

# Digital Practices and Literacy Identities: Preservice Teachers Negotiating Contradictory Discourses of Innovation

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## Abstract

This paper presents the results of a research study on preservice English teachers' understandings of the interconnection of literacy and technology in relation to their teaching practices. The study was conducted in an English education program among preservice teachers enrolled in a year-long internship. The data analyzed consisted of interview and group discussion transcripts as well as semiotic artifacts (inquiry papers, written reflections, and short videos) produced by the seven participants. Particular attention was given to the ways school structures were affecting possibilities for productive transformations in the use of technology and the ways contradictory discourses were negotiated by the participants. Two contrasting approaches to the role of technology in the teaching of literacy were identified, which adopting Newman and Holzman's (1993) terminology, were termed "tool-for-result" and "tool-and-result." The paper concludes with an identification of the conditions afforded by the teacher education program and the school setting that facilitated the development of tool-and-result understandings among the preservice teachers.

Current educational policies in the United States tend to place a high value on technological innovation, but significant obstacles deter the achievement of this goal. Merchant (2010) pointed out that, particularly in the field of literacy education, “there is relatively little empirical work that explores the possibilities and problems—or even what such a transformation might look like in the classroom” (p. 135).

The study presented here examined the ways preservice teachers in an English education program thought about the interconnection of literacy and technology in relation to their teaching practices. Since these preservice teachers were involved in a yearlong, full-time student-teaching internship, the research shed light on the intersection between the development of their teaching identities, the teacher-education program in which they were enrolled, and the school setting where they were conducting their mentored practices. An analysis of the nexus between these settings revealed significant tensions between the emergence of transformative practices in regard to the use of technology and established structures and discourses that pushed against those transformations.

Scholars from the New London Group have pointed out that a deep structure of schooling prevents emerging literacies from inhabiting academic spaces (Lankshear & Knobel, 2006). This phenomenon has also been explained by contrasting the older culture of the book and newer multimodal literacies (Kress, 2003). More recently, Merchant (2010) made the argument that in order to make schooled literacies more relevant to out-of-school practices, a significant transformation in teacher education programs needs to occur, as well as a substantive educational reform. He argued that, while virtual worlds and their use in the classroom encourage distributed cognition and the development of collaborative knowledge, the standards-driven policies that govern the classroom focus on individual measures of performance and limited definitions of literacy, stifling innovation.

The research presented in this article belies the conflict that emerges between a teacher education program that provided affordances for transformative practices and a cooperating school district that wanted technological advancement. The school district, however, crossed by broader educational policies, resisted deviations from the “deep grammar

of schooling” as Lankshear and Knobel (2006) conceptualized it. It also demonstrates how conflict between principle and policy was reflected on the development of teacher identities among preservice teachers who were in the process of negotiating contradictory discourses of literacy, technology, and education.

When considering the preservice teachers’ narratives, I drew from postmodernist and poststructuralist perspectives (Ball, 1999; Butler, 1990; Morgan, 2002, 2004; Simon, 1995; Zembylas, 2003) to conceptualize how contradictory discourses of literacy, technology, and innovation interacted, in different ways, in the narratives of each participant. Zembylas (2003) conceptualized teacher identity as “a polysemic product of experience, a product of practices that constitute this self in response to multiple meanings that need not converge upon a stable, unified identity” (p. 107). He argued for the role of emotions in identity formation, particularly making the point that emotions are shaped through the social dynamics of power and resistance.

This argument was echoed by Ball (1999), who analyzed how teachers were socialized into the discourse of performativity espoused by education reform movements and how many of them resisted this discourse, which they felt as an imposition on their professional selves. Ball looked at how the discourse of competitive performativity promoted the fabrication of an entrepreneurial self, which came into conflict with other constructions of professional identity based on relationship building and an ethics of caring.

Another way of looking at those multiple discourses that intersect in the formation of teachers’ identity is through the concept of image-text (Simon, 1995, as cited in Varghese, Morgan, Johnston, & Johnson, 2005), which is composed of interpretations of a variety of phenomena, including teacher-student interactions, gestures, clothing and personal appearance, social expectations related to gender, ethnicity, and social class, prior experiences, and life stories. This image-text is performed and coconstructed in everyday life, and the participants are not necessarily conscious of it.

Varghese et al. (2005) pointed out that “these poststructural insights highlight the point that as teachers we are always, in part, invisible to ourselves. Students ‘read’ us, and respond to things about us of which we might not be aware.” (p. 32). Morgan’s (2004) research into his own practices, as well as the research in this paper, aims at identifying those

multiple conflicting discourses through teacher inquiry in order to shift toward more powerful teacher identities.

I was also influenced by sociocultural perspectives, particularly communities of practice theories (Cochran-Smith & Lytle, 1993; Lave & Wenger, 1991; Smagorinsky, Cook, Moore, Jackson, & Fry, 2004), which emphasize the relational aspect of identity as it develops through participation in specific cultures or communities. Varghese et al. (2005) made an excellent point when stating that, in order to adequately address the development of teacher identity alongside a postmodernist/poststructuralist framework, “we also need the nuanced conception of learning in social settings that community-of-practice theory offers” (p. 40).

In this study, I explored how collaboration and teacher inquiry can help teachers verbalize and reflect upon those discourses and policies with which they interacted in their daily practices in order to negotiate their roles from an active, powerful position. This research could support the development of a stronger voice for teachers in school curriculum and the wider educational community.

