools. Participants continuously reflected on their experiences both as a learner and a teacher in order to develop ideas about how to integrate technology into curricula that creates access to learning for a range of students. Three questions anchored this course:
- What technologies can support student inquiry?
- When can technology be meaningfully integrated into curricula?
- What types of learners can be supported by technology integration choices?

Project Description
In the spring of 2004, thirty teacher candidates undertook a study of New York City Subway system. They engaged in a rich curriculum in which they formed hypotheses, did research, took digital photographs, made sketches and rubbings. They asked questions of a subway expert using an online discussion space. Ultimately, they digitized their findings and created a multimedia PowerPoint presentation to share what they learned.

Immersion in authentic project-based, elementary-level learning activities with technology makes explicit the inclusive nature of such learning and the multiple modalities offered by multimedia. In every course session, participants reflected on themselves as learners, identifying their strengths and challenges. They used this reflection as a lens for looking at their experience from the standpoint of both a teacher and a learner. This allowed them to think about the implications for the use of technology tools in teaching and learning.

This course model supported technology skill development through curriculum. Skills were learned in the context of meaningful learning activities. When new learning is anchored in the familiar, reticent adult learners were able to use the technology tools more comfortably. “Not knowing” the technology when they were given the opportunity to draw upon the things that they did know made for successful tool exploration.

The roundtable format will allow us to share our model and our most recent implementation of it happening this fall. The informal structure will allow us to answer individual questions directly and learn from others about their approaches to preparing teacher candidates to integrate technology into their teaching. Our goals for the discussion are:
- To share an approach to a graduate-level course on technology integration
• To discuss the importance of skill development in the context of meaningful learning activities
• To share examples of student work

**Presenter Background and Qualifications:**
Kira Kingren helps to design and implement large grant-funded projects that facilitate the infusion of technology into teacher preparation. Before coming to Bank Street in 2000, her work teaching video production and web design to middle school students revealed the potential of technology to support struggling readers and writers. This informs her most recent work with K-8 teachers to implement action-research projects in their classrooms. She also co-teaches *Integrating Technology into K-8 Curriculum to Support Student Learning and Inquiry*, an introductory course for teacher candidates. She has created three professional development workshop series through which she has worked with 45 faculty members, and has supported approximately twenty faculty-led technology projects in K-8 classrooms.

Andrea Brothman joined Bank Street with a background in elementary education, educational publishing, and media program development with expertise in children's use of video in support of inquiry, self-expression, exploration, and discovery. She has created media production and media literacy programs for middle and high school students and has directed technology programs in support of literacy development for elementary English Language Learners. Her belief that technologies, when thoughtfully integrated, can support children's needs and strengths has deepened due to her current work supporting K-8 teachers’ research about the impacts of technology on their students' learning. She supports graduate students' considerations of technology integration in the classroom through *Integrating Technology into K-8 Curriculum to Support Student Learning and Inquiry*, a course co-taught with Kira Kingren. She is currently co-developing *Math for All*, a series of video case studies that focus on inclusive math teaching and learning.