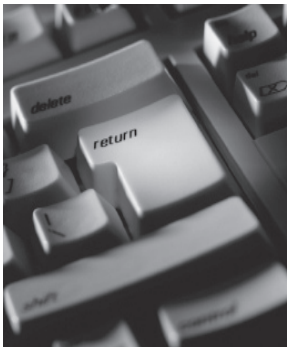

"Not Quite Teaching for Real:" Preservice Secondary English Teachers' Use of Technology in the Field Following The Completion of an Instructional Technology Methods Course

Sara B. Kajder

Abstract

This qualitative study examines the ways in which graduate preservice secondary English teachers integrate technology into their practice during the semester immediately following a content-specific course in methods of teaching with technology. Findings indicate the necessity of establishing connections between introductory coursework and subsequent methods courses. If the programs aim at producing technology-using teachers, then teachers must be equipped with hands-on experiences and critical examination of instructional models offered. Faculty must move from talking about technology to modeling effective teaching with technology. Similarly, if preservice teachers are expected to integrate technology into their fieldwork, they must be placed with supportive cooperating instructors who will provide the instructional autonomy needed to investigate new uses of new tools.

The introductory technology course for teacher education students enrolled in a large, public Mid-Atlantic university, EDLF 345, anchors the technology strand in the teacher education program. This nationally recognized course design focuses on pedagogical skills related to how one meaningfully and authentically integrates technology tools into content area instruction. Students are divided into content-specific sections (Math and Science, Secondary Humanities, Elementary, and Special Education) to provide the opportunity to critically evaluate subject-specific uses of specific technologies. As research has indicated that one course on technology integration does not successfully affect the practice of teacher education students (Beyerbach, Walsh, & Vannatta, 2001; Brent, Brawner, Van Dyk, 2002; Willis & Mehlinger, 1996), this course is followed by further modeling of technology in same-content methods courses.

Although we are beginning to learn about the preservice teachers' attitudes and beliefs at the early stages of their work in the program, we know neither how these views develop or change over subsequent semesters of study nor how preservice teachers incorporate ideas from EDLF 345 into their teaching practice. This study is an attempt to address some of these missing data points, exploring the effect of EDLF 345 on the instructional planning, practice, and beliefs of preservice secondary English teachers as they completed required fieldwork in the semester following their completion of EDLF 345.

Methodology

A qualitative approach was necessary as this study is grounded in each participant's experiences, beliefs, and practice as teachers. As Bolster (1983) explains, "Understanding the meanings the teacher is imposing on classroom events is vital to the research conclusions" (p. 306). Erikson's (1986) qualitative methods, assumptions, and approach were the most fitting for this study due mostly to his emphasis on participant meaning. According to Erickson, interpretivist, qualitative research is "concerned with the relation of the meaning-perspective of actors and the ecological circumstances in which they find themselves" (p. 127). Here, the researcher must:

- Examine all meanings-in-action within particular contexts
- Examine her assumptions as well as those of the participants
- Identify structure in the organization of participant meanings
- Relate these structures to the larger social structure
- Construct plausible accounts, supported by evidentiary warrant.

Here, the researcher works to generate "empirical assertions that vary in scope and in level of inference" while also establishing an evidentiary warrant for those assertions (Erikson, 1986, p. 146). This is a holistic process, requiring continuous contact with the full data corpus, even as the study continues to unfold and encompass more data. Data analysis and data collection during this study were concurrent, and no assertion was generated from just one data source. In order to gain access to participant meanings, data collection was conducted over the course of a semester, including multiple participant interviews, site observations conducted in the field, and document analysis of participant lesson plans.

Participants

The nine study participants were the 2003–2005 cohort of Post-Graduate Masters in teaching students, enrolled in the secondary English program. Each of the participants completed EDLF 345: Secondary Humanities in the fall of 2003. This course was completed during students' first semester in the two-year program. A three-credit field experience runs throughout both of these initial semesters, followed by a student teaching placement in the fall of the second year. During the field placement, student pairs assigned to local secondary English classrooms are expected to conduct multiple observations and teach five classes. Some pairs elect to team-teach, while others separate and teach at different times in the semester. Neither the role of technology in the placement site nor the technology skills of the cooperating instructor is considered when sites are chosen.

Data collection methods

Due to the fallibility of any one method, three methods of data collection were used throughout the study: participant observation in the field, multiple participant interviews, and document analysis of submitted lesson plans. The use of a range of methods, or triangulation, contributes to study validity.