The importance of establishing communities of inquiry and making teacher research possible from within the institution of schooling has been discussed extensively. For example, in the United States and England, school teachers teach in contexts that encourage individualism, isolation, a belief in one’s own autonomy, and the investment of personal resources. A significant body of research has examined teacher isolation. Teachers learn to internalize and enact roles and norms (for example, emotional rules) assigned to them by the school culture through what are considered “appropriate” expressions and silences. (Zembylas, 2003, p. 119)

Cochran-Smith and Lytle (1993) made the point that teacher inquiry needs professional communities of practice: “Teacher research is by definition a collaborative and social activity that requires opportunities for sustained and substantive intellectual exchange among colleagues” (p. 87). They argued for the institutionalization of teacher research, “claiming that a broader context for research on teaching requires the systemic reform of school structures” (p. 6). They explained that research on teaching has been conducted mainly by researchers outside of schools and does not reflect teachers’ voices. They identified four important

aspects of these inquiry communities: organizing time, using talk, constructing texts, and interpreting the tasks of teaching and schooling.

The importance of teacher talk in the context of creating collaborative spaces for teacher inquiry is addressed by Webb (2005) in her action research study about the development of teacher identity among preservice secondary teachers. Her study underscores the importance for teachers of nonthreatening spaces for collaborative reflection, which she observed, is not common in schools. These spaces provided her participants with the tools to move from the “survivalist” stage of teaching, dominated by a view of teachers as technicians, to a more powerful stance as “creative problem solvers.”

Webb said the issue relates to the tension between the focus on “skill-based knowledge” often “given priority by educational managers and emerging teachers,” and a movement toward promoting “the professional nature of teaching” or “to ‘re-professionalise’ teaching” (Initial Implications, para. 2-3).

Constructing texts, another aspect of developing teacher-research communities, was addressed by Cattley (2007) in an article about the importance of reflective writing for the development of preservice teacher identity. In fact, one of the factors Cattley stressed as influential over the formation of professional identity among teachers is the quality of relationships with others, especially considering power differentials in relationships with mentor teachers and supervisors. Considering the role of evaluation and feedback on teacher skills in these relationships, Cattley observed,

Yet the preservice teacher, as with experienced teachers, would not be deemed a competent professional if they were not able to uphold the paradoxical nature required of a teacher as proficient, skilled and knowledgeable while ever self-questioning and displaying the disposition of a life-long learner. (p. 339)

Her study showed how reflective writing was a valuable tool that helped the participant preservice teachers develop a professional identity by developing awareness of their professional role, of the relationships they needed to maintain with others (other teachers, students, parents, and administrators), and of their own emotions as they interacted with and were constantly observed by others in their teaching role (students, mentors, and parents). Reflective logs also helped them develop

strategies for managing these diverse situations, not only in the act of teaching but in the multiple situations that are part of teachers' work in schools.

In the current study, the participants were enrolled in an inquiry-based teacher-education program. The four aspects of teacher research communities that Cochran-Smith and Lytle (1993) postulated were involved. Time was organized so the preservice teachers, mentors, and supervisors could get together as a group, discuss common issues, and share experiences, as well as action research and inquiry projects.

Teacher talk was a significant part of the experience, not only during seminar time or individually with assigned mentor teachers, but also with graduate student consultants and among preservice teachers who had their own shared office space to use between classes and an online discussion forum. With respect to constructing texts, writing was used as a tool for reflection, not only individually but to share and create common understandings.

The fourth aspect, "interpreting the tasks of teaching and schooling," was engaged through constant interrogation, and understandings were being built collaboratively through all of these activities. These four aspects of the program facilitated a self-identification of the preservice teachers as researchers, which is of vital importance according to Burton and Bartlett's (2005) argument that seeing oneself as researcher is a significant component of professional identity.

The use of writing as a tool for reflection was an expression of the theoretical grounding of the English professional development school (PDS) program on sociocultural theories of literacy (Erickson, 1984; Scribner & Cole, 1981; Street, 1995; Vygotsky, 1981). The inquiry model of the PDS program was founded on the premise that preservice teachers would construct their professional knowledge in response to their emerging needs in the classroom, rather than based on a prescribed order of curriculum. Thus, their reading and writing activities were intrinsically connected to their everyday classroom practices in an inquiry cycle that involved the strategies of immersing in a professional culture, identifying issues or interests, and then contextualizing, representing, critiquing, and transforming them through action research.

For these purposes, they used the techniques of wondering, observing, note-taking, interviewing, juxtaposing, and categorizing (as in Beach & Myers, 2001, p. 19). Preservice teachers wrote daily reflective journals after their lessons and weekly summary reflections to identify recurring topics, interests, challenges, or concerns.

They shared these reflections with mentor teachers, consultants, and peers. Often, decisions about the focus topics for their research (case studies, digital movies, and inquiry projects) stemmed from these reflections. At the same time, decisions about what professional literature to read in order to support their inquiry were based on the particular issue or problem they identified and their guiding questions.

They also communicated with each other through an online discussion board, which served as collective problem-solving and sharing of common experiences. Another artifact they created was a digital movie, in which they illustrated something they had learned about teaching. Their culminating project was an inquiry essay based on an action-research project, which they presented at an end-of-the-year conference.

## **Research Design**

The purpose of the study was to examine how preservice English teachers in a teacher-education program were thinking about technology in relation to their teaching practices. Specifically, I asked what goals they had for using those technologies and what meanings those technologies acquired in their classrooms and in their professional development.

## **Setting**

I conducted my research in two parallel English teacher education programs located at a large research university in the eastern United States. This article represents a section of that wider study and focuses on one of those two programs: the secondary English PDS program of collaboration between the university and the local school district. The school district is located in a town built around the main campus of the university. It is considered one of the highest achieving districts in the state.

