

Understanding Teachers' Cultural Models About Technology

Introduction

Prompted by calls for research on technology-focused professional development, this dissertation investigated how teachers' participation in learning communities influences technology integration within the secondary English curriculum. The year-long ethnographic case study drew on cognitive anthropology and sociocultural theory to examine how English teachers' everyday discourse reveals their instructional practices as well as their *cultural models*, or everyday beliefs, related to literacy and technology. In addition, it attends to the role of dialogic narratives in shaping teachers' identities in ever-changing learning environments.

Situated within a reform-oriented approach to professional development, the analysis focuses on teachers' discourse at a micro level to understand how their pedagogy is shaped by macro-concepts, social institutions, and cultural shifts. While digital tools can shape adolescents' engagement in participatory learning, multimodal authoring, and critical thinking, findings from this study indicate that the ways in which these practices take root in the English curriculum are still very much dependent upon teachers' beliefs, values, and skills.

Technology integration can be supported by professional development that features: hands-on learning with digital tools and new literacies; sustained dialogue around teachers' curricular goals and students' learning outcomes; the ongoing analysis of students' digitally mediated work; a view of knowledge as a social construction rather than as a commodity; a recognition that school-based discourse shapes teacher identity; and an understanding that teachers' cultural models about language, literacy, and technology impact their pedagogy.

Research Questions

This research was guided by several key questions:

- What kinds of professional development contexts facilitate changes in teachers' cultural models about literacy and technology?
- How does narrative shape teacher identity and impact professional learning?
- How do teachers design instruction and assess students' new literacy practices?

Related Papers

Curwood, J.S. (2011). Teachers as learners: What makes technology-focused professional development effective? *English in Australia*, 46 (3), 68-75.

Curwood, J.S. (2012). Cultural shifts, multimodal representations, and assessment practices: A case study. *E-Learning and Digital Media*, 9 (2), 232-244.

Curwood, J.S. (under review). Between continuity and change: Teachers' identities and dialogic narratives within technology-focused professional development.

Curwood, J.S. (under review). English teachers' cultural models about technology: A microethnographic perspective on professional development.

What is the role of technology in the secondary English curriculum?



A substantial body of research indicates that technology can promote student engagement and achievement in secondary English. This includes activities that encourage collaboration, participatory learning, multimodal authoring, and critical thinking.

What are the features of effective technology professional development?



1. Content area focus
2. Sustained dialogue around teachers' curricular goals and students' learning outcomes
3. Hands-on learning with digital tools
4. Ongoing analysis of student work
5. A view of knowledge as a social construction

How do English teachers' cultural models, or everyday beliefs, emerge within technology?



I took an ethnographically grounded approach to discourse analysis, which involves "a particular perspective on discourse and social action" (Gee & Green, 1998, p. 121). To understand how cultural models shape professional learning, I developed a three-layer approach to microethnographic discourse analysis:

1. Situated language and contextualization cues: How does the speaker use language and related contextualization cues within this utterance?
2. Social interaction: How does this utterance contribute to social interaction?
3. Cultural models: How does the speaker's utterance reveal his or her cultural models of technology?

How do cultural models shape professional learning?



Professional learning is inherently social and it is shaped by specific contexts, tools, and resources. Teachers use cultural models to situate their professional knowledge and justify instructional practices. Cultural models may either afford or constrain the process of technology integration in secondary classrooms.

Context

As part of this study, I designed and facilitated professional learning communities at two schools over the 2009 to 2010 school year. Both of the research sites for this study, Avon and Milltown High Schools, are located within 15 miles of a large city in the Midwestern United States. At Milltown High School, participants included six English teachers and two library media specialists. Two teachers initially described themselves as tech-savvy, three said that they were average, and one called himself a digital immigrant. During the year of this study, 1,100 hundred students attended Milltown High School. In addition to 695 networked PCs, the school had iPod Touches, iPod Nanos, and iPads. This 1.6:1 ratio of students to computers is significantly lower than the U.S. national average of 3.8:1 (National Center for Educational Statistics, 2005).

At Avon High School, five veteran English teachers participated in this study. With one exception, all participants described themselves as novices with technology and only used it for the purposes of word processing, giving presentations, and creating blogs. One teacher had integrated other tools such as social bookmarking, collaborative writing, and video editing. Avon High School had 1,500 students and 500 networked computers, with a 3:1 ratio of students to computers. Both Avon and Milltown High Schools could be considered technology-rich schools. Compared to nearby high schools, both Avon and Milltown had a higher number of computer labs, more recently updated hardware and software, and an increased use of interactive white boards and hand-held devices.

Methods

While some forms of professional development are viewed as an end unto themselves, learning communities are conceptualized as an ongoing process. In that light, employing an ethnographic case study design allowed me to research how professional learning communities may capitalize on the socially situated nature of learning to foster technology integration as well as how such ongoing professional development can influence teachers' beliefs about and practices with digital tools.

In order to answer my research questions, I collected multiple forms of data. This included:

- 1) surveys of teachers' knowledge of technology, content, and pedagogy
- 2) audio recordings of two semi-structured interviews with each research participant
- 3) video/audio recordings of learning community meetings
- 4) field notes of observations within the learning communities
- 5) teachers' written reflections
- 6) artifacts, including school district policies and teachers' lesson plans. This yielded 40 hours of videotaped discussions of the learning communities and 30 hours of interviews with individual participants. To analyze the data, I developed a three-layered approach to microethnographic discourse analysis and employed artifact analysis.