Participant Interviews

Three participant interviews were conducted throughout the semester: (a) at the beginning of the semester to gain information on background, prior experience, and the beliefs carried into the field experience, (b) at midterm to assess participant's developing pedagogical knowledge, and (c) at the close of the semester to debrief about

observations and evaluate students' coursework and field placement teaching experiences. During the second interview, participants were asked to develop a lesson for teaching a short story (Margaret Atwell's "Bread") along with a concept map that identified, linked, and arranged the variables they considered as instructional planners. Each interview was semi-structured and lasted approximately one hour. A digital recorder was used throughout each interview, generating a file that was later transcribed for analysis.

Participant Observation

Eight of the nine participants were observed teaching a 45 or 90-minute lesson within a secondary English placement. During the observation, the researcher looked for technology use during the lesson, types of technologies used, the role of the technology, and the instructional objectives met through the use of the technology. The observation was conducted between interviews two and three.

Document Analysis

Lesson plans were collected from eight of the nine participants at the close of the semester, representing their work both within secondary English methods courses and lessons taught in the field. Each plan was analyzed and coded for demonstrated content knowledge (including technology knowledge) (Grossman, Wilson, & Shulman, 1989), pedagogical knowledge, pedagogical content knowledge (Grossman, 1990; Shulman, 1986), and pedagogical content technology knowledge (Zhao, 2004).

Data Management

The data corpus for this study included interview transcripts, observation field write-ups, lesson plans, and artifacts from observed lessons (i.e., handouts, text samples). Each participant selected a pseudonym to ensure anonymity. Signed permission was obtained from each participant at the start of the study.

Data analysis procedures

Erikson's (1986) analytic induction method was used throughout data collection as the method of analysis. The researcher works to generate "empirical assertions that vary in scope and in level of inference" while also establishing an evidentiary warrant for those assertions (p. 146). Data analysis and data collection during this study were concurrent, and no assertion was generated from just one research method. Assertions were developed through an iterative process, developed through multiple analytic memos detailing the researcher's path through the data. Assertions were then sequenced as to communicate varying inferential depth. All disconfirming evidence has been explained, and assertions were revised based upon additional data gathered.

Study Findings

Using Erikson's (1986) method of analytic induction, five assertions emerged from the analysis of study data. These assertions are provided in a sequence offering student beliefs and knowledge regarding technology use and their preparation as preservice teachers and experiences in the field. The assertions are stated as follows:

1. Despite broadly varying backgrounds and coursework, all of the preservice teachers identify only one course (EDLF 345) as formative when it comes to developing a pedagogical understanding and model of how to meaningfully teach content with technology. They desire additional model faculty instructors and spaces in later methods courses for discussing the role of a variety of technologies in the English classroom.
2. Most participants speak to a decrease in the same technology skills in which they demonstrated significant mastery during the previous semester. The three who voiced continued confidence had significant technology experiences and training outside of their enrollment in the School of Education and would easily be placed in a category of "high" technology use.
3. The preservice teachers expect their students to have significant technology knowledge. This knowledge is either an advantage that teachers plan to build into their lessons or it completely deters their desire to use technology in classroom instruction.
4. Very few participants integrated technology into their teaching in the field. Lack of implementation can be attributed to the student's pedagogical thinking, the requirements of the teaching placement (i.e., limited "flow" due to limited time interacting with pupils and five lessons taught according to the convenience of the CI's schedule), and the context of the teaching placement (i.e., classroom culture and perceived "reality" of the placement).
5. The most important resource that isn't available to these preservice teachers in their field placement is a knowledgeable, supportive cooperating instructor. Each of the nine teachers identified this relationship and negotiation for curricular innovation as more problematic than the availability of tools available in the placements.

Assertion One

Despite broadly varying backgrounds and coursework, all of the preservice teachers identify only one course (EDLF 345) as formative when it comes to developing a pedagogical understanding and model of how to meaningfully teach content with technology. They desire additional model faculty instructors and spaces in later methods courses for discussing the role of a variety of technologies in the English classroom.

The course structure and model of EDLF 345 challenges participants to use educational technologies within the context of authentic, content-specific instructional uses. Throughout the three interviews, participants identified that the course was valuable both in its model and in the challenges that it presented, despite students' incoming technology skill or savvy. As Leigh shared in her first interview:

> 345 was about technology integration in real classrooms as completed by the real teachers that we corresponded with in the electronic community… the big message that surprised me as a student who is only starting to think of herself as a teacher is that it's really possible, not just another ed. school theory or distanced big idea that doesn't matter in a real classroom with real kids. (2/12/04)

Where the course focus on content and authentic instruction surprised most study participants, others were surprised in the instructional approach and course content. Interview comments ranged from "Since when is a course called 'Introduction to Educational Technology' not all about slideshows and how to e-mail?" to "I was completed psyched out from the start because I didn't even know what an educational technology was, after all, I'm an English teacher."