Preservice teachers in the program went through a yearlong mentoring experience in a secondary school. The mentoring experience served simultaneously as student-teaching and literacy education content courses. They developed their academic abilities and pedagogical knowledge through their teaching practices and collaborative activities: No previous literacy education courses were required. Instead, they attended in-school seminars, which provided a situated theoretical framework to guide them through their internship.

They also held consultant meetings with Curriculum and Instruction doctoral students at the university to address issues they were facing in their classrooms and to discuss their inquiry projects. Consequently, their educational philosophies and pedagogical theories were built through a close interconnection between their class work (seminar readings, discussions, and assignments, and consultant meetings) and their school engagements (mentored practices).

The program took an inquiry approach to teaching and to incorporating digital multimedia technologies in the English classroom. Digital technologies were incorporated as mediating tools for communication, identity construction, and development of knowledge through multiple sign systems. Integrated technologies included online discussion forums, website development, the production of digital movies, and podcasting, as well as the use of digital files in the production of multimodal texts (texts that include more than one mode of representation, such as written text, image, and sound).

## **Sampling**

The main unit of analysis in this study consisted of the English preservice teachers attending the university where I conducted my research. This article focuses specifically on a subunit of analysis: the group of preservice teachers in the PDS program. My sampling included 7 self-selected participants out of a total pool of 15 preservice teachers who were enrolled in the PDS program, 6 females and 1 male, which roughly represented the gender distribution in the program.

They were all in their early 20s, 4 to 6 years from high school graduation, but they had had varying college and work experiences. The program admitted seniors with English, Journalism, and Communications majors, as well as master's degree students. None of them had had previous



school teaching experiences. The following participants' names are pseudonyms.

- Ryan: He was a Communications major, and he was familiar and comfortable with the digital technologies used in the program, such as creating short movies and podcasts. He created a digital story assignment for his students that was very successful.
- Amanda: She was an English major, and she liked to integrate popular culture in her teaching and relate it to more traditional content. For example, she asked her students to create a soundtrack and a book poster for a novel they were reading. She was pleased with the outcome of these assignments, in terms of students' engagement and quality of work.
- Hannah: She was an English major. She did not feel comfortable incorporating new technologies in her teaching. She was afraid of being unprepared to use them, but she was taking steps toward becoming more competent, such as getting the Teaching with Technology certification offered at the university.
- Mandy: Also an English major, she had started in the traditional secondary education program and then moved to the PDS. She had taken a few teaching methods courses and had had some previous field experiences, though not full-time student-teaching. She was enthusiastic about new technologies, but also concerned that they would replace more traditional literacies and classroom practices.
- Ruth: She was a masters' student. She had studied Communications as an undergraduate, had worked as a journalist, and had experience and comfort with the technologies involved in the program. She also had a strong cultural studies background and a lot of initiative, wanting to implement innovative approaches to teaching. She had a strong voice and liked to speak up.
- Lori: She was an English major and the only one of the participants with a middle school placement. She was not well-experienced with the technologies, but she was open to new approaches and used online discussion boards with her students extensively.
- Marissa: An English major, she was concerned about how multimodal texts were replacing more traditional reading and writing practices. The class activities she conducted with her students included written reflections about the role of technology

in their daily lives in response to Thoreau's *Walden* and reflections about the portrayal of different ethnicities in popular movies.

Smaller units of analysis consisted of individual cases that I examined in depth. In this article, I focused on one of these cases, Ruth, because she represented a conception of technology in her teaching that made her stand out from the other participants.

### **Data Sources**

The sources of data consisted primarily of verbal accounts solicited from the preservice teachers in the form of audiotaped interviews (semistructured ethnographic interview, following Carspecken, 1996), as well as their participation in audiotaped group discussions (PDS seminar, presentations in the PDS Inquiry Conference), and anecdotal notes of consulting meetings.

I also considered participants' artifacts and texts created as part of their participation in the PDS program: seminar assignments (digital movies, inquiry paper, journals, and notes), online discussions, lesson plans, and assignments they prepared for their students. I examined program documents, such as the PDS guidebook and website, and policy documents that regulate literacy and educational technology, such as *No Child Left Behind Act of 2001* and the National Education Technology Plan (U.S. Department of Education, 2004, 2010).

### **Data Analysis**

Using the constant comparative method (Glaser & Strauss, 1999), I coded the data looking for common themes and patterns of convergence and divergence. I followed two paths of interpretation and analysis: Data from all participants were used to identify recurrent themes across the program. Ruth's case was then identified for in-depth study (as recommended in Stake, 1995).

I first coded audiorecorded seminar discussions, as well as participants' reflection logs and consulting meeting notes, looking for emerging patterns. Some of the initial themes included technology as a hook, technology for effectiveness, technology as a threat (to reading and writing conceived in more traditional ways), fluidity of time and space

boundaries (in terms of the organization of schooling and teacher work), and an overarching thread, which was the tension between older and newer definitions of literacy.

Based on those findings, I interviewed each participant twice, once in the middle of the spring semester and once at the end of the academic year. Between these interviews, I continued collecting anecdotal notes of consulting meetings and using other documents, such as inquiry paper drafts and digital movies produced by the participants.

After this recurrent cycle of data collection and analysis, I decided to regroup the initial themes around the tension that ran across all participants' discourses between older and newer conceptions of literacy, which in turn, translated into how they conceptualized the role of technology in their teaching.

