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Spring 5-1-2013

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**Empowering Literacy Instruction with iPads:
Teacher Reflection in a Multilayered Professional Development Approach**

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Abstract

This collective case study (Stake, 1995) examines teacher growth in applying mobile technology to teaching and learning as evidenced in reflections on integrating iPads as teaching and learning tools in a university clinical setting. Graduate students, who were new to tablet technology, were given iPads during a summer session course to use as part of their course requirements and for personal use. Each participant successfully incorporated this technology in completing course assignments, creatively tutoring an elementary grade child with reading and writing difficulties, coaching a preservice teacher in the Secondary Special Education program during tutoring, and communicating with instructors.

Objectives

The purpose of this collective case study (Stake, 1995) was to explore the integration of digital technology into an innovative course model for graduate students in a university clinical setting. Throughout the course participants utilized iPads in coaching, tutoring, and course work. By investigating 21st century literacies through the study of iPads in professional development, we add to the professional development literature for classroom teachers and literacy methods instructors, while indirectly assisting school districts in selection of appropriate technologies which empower their students in their use of the necessary 21st century tools. The research questions that guided the study were:

- (1) How do teachers perceive iPads as teaching tools for struggling readers?
- (2) What is the path of growth in understanding for in-service teachers exploring a new technology for literacy instruction?
- (3) How viable is it to integrate iPads into clinical literacy methods courses as preparation for future classroom use?

Perspectives

The study was informed by the intersection of reflective practice theory (Loughran, 2006; Zeichner & Liston, 1996), social constructivist theory in teacher education (Harrington, 1995; O'Loughlin, 1992; Vygotsky, 1978), and new literacies theory (Coiro, Knobel, Lankshear & Leu, 2008; Knobel & Lankshear, (2006). Teachers must be able to self-question before they develop effective instructional strategies in topics or technology new to them, reflecting about the learners with whom they are working, and their own current teaching practices. Participants socially constructed shared understandings of effective literacy learning and instruction using a digital environment through active discovery (Dewey (1916/1985). The participants learned to negotiate these new literacies on iPads for three distinct purposes: (a) they redefined their own use of technology for teaching literacy; (b) they demonstrated specific and developmentally appropriate uses of the iPad for the undergraduates they coached for use in tutoring; and (c) they engaged the struggling readers whom they tutored in motivating and effective online literacy practices.

Methods

To study the experience of in-service teachers exploring a new technology for literacy instruction we examined participant reflections about iPad use for tutoring, coaching, and completing course work in a university clinical setting. We employed case study methodology (Stake, 1995) to highlight the voices of the participants as well as understand how teaching and learning may be enhanced when technology is added to effective content and pedagogy (Mishra & Koehler, 2006). Both researchers triangulated the data reading through all sources to get a sense of the content, memoing initial thoughts, then using an open-coding process to allow for participant ideas to arise. Codes were developed into larger descriptions and themes using time-series analysis (Yin, 1994) to answer each research question.

Participants

Six advanced Masters students and two Doctoral students, who were enrolled in a summer course covering the assessment, evaluation, and instruction of at-risk readers, became a convenience sample for the purpose of explaining their experiences of iPad integration from the graduate student perspective.

Data Sources

- Weekly iPad online surveys
- Elaborated daily lesson plans with reflections
- Semi-weekly SOAR Note reflections
- End-of-week reflections
- Final course reflection
- Audio-taped individual exit interviews

iPad Integration Course Design

The course included an interactive lecture and a hands-on practicum in a university clinical setting. Each participant tutored a local elementary grade student during the daily afternoon practicum sessions, and also coached an undergraduate in the Secondary SPED Program during the morning practicum sessions while the undergraduate tutored a middle or high school student. All tutored children were one or more grade levels behind in reading. The course instructors loaned all of the students (graduate and undergraduate) iPads (Version 1-basic) for class and personal use during the 5-week summer course.

The graduate students participated at four levels of iPad integration each day, thus providing multiple opportunities for reflecting on learning with iPads:

- exploring and sharing apps with peers
- tutoring struggling readers
- coaching undergraduate pre-service teachers
- interacting with course instructors

"We were able to work together with other students...Some were more capable than others, we learned a lot. I just learned another thing today!"

Findings

Findings revealed four recurrent themes:

(a) iPads were effective tools for teaching struggling readers by maximizing instructional time, customizing for the individual child's needs, and engaging struggling readers.

"I just see the benefits of working one-on-one with the child as well as being able to use so many of the apps in direct application that it had to maximize instructional time."

(b) Teacher growth proceeds from personally learning how to use the technology device to applying it for personalized student learning.

"The iPad is becoming more routine/automatic, the learning curve is flattening allowing it to become a more efficient tool."

(c) Using iPads in a clinical literacy course built a foundation for transfer from tutoring to classroom.

"The motivation and application of 21st century skills became a reality throughout the 886 course. The concept of New Literacies was easy to connect to due to our actual use of the iPad to fulfill our course requirements. I can now clearly see the direct impact using the iPads will bring to my (class)."

iPads provided convenient access to the internet for videoclips to build background knowledge for struggling readers prior to reading and check word meanings during reading. They personalized learning with the iPad by helping children create books on topics of interest at the child's reading level and online graphic organizers for comprehension. Participants reflected that children were more fully engaged when incorporating iPads into daily lessons.

Growth was demonstrated by participants moving from no experience using iPads to integrating iPads purposefully and skillfully into teaching and coaching. During the first two weeks participants assessed students, tried literacy strategies, and learned how to use the iPad. The next three weeks they incorporated technology into tutoring.

By the conclusion of the study all participants recommended that iPads become a regular tool in this course and in K-12 classrooms.

"The diversity of potential uses for the iPad is innumerable and although I can think of specific applications that I would feel at ease using in a classroom, I truly feel that the greatest benefit of the iPad is its ability to conform to whatever is the specific need of the classroom during a given lesson."

Conclusion

Teacher reflections revealed that novices to iPads very quickly learned to navigate the device, explore educational apps, and incorporate iPads in motivating ways during effective instruction with struggling readers. Clinical literacy methods courses can build a foundation for iPad integration through self-reflection and social interactions.

"iPad technology was just a tool, but we as teachers are the key element to making that technology work because of our skills in knowing how to apply and support the instruction."

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