Study participants were clear in identifying the advantages to their experiences in the course. For some, especially those who entered with low levels of technical skill, 345 provided "a place for me to experiment and to deal with everything that I didn't know" (Beth, 2/12/04). For others, it represented a shift from thinking as a user to thinking as a teacher. As Carrie explained:

> It wasn't until 345 that I realized I could use what I knew in my own future classes—and that I could use it to be more effective in my own work. It never dawned on me to do things like that, to use a blog with students or a wiki… probably because my own misconception was that once it's out there on the Net, anyone can get to it. (2/26/04).

Several study participants identified that the course was unique in providing hands-on experiences that were then deconstructed and closely evaluated for instructional value added and objectives achieved. As Chris summarized, "this class seemed to operate from the position of 'question everything'" (2/19/04). Perhaps most illuminating was Kathleen's statement that:

> The course tested my technology skills, yes… but more, it tested me in the ways that teachers think… It wasn't enough that I made an iMovie. I needed to know how, why, how much, why, and where students would benefit and mess up. (2/26/04)

Participants had set expectations for what their second semester of study would entail, noting both the course requirements and their experience in the first semester. Each of the nine spoke of continued instructional methods coursework, opportunities to study content thought elective courses, and the continued field placement that had started during the first semester. Further, study participants expected the technology strand in their coursework to continue, offering that "of course, we'll keep going—especially since we did such a large project in a methods course last semester" and "I just started to see the connection, so of course it's built into the program that way." As Katie bubbled in our second interview, "courses are about what it means to be a teacher… equip me… challenge me to think outside what I think I might have started to figure out…" (3/19/04).

As research has indicated that one course on technology integration does not successfully affect the practice of teacher education students (Beyerbach et al., 2001; Brent et al., 2002; Willis & Mehlinger, 1996), it is expected that further modeling of technology occurs within the courses that follow 345. However, according to participants, this is not the case. As Hannah explained, "345 built on the theory and knowledge that I gain from instruction, assessment, and methods courses, but it's ultimately a one way street" (2/18/04). Bridget offered that "I started to get it, but I largely felt left on my own to get it now… and, frankly, I'm still trying to figure out what it means to teach English" (3/16/04). The lack of a second course or additional space for discussion in instructional methods courses led Abe to question the idea of this School of Education as a technology-rich program, as "what technology program offers only one experience? I mean, so much for presenting us with what's real…" (2/19/04)

Each of the nine study participants identified a need for effective instructional models, in addition to effective technology using instructional models. As Beth explained, "I believe that everyone can rise up, instead of teaching down… and I'm not seeing it" (Interview three, 4/16/04). These preservice teachers spoke to their need for effective models both in faculty members and in the field, as "it's one thing for it to be a faculty member or a really good graduate student… show me in a classroom with real kids." In terms of faculty technology modeling, Abe explained that from his perspective and experience, "I can't say that I've ever seen it before… I just imagine it working. I see so many ties to 345 content and methods courses but I've seen zero modeling of that" (2/19/04). Hannah offered that "I've never seen my professors in the College as teachers, so I don't have expectations for them as models" (4/14/04). Her expectations were different for faculty within the School of Education. Beth observed in her first interview that:

> They've attempted to talk about technology in our classes. They all use PowerPoint and overheads—and a lot of times they'll give us links that we can go to for assessment, or the ALAN review online this semester for the Adolescent Literature class. We don't… they touch on it but they don't teach with it. I don't think that they feel that confident, and that frustrates me some because it's an important part of what I need more in. (2/12/04)

To the study participants, seeing teachers and faculty work with those tools that they are trying to grapple with in their own instructional practice would offer what they identify as a valuable model of both thinking with a technology and teaching with a technology.

Assertion Two

Most participants speak to a decrease in the same technology skills in which they demonstrated significant mastery during the previous semester. The three who voiced continued confidence had significant technology experiences and training outside of their enrollment in the School of Education and would easily be placed in a category of "high" technology use.