I identified two contrasting approaches to the role of technology in the teaching of literacy, which I named "tool-for-result" and "tool-and-result" following Newman and Holzman's (1993) terminology. The tool-for-result approach is in line with traditional school literacy; tool-and-result is associated with transformative practices which transcend the boundaries of schooled literacy and engage with digital practices in an integrated way.

### **My Position as a Researcher**

As a consultant at the PDS program, I met regularly with the preservice teachers to discuss their teaching practices and inquiry projects. My role was to provide a theoretical framework to conceptualize their experiences and help them think through their action research. This institutional relationship to the participants provided me ease of access to their experiences and a degree of trust from the beginning, due to familiarity. Although my position as a consultant did not entail grading the participants in any way, it was still a relative position of power within the institution. In order to ease any possible discomfort, I made it clear that participation in the study was strictly voluntary and there was no connection to the internship grades.

During the interview process, I used a semistructured interview protocol. I aimed at having an open mind, questioning my previous assumptions and putting them on hold as much as possible, to avoid influencing my participants into saying what I expected them to say. I adopted

Carspecken's (1996) approach to ethnographic interviews, moving from more descriptive and open-ended questions in the initial interview to more specific and involved questions in the later interviews (see [appendix](#) for sample interview questions). I focused on eliciting and listening instead of leading or asking questions that would limit or narrow the response.

## **Findings**

Across all participants, I identified the two main approaches to technology mentioned earlier: a nonintegrated approach, tool-for-result, and an integrated, dialectical approach, tool-and-result. These were essentially two conceptions of the relationship between teaching and technology.

In the first, technology was seen as separate from the curriculum, and these participants were concerned with effects like producing more interest in old subject matter. This conception privileged traditional ways of learning and used technology simply to dress up those traditional practices. Applying Semali's (2000) framework, these approaches to technology use may be referred to as nonintegrated.

The second was a more integrated view of technology, in which activities and curricula were actually shaped by emerging technologies such as digital movies or podcasting. Likewise, engagement with those technologies could occur in a more critical, or self-reflective, way. In this way technology was a way of bringing new forms of meaning to the classroom and a way of engaging in new texts (or new literacies) in a technologized world.

These two general positions that the preservice teachers were taking in their approaches to technology amounted to an epistemological distinction, since they reflected basic assumptions about teaching and learning.

In the nonintegrated view, tool-for-result, technology is seen as an addendum to the traditional curriculum, and concerns center on the effects of technology on the motivation of students in traditional learning classrooms or on the level of distraction from "true literacy" that is produced by the use of technology. By contrast, the integrated view, tool-and-result, conceives of technology as being intrinsically implicated with new kinds of texts and emerging literacy practices and, thus, as an essential component of any literacy classroom.

After identifying emerging tool-for-result and tool-and-result approaches among preservice teachers, I analyzed the conditions that might favor the development of one over the other. I looked at the histories of the study participants and at the features of the teacher-education program in which they were immersed. I identified some tensions between the call for innovation in technology integration promoted by the teacher-education program and worded by educational policies such as the *No Child Left Behind Act of 2001* and the National Education Technology Plan (U.S. Department of Education, 2004, 2010) and resistance to these innovations coming from more traditional school structures and supported by actual policies such as high-stakes testing.

### **Tool-for-Result (Nonintegrated)**

The tool-for-result conception abstracts technologies from the human engagements of which they are part and, thus, creates a false polemic by ascribing those technologies separate lives. This separation allows for a view of technology as a cause of social behavior and social change.

This conception appeared in two apparently opposite forms: as a celebration of new technologies seen as a means to teaching effectiveness (technology as a “hook”), and as a fear that new technologies will take over and displace more traditional forms of literacy (technophobic view). In the first case, technology was conceived as a hook to lure students into engaging with schoolwork, to make the curriculum (e.g., literary texts) more appealing or to facilitate learning. In the second instance of tool-for-result, the fear of technology appeared as a fear of other media taking over to the detriment of writing. Whether technology was seen as an ally or as a threat, it was always kept conceptually separate from the substance of the English curriculum.

Six of the 7 participants had views that placed them within this approach. The only one who had a consistent tool-and-result approach was Ruth. The other participants displayed more contradictions in their narratives, with some development toward an integrated approach but still caught up in the tension between a more traditional view of literacy and a simultaneous appreciation and concern for the effects of technology.

Hannah, for example, felt challenged to incorporate new technologies. While she was making an effort to learn them and acknowledged their

value, she felt them more as an imposition (Interview, 3/27/2007). She saw the value of technology as a hook to keep students interested or as a tool to organize instruction and present content, which were both ways to incorporate technology that did not significantly transform the curriculum nor engage students with new literacies.

This view implies that old and new technologies can be different means to the same curricular ends. For example, Ryan had his students create a digital movie in order to represent rhetorical figures (i.e., metaphor, personification, metonymy, etc.), and he explained,

At first I just wanted to use it [the technology] for the sake of using it. Now I really want to be a purpose for using it, whether it's going to get them more engaged or be more effective. With the [digital movie] it took them a little longer, but at the same time they learned the concepts better. (Interview, 6/14/2007)

[I see technology as] just new ways to communicate maybe old ideas that might normally be portrayed in writing. (Interview, 3/22/2007)

Although he had students create multimodal texts and, thus, engage with new literacies (as opposed only to writing an essay or a reflection or giving an oral presentation), he thought about it as a different way to learn the same content. The purpose was the same: He used the technology only to make the students more interested or to make the lesson more effective. In contrast, he could have thought about the assignment differently if part of his objective had been for students to master a different discourse and critically produce and analyze multimedia texts.