Six of the nine study participants described themselves at the start of EDLF 345 (Fall 2003) as having basic technology skills. Their stories and expectations at the start of the course were surprisingly alike. These "low-tech" preservice teachers offered that they were able to check e-mail and type papers, but that their skills didn't range much past that point. Bridget offered in her first interview that she gained comfort from sitting apart from a computer at the start of the class due to her past experiences:

> I grew up not liking technology much… In 10th grade, I had to use a graphing calculator for math class—and I hated it. And, I broke it in the second week and made it through the rest of school without it. It was just easier for me to do the math on paper than to figure out how to use the calculator. I was always kind of scared of it. (2/16/04)

Her experience modeled Abe's, a student who not only sat distanced from the computer but who had to really motivate himself to stick with content that he found to be extremely difficult both technically and in terms of the instructional elements of the course. He explained that "growing pains is the best way that I can describe it" (2/18/04). Leigh's anxiety as a technology user extended into and out of the course despite her successful completion of each competency:

> I never really learned how to use a technology, so when I go to use one now, I just get so confused. I know how my parents feel. It's humiliating that I don't know how… (2/12/04)

An unexpected element of the course was designed around student's varying experiences and confidences, as they needed to be able to engage with the tools in order to think about teaching with them.

At the other end of the spectrum, three preservice teachers enrolled in the course brought either years of experience as a gamer or years in corporate or technology-rich settings that provided training and hands-on experience. Chris represented the extreme:

> Fortunately, I'm a geek. I hung out with other geeks. So, I learned a lot about working with hardware and software. Through that process, I came to know, through hands-on experience, how to deal with it. The summer of my sophomore year, I helped a friend build his own computer completely from scratch. So, I know a lot about how to wire, put through jumpers… I could repair a broken computer so long as it was a PC. And, with software, Windows had every problem on earth and we had to learn how to fix it using whatever we could manage. I also learned to use Linux commands because open source is the way of the future. (2/19/04)

Interestingly, the most technology savvy preservice teachers at the start of the class experienced intense struggles within the instructional content of the course. As Katie explained, "my reasoning for bringing a

technology into the classroom was because you can… I really had to work to understand that it's a whole lot more complicated than that. Punching buttons is easy to learn. Thinking like a teacher about that button is really different" (2/23/04).

Early interviews with each of the six study participants self-reporting a low or average level of technology skill at the start of 345 indicated a decrease in confidence in their skills as a result of the time that had passed since the completion of the course. Leigh explained, "It feels like something that I need to do every day in order to really have it… and I think I'd end up re-teaching myself a great deal" (2/12/04). Confident that he had reached each course competency, Abe struggled with his ability to call the knowledge into practice, offering, "I feel that I've mastered a lot of it—meaning that I produced the product that I was looking for… But, I don't know if I can reproduce it" (2/18/04). Beth continued to return to the lack of modeling, explaining, "If I don't continue to see it, I don't know how I can be expected to do it, especially since we aren't doing it any longer… I don't know what I used to know, and I'm not even sure what I need to know" (3/18/04).

This lack of confidence played out in classroom practice throughout the semester. Analysis of the lesson plans submitted at the close of the semester indicated a decrease in the number of technology-infused plans used in the field throughout the semester by those preservice teachers who brought lower skills to the introductory educational technology course. When asked to discuss the lack of use of technology in their planning, these preservice teachers identified three primary factors:

- the lack of opportunities to practice technology skills during second semester courses,
- the pressing nature of instructional management issues, and
- a lack of room to negotiate curriculum within the field placement.

Student responses ranged from "I feel that I'm so stuck on management that I can't get outside that" to "If all my classes are focusing on how to deal with text and kids at this point, that's where my mind centers when I'm planning." Others addressed placement, explaining that "we can't just ask to take students to the lab… we don't want to overstep our bounds with the classes that they are so gracious to allow us to teach" or that "my CI doesn't know enough about this to want to devote class time to something that she sees as risky or even filler."

Assertion Three

The preservice teachers expect their students to have significant technology knowledge. This knowledge is either an advantage that teachers plan to build into their lessons or it completely deters their desire to use technology in classroom instruction.

Pupil knowledge and access to technology was an issue that each participant spoke to, especially in terms of instructional planning. Responses provided insight into the preservice teachers' pedagogical thinking, technology knowledge, and general expectations for their future pupils. Six of the preservice teachers identified pupil's technology interests and possible lack of access as motivating factors for integrating technology into instruction. Beth anchored her response to what she encountered in 345, offering, "I think what I learned most was that we weren't just using technology for technology's sake… that it made sense to use a wiki, to use a Weblog, to use online tools… that we could actually have in our classrooms and that would make sense… and that would reach students where they are" (2/12/04). The idea of "reaching students where they are" resonated throughout several responses that were tied to "knowing what students know" and "seeing through their literacies, as opposed to ours." As Kathleen offered, "my job is to provide ways for students to interact thoughtfully with a technology tool and gain meaning and comfort with it. … If that's already in place, my job is to get them to stretch" (2/26/04). Here, technology tools "allow for more choice and options," "lead students to see in ways that aren't flat," and "expand our texts to include what students might create."

Three of the preservice teachers participating in this study spoke to pupil's knowledge of technology as a deterrent to any plans to integrate technology into their instruction. Teacher control was a central issue for these participants. As Leigh offered, "I've got the books. Why would I take the risk?" (2/12/04). Earlier in her interviews, she addressed her need for control, offering, "that's something that I know I need to work on… loosening the screws a little bit in terms of control" (2/12/04). However, technology integration at this stage in her development and practice as a teacher seems to be too large a variable. This was echoed by Bridget, who offered, "I'm sure that my students will know more than I do… that's not a good thing" (2/16/04). This played out directly as Bridget was observed while assisting students as they conducted research in the computer lab. Instead of engaging with students as they worked, addressing technical issues or modeling effective search techniques, Bridget busied herself with handing back papers or shutting down student discussion generated as they tested ideas with neighbors or asked for searching tips. In a later discussion, Bridget explained that her role in the lab was "all about keeping things together… if I wasn't taking in the whole, one student could have led the entire class to fall apart… ignoring the technology allowed me to get through" (4/6/04). Abe summarized his reluctance to work with tech-savvy kids early in our discussion, offering "if they know how to have 15 IM windows up while I'm trying to get them to work, what's the point? Books allow me a known where I've got the leg up" (2/18/04). Had this research assignment not fallen as she needed to conduct her fieldwork, Bridget offered that she'd "never have taken something like this on… especially when I didn't know the kids well, let alone their individual, different topics" (4/6/04).

Not all of the responses here dealt with teacher control. Some interviewees also addressed access issues as a possible deterrent, not wanting "to further some of the stratification of what's already socially in place by taking good tools and making it impossible for students to succeed." The preservice teachers participating in this study taught a wide spectrum of students, the majority of whom had access to technology outside of the classroom. However, as evidenced above, these preservice teachers hesitated to create instructional plans that would leave even one student behind. Where they valued and felt a responsibility for continuing students' technology-based literacies, they didn't know how to balance that against the culture of the school and the reality of tangible access to equipment. Others addressed general student apathy. As Carrie explained:

> Right now I'm in this place where I'm scared of teaching… They are preparing us for the worst possible scenario… where kids don't care about school. You worry that you'll be standing in front of the classroom, giving a great lesson where you used all your methods knowledge, and the kids will just stare at you. (2/18/04)

In all, when these preservice teachers consider an instructional use of technology, they do so with the goal of affecting students' textual or communication literacies. However, it is clear that several of the more inexperienced preservice teachers are struggling with more foundational issues: classroom control, curricular literacy, and ways of engaging and motivating struggling students. In those cases, preservice teachers simply aren't thinking about ways to use technology to unpack rich texts. Instead, they are thinking about what it means to teach.

Assertion Four

Very few participants integrated technology into their teaching in the field. Lack of implementation can be attributed to the student's pedagogical thinking, the requirements of the teaching placement (i.e., limited "flow" due to limited time interacting with pupils and five lessons taught according to the convenience of the CI's schedule), and the context of the teaching placement (i.e., classroom culture and perceived "reality" of the placement).

Table 1. Preservice Teachers' Qualitative Level of Pedagogical Thinking within Interviews 1 and 2*

Participant	Qualitative Level of Pedagogical Thinking	Statement of Belief
Abe	Global Constructivist	"I don't like the idea of English class being about 'read a book and analyze it'… I'm into the idea of creating good communicators… I'm not going to be able to create anything that students don't already have, but my class will be about their ideas and experiences."
Beth	Global Constructivist	"To do English is to express yourself and be able to share texts—whether you're writing them or reading them… being able to understand things, analyze things, develop your own ideas and be able to communicate that clearly."
Bridget	Global Constructivist (possibly Everyday Behaviorism)	"My role as teacher is to take kids through a story and find out what they think of it. Also, pointing them in the right direction if they are misunderstanding or are too easily misled by something… Showing them where they went wrong… why they went wrong."
Carrie	Differentiated Constructivist	"It's about aiming for the 'aha' moments… those big understandings where things come together across content."
Chris	Global Constructivist	"What I'm thinking of doing is bringing in oral literature and literacy… storytelling… and in some ways, confidence in your own voice… listening and being able to discern what others are saying… and of course, asking questions and being critical."
Hannah	Differentiated Constructivist	"Teaching English is all about creating openings for students to see themselves, to see their meaning, and to see ways of making that matter… to communicate broadly but also to understand."
Kathleen	Differentiated Constructivist	"The reason that books are important isn't because of what they say but how they make us think. They give us something to examine and to feed upon. We can learn from them, but it isn't reading like I'd do from a history book. It's about learning about ideas and how we use language to convey understanding."
Katie	Global Constructivist	"I want students to come out of my class with a knowledge that English isn't about things like *Paradise Lost*… it's about being able to express yourself, create and convey meaning. Love of reading and love of knowledge as opposed to memorizing the canon."
Leigh	Differentiated Constructivist	"Teaching English is like taking layers of paint off a canvas… You and your teacher wrestle with meaning together, and you put some work into it, and your teacher guides that work. It's about creating your own understanding."