Amanda expressed the idea of the hook as a way to establish a connection between the technology in which her students were immersed and the mandated curriculum: "That's what kids go home to, you already know that they are interested in that....and you're already almost hooking them with that; we still have to enforce the writing" (PDS seminar, 1/31/2007).

Amanda saw new technologies as the a priori knowledge of students, to which school knowledge (the tradition of knowledge that schools wish students to learn) needs to tie in order to be effectively absorbed. The separation seems to be clear for her: while new technologies are flashy and engaging, traditional forms of literacy are what the school is there to promote.

In separating means (technology, teaching, and learning activities) from ends (literacy skills), this approach reduces literacy to skills for communication that can be abstracted from those human practices of which it is constitutive. This type of contradiction can be found in the autonomous model of literacy (Street, 1995), which has predominated in Western national educational systems since the establishment of the rationalistic model of the Enlightenment, and in international literacy campaigns such as those promoted by UNESCO.

According to the autonomous model, literacy is abstracted from specific contexts of practice and assumes universality. Literacy is, thus, considered ideologically neutral and at the same time deterministically associated with positive consequences such as progress and development.

In the discourse of the knowledge society, a similar process occurs with digital technologies, which are equally abstracted from context and equated generally with social improvement (Organization for Economic Cooperation and Development [OECD], 2004). In the view of technology as a hook, digital technologies are seen as neutral tools: abstracted from any cultural or ideological context, they do not affect literacy in a qualitative, substantive way. Instead, they can be put to useful (preexisting) ends, such as improving performance and engagement.

Marissa expressed in a seminar discussion that the focus on new technologies relegated “reading critically” and “writing critically” to the backstage (1/31/2007). She observed that her students had difficulty sustaining the reading of long passages, as when reading a novel, finding them deficient in the kind of reading that Kress (2003) qualified as “introspection.” She stated, “They’re not able to sit and focus and read something and think about it and then write about it, because they are so used to this constant stimulation” (PDS seminar, 1/31/2007).

Marissa viewed reading and writing as a separate domain from engagement with media texts associated with new technologies. Excessive attention to multimedia texts, including the critical analysis of media texts, was detrimental to the teaching of writing. This either-or conception can be observed in her question: “Is it our job as an English teacher to teach students to analyze things critically, or is it also part of our job to help them become better writers?”

Since she established a separation between, on the one hand, academic reading and writing, and on the other, engagements with technology-rich texts, she saw critical thinking as an academic way to remediate the pervasive influence of technology. Critical thinking was considered important as a way to teach students to guard against the misleading messages of media texts, instead of seeing it as an integral part of a curriculum that was involved with critical reading of all kinds of texts, including literature.

One instance in which a participant was concerned with the perceived dangers of students' involvement with digital texts revolved around students' choices of research sources. Mandy was troubled by her students' extensive use of Wikipedia as a source of information. She found that this kind of website was more valued by her students than any print sources or her academic voice, and she encountered issues of authority:

My students were very, very sure that Wikipedia was a great resource and they should be able to go there and it was right and it was really credible and a strong resource, just like an encyclopedia, and they did not listen to me...“Oh, you don't like it because you're a teacher” (PDS seminar, 1/31/2007).

Mandy resorted to popular culture as a way to persuade her students of the unreliability of the site, by showing them an episode of the Steven Colbert show in which he played with changing the entries of the online encyclopedia. This activity reflected awareness that media texts can be instruments of critical thinking as well as traditional literatures.

Although Mandy battled what she saw as the counter-academic effects of Internet practices, she did not establish a separation between teaching to write and teaching to deal critically with technology, as Marissa did. On the contrary, she realized that there was an interrelationship between the two. Teaching her students to write a research paper implied dealing with their almost exclusive use of Internet sources. She explained in her presentation at the PDS Inquiry Conference (4/28/2007) that she encouraged her students “to find more traditional sources, but they weren't really excited about that, so I wanted to give them the tools to use what they were more likely to use in the future.”

Mandy's approach was still tool-for-result insofar as she assumed that digital texts were inherently more unreliable than books and printed



materials. While she viewed the Internet as a misleading site where anyone could post without regulatory mechanisms in place, there seemed to be no consideration for the need to establish the same critical analysis of any book or printed source. By her omission she seemed to say that books were unquestionably reliable, especially library books, and she implied identification with the so-called culture of the book (Kress, 2003).

The contrast established between digital and printed texts became evident in Mandy's concern with plagiarism, which she associated almost exclusively with Internet use and, particularly, with her students' copying and pasting from Internet websites without acknowledging the source. Mandy seemed to ignore that plagiarism has been an issue in schools for a long time and that the historical predominance of the transmission model of learning was likely to incentivize it, even though it was condemned.

### **Tool-and-Result: An Integrated Approach to Technology**

The tool-and-result approach represents an awareness of how technology is inseparable from and interdependent with the process and product of the activity in which it is involved. It coincides with an ideological model of literacy (Street, 1995), in which reading and writing are seen as activities necessarily implied in sociocultural meanings and power struggles. In this conception there is no neutral code or objective discourse that can be dissociated from situated meanings.

The tool-and-result awareness was present among the participants to different degrees. Mandy's acknowledgment that she needed to help her students use what they were already using (Internet sources) in a critical and productive way marked a movement toward a more dialectic approach. Instead of insisting her students use only print sources or warning them against using Internet sources because she found them unreliable, she began to engage in digital literacies in a more integrated way. She realized that digital literacies are implied even in the production of more traditional forms of writing.

Another instance in which a tool-and-result perspective emerged was when Ryan talked about a digital stories assignment he developed for his students. He asked his students to construct a multimodal story where all the different modes (text, image, sound) were integrated as a whole:

There had to be written text, and there had to be an image or sound component.

He spoke of the images as a way to convey a different aspect or perspective of meaning that was not conveyed through the words in the story (Interview, 3/22/2007). This was a way of acknowledging that the mode selected affected the kind of meaning that was produced, so that written words, images, and sounds could provide different dimensions to the text. Ryan's awareness of the affordances of mode is a characteristic Kress (2003) ascribed to the new media age. This awareness translated into a practice that transformed the curriculum and aimed at developing a critical awareness among his students of how to use different (multimodal) textual resources.

Instead of using technology as a hook to motivate students toward more traditional texts, Ruth adopted the concept of supplemental text. She explained that connecting the literary text to other texts could help students build on its meaning and become more active readers. In teaching students to establish those connections, technology would become a research tool, so that students would learn to raise questions about the text and to look for answers about those cultural references that they identified.

For example, Ruth had students read "How to Tell a True War Story," which is a chapter from *The Things They Carried* by Tim O'Brien (1990). She brought to class the song "Lemon Tree," which was referenced in the text (Interview, 6/12/2007). The students did not know the song, which did not belong to their cultural-historical frame of reference. Not until Ruth played it in class could they identify how its inclusion was creating a certain tone in the story. Then she could ask questions such as, "Why would the author juxtapose this song with this image?"

For Ruth, relating print texts and literary texts to popular or media texts and texts in other media (songs and movies) was a way to situate them within a culture. Establishing intertextualities was a way to establish relevance. She observed that the difficulty of her students with making meaning out of literary texts was related to a lack of connection with their cultural web of references. They were reading them in isolation. For example, while her students were reading *Lord of the Flies* and struggling with it, they also watched an episode of the animated television series, *The Simpsons*, which referenced *Lord of the Flies*, although they did not

identify the reference. One of Ruth's general teaching objectives was to help students establish these connections.

Ruth used digital technologies to move beyond traditional academic boundaries. They served her to

- Broaden the time/space frames of the classroom and of more traditional texts.
- Broaden the students' audience by providing a context for them to share and respond to each other.
- Have her students author texts as participants of a community.
- Facilitate critical thinking by providing the means for students to develop ideas about what mattered to them and to further their thinking through dialog with each other.

The most developed instance of integration of technology in her teaching was a cultural studies/media literacy unit that she developed with her mentor. For this unit the students read *The Great Gatsby* and studied the construction of American culture in the novel and in texts from their own historical context such as Super Bowl advertisements. In her inquiry paper, Ruth made the point that the study of literature needs to be integrated with the study and production of other text forms that conform to the students' symbolic world. She found support for her argument within the cultural studies approach to English (Carey-Webb, 2001).

The unit was structured around three moments (three consecutive assignments), which she connected to Bruner and Tally's (1999) enumeration of three forms of engagements with technology toward supporting democratic learning: "(1) as tools for student research; (2) as tools for student production; and (3) as tools for public conversation" (Inquiry paper draft, p. 11).

For the first part of the unit, the students had to develop a web chronicle for the historical period of *The Great Gatsby*, and for this purpose they had to conduct research, mostly Internet research. For the second part, the students engaged in online discussion boards while they were reading the novel and responding to Super Bowl commercials in class (the students also submitted individual written responses to the readings). As the culmination of the unit, they had to create individual digital movies responding to the question, "What defines me as an American?"

In all of these assignments, Ruth could use technology to transcend academic boundaries. Internet discussion boards constituted a different time/space frame that took classroom conversations beyond the confined 47-minute periods of the school bell schedule. In that alternative time/space, her students found new ways to formulate and discuss their own ideas and develop a sense of audience:

We might get to a very in-depth idea by the end of class, but we don't start there....We usually start with clarifying questions....So to get to that point of critically thinking, it's usually by the end of the period. Then the bell stops, so how can we keep it going? ...I'm even considering...in the future using discussion boards in place of responses, so yes, my students write responses, but the responses that I'm grading right now I see as being a summary: What happens in the book? But we already know what happens in the book, so let's pose questions to one another. What's a good idea? I've just seen a level of critical thinking that I've not seen in a quickly written response, so yes, it might only be a paragraph long, but they took a while to formulate that idea and that paragraph, and then they can come back and respond again and again. (Interview, 3/27/2007)

Ruth's conception of the technological aspect of the assignment was very different from Ryan's views on his digital movie assignment about rhetorical devices. In the latter, Ryan was using the technology to make the same content more effective (tool-for-result), while Ruth used the technology to reframe a more traditional assignment (writing an essay) in order to infuse it with a different quality, ultimately transforming it into a different assignment altogether. Ruth was aware of the particular affordances of the technology, and she used that potential in relation to her teaching goals (tool-and-result).

Through the digital movie assignment, in which students had to represent their own American identity, she also sought to transcend the separation of what is academic from the students' lived experiences, marrying questions of personal investment and identity with critical thinking. The students had to produce a short movie in which there was a thesis statement, a personal connection, and an aesthetic dimension. They were asked to balance different textual modes to include voice, moving image, and written text.

This task was challenging for her students and she encountered resistance, but she also found higher levels of critical thinking than in essay-type assignments. The assignment pushed students to integrate critical analysis with a personal dimension as they interrogated their own American identity and how it was connected to wider social discourses. It also pushed the boundaries, as the students were expected simultaneously to produce an aesthetic product and convey a thesis statement. It seemed that for students it was hard to be analytical and to express the subjective at the same time.