Interviews spoke to learning value of pupils' discovery and the role of the teacher as facilitator and model.

Whereas all of the preservice teachers have had multiple experiences in designing and writing technology infused lesson plans, six of the nine did not make any attempts to integrate technology into their field-based teaching. One factor that played directly into study participants' use or non-use of technology in their teaching placement was their level of pedagogical knowledge. Levin's adaptation of Ammon and Hutcheson's model of the developmental sequences of teachers' pedagogical thinking provides five stages into which teachers' beliefs and practices can be placed. According to Levin's (2003) model, "teachers' thinking about pedagogy begins with associationist and behaviorist conceptions (Levels 1 & 2), and develops toward constructivist conceptions that are quite global (Level 3), but that eventually become more differentiated (Level 4) and finally more integrated (Level 5)" [QA: Is this the end of the quote? I need page numbers, plz. Thx, -- dns]. In other words, teachers operating at the level of "naïve empiricism" believe that students will learn what they are shown or told. Those teachers operating at the level of "global constructivism" are concerned with students' self-directed discovery with concrete materials that are leveled to match learner needs. Teachers operating at levels 4 and 5 work to lead thinking across content areas. When discussing their pedagogical beliefs within the first two interviews, the preservice teachers participating in the study self-described their beliefs as "global constructivism" or "differentiated constructivism."

Using the same descriptors, study participants were asked to self-rate their instructional practice at the close of their field placment teaching. Here, preservice teachers' classroom practice was rated approximately one level lower, situated in either "everyday behaviorism" or "global constructivism." These preservice teachers provided closely monitored activities that focused on the learning of specific skills rather than focusing on conceptual ideas and meaning construction. During the third interview, the researcher asked preservice teachers to consider transcripts of the pedagogical understanding they offered in earlier interviews within the context of what they had experienced in their placement. Participants were provided with Levin's chart and asked to self-rate their classroom practice.

Table 2. Self-Selected Qualitative Levels of Pedagogical Thinking

Participant	Self-selected Qualitative Level of Pedagogical Thinking (Interview One and Two)	Self-selected Qualitative Level of Pedagogical Thinking (Post-Field Experience)
Abe	Global Constructivist	Everyday Behaviorism
Beth	Global Constructivist	Global Constructivist
Bridget	Global Constructivist (possibly Everyday Behaviorism)	Everyday Behaviorism
Carrie	Differentiated Constructivist	Global Constructivist
Chris	Global Constructivist	Global Constructivist
Hannah	Differentiated Constructivist	Global Constructivist
Kathleen	Differentiated Constructivist	Global Constructivist
Katie	Global Constructivist	Everyday Behaviorism
Leigh	Differentiated Constructivist	Global Constructivist

Instead of seeing this move as a regression, most saw it as learning more about teaching while in the field. Abe explained that "it's only once I'm in the class, working with kids, that I see the content through their eyes… the struggles tend to lead me to move back to thinking about skills as opposed to big ideas that they really aren't ready for" [QA: Interview date?]. According to Hannah, "I'm learning from how the students are learning, and sometimes that means changing what I can do because of where they are" (4/14/04).

Beyond demonstrating an awareness of student skills, what Hannah and Abe's comments show is a lack of pedagogical content knowledge upon entering the classroom. Instead, they use this early practice in the field to connect their content, pedagogical and student, or context-specific

knowledge while on site. In connecting this to technology integration, it follows that preservice teachers' pedagogical thinking directly ties to their "readiness" to add an additional skill into their practice. Though their skills are developing simultaneously, teaching philosophy and pedagogical practice seems to take a fore-position to teaching with technology or even pedagogical content knowledge. If pedagogical content knowledge is not in place, pedagogical content technology knowledge—necessary for successful technology integration—will not be either.