With her digital movie assignment, Ruth was not merely teaching them to be critical of media texts or trying to be more effective in teaching students the same curricular content that she would otherwise teach through more traditional means. She was teaching them to be critical participants in a culture that uses multiple forms of communication, by critically reading and producing multiple kinds of texts, including literary texts and print texts. She was teaching them to produce a movie and, in so doing, to make an argument as they would in an essay and to be powerfully expressive in both.

Students responded to the assignment in diverse ways. Ruth identified a pattern whereby students who were performing well in traditional assignments such as the essay were resisting the thesis part of the digital movie and presenting basically a sequence of still pictures with music, with little or no video, voice, or titles. On the other hand, some students excelled at the movie but had difficulty with writing. Ruth was working on establishing connections so that students could become proficient in diverse mediums and forms of communication. She worked with one student on applying to her writing the argumentation skills she had deployed in the movie, including tone, voice, and pacing (punctuation).

She also had the idea of sharing “flocabulary” raps (student-created raps incorporating and defining vocabulary words) through podcasting. This method was another way in which students created their own texts (or “textbooks”) from which to study the vocabulary, thus becoming authors and finding an audience in fellow students. All of these assignments manifested a social orientation toward teaching and learning, where technology was used to increase the interaction among students and facilitate the discussion of their work, creating a collaborative environment.

Evidence can be seen in the digital movie assignment, where although it was individual, she established a system through which students with technological expertise shared their know-how with others. The social aspect of these assignments made it easier to see technology as integrated with the dynamics of the communication activity rather than a static tool which would render predefined outcomes.

In a tool-and-result conception, such as Ruth's cultural studies approach, new technologies are considered an important aspect of the literacy classroom because of the whole social process in which they operate. Ruth focused on engaging her students with multiple kinds of texts. They became participants in a community of literacy, where they simultaneously analyzed texts critically considering their intertextualities and produced texts purposefully addressed to a specific audience.

The involvement with technology was part of a literacy education that consisted of involving her students with social texts, with relevant meanings, in order to situate themselves critically within their society and to engage with cultural difference and inequality.

The integrative approach embraced by Ruth often emerged among some of her colleagues. For example, Lori had her students create a soundtrack for the novel that they read independently, and they had to provide a rationale for how the songs related to the major aspects of the book. She argued that this assignment required her students to "critically think" as they established meaningful connections across texts (PDS seminar, 1/31/2007).

### **Tensions Between Traditional Structures and Transformative Innovations**

One of the tensions encountered by the study participants regarded the rigidity of academic definitions and spaces as opposed to the fluidity of new literacies. They had to situate themselves in relation to narrow definitions of what counted as valued text in school, at the same time they were asked to incorporate digital technologies and multimedia texts into their teaching.

One example of these contradictions can be seen with Ruth's mentored teaching experiences. Ruth encountered resistance to her assignments involving technology from some of her students, especially those who were most successful with traditional academic assignments such as the

five paragraph essay. She attributed this resistance to the “compartmentalization” between school subjects and between academic and nonacademic spheres. The resistance was most intense when the students were asked to produce texts in the new media as opposed to writing, as in the digital movie assignment. She reflected that standardized tests were an important factor in making students identify essay writing almost exclusively as the legitimate form of writing in the English classroom:

Why are they resisting this? I know that they are involved in media and technology outside of the classroom, so why are they really struggling? And [State Tests] are going on around this time, and I start thinking what are, what is determining their English career, what is determining what is English...and in order to...go to college, and even the GRE, everything is objective or a written sample....There's no other way to communicate....They're given 45 minutes to do a writing piece, and that's their English component. (Interview, 6/12/2007)

Ruth's case strongly suggests that not only are backward or traditional ways of schooling limiting a meaningful incorporation of technology in education. It is also limited by current educational policies that purportedly promote technological innovation, but do so only in a narrow, limited way. Dominant approaches to technology, through this contradiction between espoused ends and actual implementation, tend to reproduce the compartmentalization of schooling, as the teachers and students are caught up in limited notions of what counts as academic work.

Many participants commented on how digital media broke down the walls of school and referred to an immediacy in communication that changed the way teachers operated. For example, Amanda shared how she had changed a lesson the night before because her mentor teacher had communicated with her by instant messenger, and said “My laptop puts me at work 24/7” (PDS seminar, 1/31/2007). Ruth (interview, 3/27/2007) and Lori (PDS seminar, 1/31/2007) both reflected on how discussion forums kept classroom conversations going beyond the classroom time and space. In her study of digital online practices of young adults, Angela Thomas (2007) observed that “for children, there is no such dichotomy of online and offline, or virtual and real—the digital is so much intertwined into their lives and psyche that the one is entirely enmeshed with the other” (p. 3). Nevertheless, as Ruth's struggles

demonstrated, when teachers and programs attempt to bring those new practices to the classroom, difficulties arise in bringing them into alignment with traditional school culture.

Smythe and Neufelt (2010) documented the challenges teachers faced in dealing with these tensions in the context of their project. They used podcasts to capitalize on the semiotic resources of students for whom English was a second language, such as their storytelling capabilities, their creativity, and their affinity with multimodal texts. While engaging in the production of multimodal texts, the children collaborated spontaneously and, thus, a community of learners emerged. The authors acknowledged that “these resources and relationships largely remained within the third spaces of resource rooms and lunch hours,” but making them visible within the more traditional mandated curriculum was difficult (p. 495).