An additional barrier identified by study participants was the requirements of the teaching placement. Preservice teachers were required to teach at least five lessons to the same class, negotiated with the cooperating instructor. There was no requirement for continuity of teaching experience and, as most participants were balancing this placement with additional courses and work obligations, most taught sporadically. As a result, Hannah explained, "it was difficult to get any kind of a consistent read on where the students or the curriculum were as we were in and out, in and out" (4/14/04). Although some participants were given a sequential assignment (teaching 5 consecutive lessons), some were lessons that left little room for instructional autonomy and which reflected tasks that the CI would regularly have assigned. Bridget offered, "I didn't get to set any of it up. Instead, I carried out another teacher's vision and tried to make it as much of my own as I could" (4/13/04). The schedule of teaching assignments was largely determined by the CI, leaving preservice teachers to feel out of the loop, "as if I need to appear on command, teach on command, and do all of the work without really feeling a part of the class… or even feeling valued" (Katie, 4/16/04). Technology integration would require additional access and a more developed relationship, instead of a situation so out of balance. "I can't just ask to take the students to the lab… don't want to overstep our bounds with the classes that we're allowed to observe and that they are so gracious to allow us to teach" (Carrie, 4/16/04).

Study participants identified that integrating technology into their teaching wasn't a factor of available resources. Instead, more central was the culture of the classroom in which they were teaching. Classrooms were more content-driven, less student-centered, and less open than they had anticipated. Hannah explained, "I'm frustrated that the classroom in which I'm working… well, the kids are used to being talked to… almost programmed to write down my words and see them on a test. I want to get them on their feet and lead them to think which is so hard if it means unteaching what has been established by the real teacher in the room" (4/14/04). Beth spoke to the difficulty in trying to develop her own teaching identity while trying to fit into someone else's teaching space, offering, "I'm in this place where I'm learning who I am in front of the kids, and yet I feel this tension because it's the opposite of what I observe in here. It's like there is me, teacher me, and teacher in this classroom me" (4/16/04). Bridget was blunt, stating that "if technology isn't valued in the placement, it's a non-issue… there are too many other things to figure through. Plus, I can't be expected to teach the teacher. I'm the learner here" (4/13/04).

The majority of the PGMT study participants identified a lack of "reality" within their teaching placements, expecting to encounter more diverse, mixed-ability students, fewer resources (both print-based and technological), more learning-centered classroom cultures, or more or less teacher freedom to maneuver within a curriculum. Methods courses, including EDLF 345 painted one picture of a secondary classroom. The field experience presented another. This created a dissonance that led some study participants to question the value and "portability" of their experiences. These preservice teachers spoke to feeling "confused by the conflicting messages" and "put into a teaching position where I know more about teaching than the expert in the classroom." As Hannah explained, "it feels like I'm not quite teaching for real" (4/14/04).

Assertion Five

The most important resource that isn't available to these preservice teachers in their field placement is a knowledgeable, supportive cooperating instructor. Each of the nine teachers identified this relationship and negotiation for curricular innovation as more problematic than the availability of tools available in the placements.

The preservice teachers each looked to their cooperating instructor to be a model, a master, and a mentor. However, in many cases, these preservice teachers were most disappointed to identify a gulf of difference between the CI's beliefs and practices and their own instructional values. Study participants found the CI's instructional goals, curricular expectations, planning expectations, perception of students, and overall technology understanding to be problematic.

The most difficult area for preservice teachers to negotiate with the cooperating instructor was instructional autonomy, mostly due to curricular constraints and differing ideas about how students learn and the role of the teacher in that process. According to Chris, "we just lack common goals" (2/19/04). Where Hannah looked to the field placement as an opportunity to "provide room to try out what I know," the reality was that she found herself in a placement where the CI "likes to keep the power." Unable to negotiate use of those methods or instructional approaches that she valued, Hannah explained that she often "needed to imitate the CI in order for the kids to have a chance once I leave" (4/14/04). In a similar placement, Katie offered, "I learned what not to do. Instruction was boring, repetitive, non-creative teaching that seemed to numb kids" (4/16/04). She elaborated that "we tried to do creative things, and they'd get shot down. So, we really self-edited, creating things that we knew could pass as opposed to things that represented where we wanted to be" (4/16/04).

Planning time between the CI and the preservice teachers presented another issue, as most CIs were not thorough instructional planners and lacked additional time to meet with the study participants. Despite the fact that several preservice teachers voiced the need to "see what planning for real classrooms looks like," most of the CIs did not plan in advance beyond providing the study participants with a general idea of what content to address. Leigh offered that "it's usually an e-mail a week before that says, we're teaching Hamlet Act One. Be ready to start them on Act Two next week. And then, I come in and they're taking a quiz for half the period. Oops, sorry…" (4/16/04). In an attempt to carve out some room for her own instructional ideas, Hannah explained how she began to manipulate the placement:

> She insists that she needs a week in advance to see our lessons… which she doesn't plan her lessons. She just lists activities on the board when she comes in that day—not real planning. So, I never know where they're going to be or what they're going to do until the very last minute. I only feel that I have power when I wait and submit the lesson a day in advance. (4/14/04)

Many of the preservice teachers were surprised by the ways in which the cooperating instructors would interact with students. Kathleen felt that "students approached me hesitantly at first, but were like glue later on because they were used to getting nothing from the teacher" (3/18/04). Expectations for performance varied as many preservice teachers stated, "my CI teaches beneath where the kids are." Hannah found that:

> She doesn't seem to like the kids very much. She talks about kids too loudly when they are in the room or standing right behind her… There's no thinking that they are still developing and won't be perfect or even "normal." (4/14/04)

Only one of the cooperating instructors modeled effective technology use in classroom teaching, choosing to use PowerPoint to generate a quiz for students to explore prior to an exam. Not only were the preservice teachers surprised by the lack of teaching with technology, they were frustrated by a

lack of technical knowledge when it came to basic communication tools such as e-mail. Hannah listed her frustrations, ranging from "she can't even open an e-mail attachment with my lesson plans" to "her desktop is so bizarre that she can't even figure out where anything is" (4/14/04). Others expected the student to teach them technology skills, as Kathleen observed, "I'm teaching about blogs as I lobby for a lesson idea that I know is going to be too far beyond where the CI even is" (3/18/04). Again, study participants felt that integrating technology into these classrooms, where power was an issue and skill was absent, was a battle not worth fighting.

Conclusions and Future Directions

Three unexpected and yet central ideas have emerged given the findings of this study, many of which echo the literature base on educational technology coursework. First, preservice teachers need a connection between their introductory teaching with technology coursework and their later methods and field placement courses. If the program aims at producing technology-using teachers, then those teachers need to be equipped with courses that provide hands-on experiences and critical examination of instructional models offered. All faculty, not just those in educational technology, must move from talking about technology to modeling effective teaching with technology.

Similarly, if preservice teachers are expected to integrate technology into their initial fieldwork, they must be placed with supportive cooperating instructors who will provide the instructional autonomy needed to investigate new uses of new tools. Despite the technology-rich program of studies that participants experience at the university, placements were not screened or selected on the basis of the ways in which cooperating instructors teach with technology. Preservice teachers need support to develop pedagogical skills alongside opportunities to reflect with colleagues while in the field. Participant data indicates that this would necessitate a longer placement, or at least one in which preservice teachers teach a self-contained, coherent unit.

Lastly, technology-integrated coursework across courses needs to exercise and develop pedagogical content knowledge alongside technical skills. Where we assumed that all preservice teachers would be quick to implement the knowledge and methods acquired in EDLF 345, they demonstrated difficulty in doing so when pedagogical thinking was still largely under development. Clearly, those preservice teachers who have a more developed understanding of pedagogical content knowledge are more likely to integrate technology and more likely to create valuable learning experiences for students. This might also be evidence to support moving technology-specific courses to the second semester of study, where students have encountered both methods and fieldwork and have both a realistic sense of the secondary English classroom and the beginnings of their own teacher identities.

This study has prompted a significant curricular change in the educational technology coursework (EDLF 345). Although it made a difference in what our teachers were able to do with technology when the course was divided into subject-specific sections, study participants still reported that there was an evident disconnect between their experiences in the course and the realities of their eventual placements. In an attempt to bridge the two worlds, technology-using practicing teachers are now invited to participate as "guest mentors," describing and modeling what they do with their students each day, learning and problematizing new technologies alongside preservice teachers, and providing feedback during class microteaching experiments or instructional presentations. While there is a direct benefit for preservice teacher participants, the university also gains access to exemplary teachers who can then serve as potential cooperating instructors.

As teacher learning results from a cycle of reflection and reconception, further research is underway that follows these study participants into their semester-long teaching placements to investigate how they continue to develop pedagogical thinking and how they integrate technology into their instruction. As much as this work examines preservice teachers' processes of pedaogigcal reasoning, it must also look closely at the instructional uses of technology within the English classroom, closely examining how students are asked to use technologies for multimodal composition and textual analysis. In addition, more formal assessments of their pedagogical and pedagogical content knowledge need to be administered at the start and close of their placement to measure and assess development.

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Sara Kajder is an assistant professor of literacy education at the University of Louisville. Her research interests include methods for preparing preservice and inservice English/Language Arts teachers to effectively use educational technology in K–12 literacy instruction. She is the author of The Tech Savvy English Classroom *(Stenhouse).*

Sara B. Kajder
3703 Wynbrooke Circle
Louisville, KY 40241
sara.kajder@louisville.edu