One of the benefits of new literacies is that they afford novel opportunities for collaboration and participation in learning communities (Wenger, 1998). Black (2005) studied how English language learner adolescents developed online identities as authors in fanfiction communities. These communities provided a safe context in which they wrote for an audience and engaged in peer review outside of the school setting.

Gomez, Schieble, Curwood, and Hassett (2010) underscored the difference between online forums, in which distributed cognition takes place as students learn through collaboration with others, and traditional school culture, in which learning is thought to occur inside the head. The study presented in this article demonstrates that tool-and-result approaches are more effective than tool-for-result approaches in equipping teachers to deal with and, possibly, transcend the contradiction between new literacies and traditional models of education.

The connection between the development of critical literacy and technological innovation in education has been investigated in previous work. McShay (2005) explored ways in which to integrate multicultural education into technology teacher education programs. He developed a model for exploring how particular technology affordances, such as hypertext, can facilitate the study of multicultural questions.

The use of online discussion forums to build pedagogical knowledge and critical literacy among preservice and in-service teachers has also been



examined (Courtney & King, 2009; Woodcock, 2009). Hughes and Robertson (2010) explored the use of digital videos among beginning teachers as a way to promote a reflective stance on the affordances of the technology and the way it could transform the teaching of literacy. The teachers were involved in the production of digital videos themselves and then engaged their students in creating videos as well. As with the case of Ruth in the study presented here, there was an involvement with students' identity in the creation of the videos, as well as an important element of collaboration.

Like the teachers in Hughes and Robertson's study, my study participants created digital videos to illustrate an aspect of teaching that they were exploring. Ryan and Ruth engaged their own students in producing a digital video as well. This connection between a collaborative inquiry model for both students and teachers (or preservice teachers) and a transformative approach to technology and new literacies is described in the following section.

### **Implications: Reframing Literacy Education Toward the Enactment of an Ideological Approach**

Awareness of the tool-and-result approach can empower educators to consciously transform their practices and critically participate in professional communities. Furthermore, data from this study suggest that English teachers who adopt a tool-and-result perspective can promote a culture of critical literacy practices in their classroom and involve their students in critical participation in relevant discourses.

Embracing education as tool-and-result implies adopting an ideological conception of literacy: seeing literacy as culturally specific and developing in situated practices tied to particular power relationships.

Among the study participants, I identified interrelated conditions and practices that constituted tool-and-result involvements:

1. Engagement with education as inquiry and experimentation, so that the preservice teachers were developing as teacher-researchers.
2. Participation in a community of collaboration, where ideas and experiences could be shared and understandings developed in a constant dialog.

3. Engagement in reading and producing multiple genres of texts relevant to the lives of the students, including multimodal texts, where critically analyzing and critically participating in a literacy community are part of the same process. This activity activated the connection of the students' personal, local concerns and identities with broader discourses and social relationships.
4. Teachers' involvement with critical discourses such as Cultural Studies, Critical Theory, and Critical Media Literacy. This was the case only for Ruth, and remarkably, hers was the case in which the tool-and-result approach was most fully developed. This connection warrants more exploration in future studies. Ruth took up those theoretical frameworks in her analysis of her own experiences in education and integrated them in her teaching and learning activities.

Literacy teacher-education programs should engage in these kinds of practices in order to create vibrant professional communities that transcend the limitations of dominant discourses on education. They may be called conditions and practices because they are both the tool and the result: The desired practices are simultaneously the purpose of critical literacy education (powerful participation in social discourses as an enactment of active citizenry) and the way to achieve that purpose.

### **Engagement with Education as Inquiry and Experimentation**

The practice of inquiry and experimentation constituted a purpose of the PDS program, which was to educate teacher-researchers. The preservice teachers were allowed and encouraged to take initiative and try new ideas, to reflect on the implementation of those ideas, and to transform their teaching practices. They had the opportunity to experiment with innovative practices and construct conceptualizations or emerging theories.

Ruth created a unit to develop critical media literacy among her students, and that unit was the basis for her inquiry paper and final presentation at the Inquiry Conference. During this project she read academic sources, designed and implemented the lessons and assignments, and constantly collected data about students' work and responses. She not only looked at student texts but also established a dialog with them and conducted

surveys. She collaborated with her mentor and talked about her work in progress with her peers in seminar meetings and during the school day.

She also met regularly with university consultants (myself among them) to discuss her work and get feedback and academic support. Ruth was constantly questioning her own practices and collecting classroom data. She often surveyed her students and reflected on how to modify her assignment the next time. This meant that she was not applying preconstructed theories in her classroom but constantly building her own knowledge. It was not tacit knowledge, contained in the teacher's head but never articulated, as the OECD report (2004) conceptualized teachers' knowledge. On the contrary, it was dynamic knowledge constantly made explicit and shared with her peers.

All of the participants were constantly experimenting with new approaches, reflecting on their teaching practices, building explanations, and considering student responses as a way to rethink their curriculum. Mandy created a whole lesson in response to the need she identified in her students to learn how to evaluate and utilize Internet sources. Ryan created a digital video (Figures 1) on cooperative learning, through which he explored the application of cooperative learning theories in his own classroom. For this purpose, he captured with his camera how his classroom was transformed according to how collaboratively, or not, it was organized. He also interviewed students to find out how interacting with peers in different ways enhanced their learning, and included their video-recorded responses in the movie. At the same time, he experimented with different techniques for producing his video, such as fast motion and voice-over, which helped him prepare to guide his students in producing their own short videos later.

### **Participation in a Community of Collaboration**

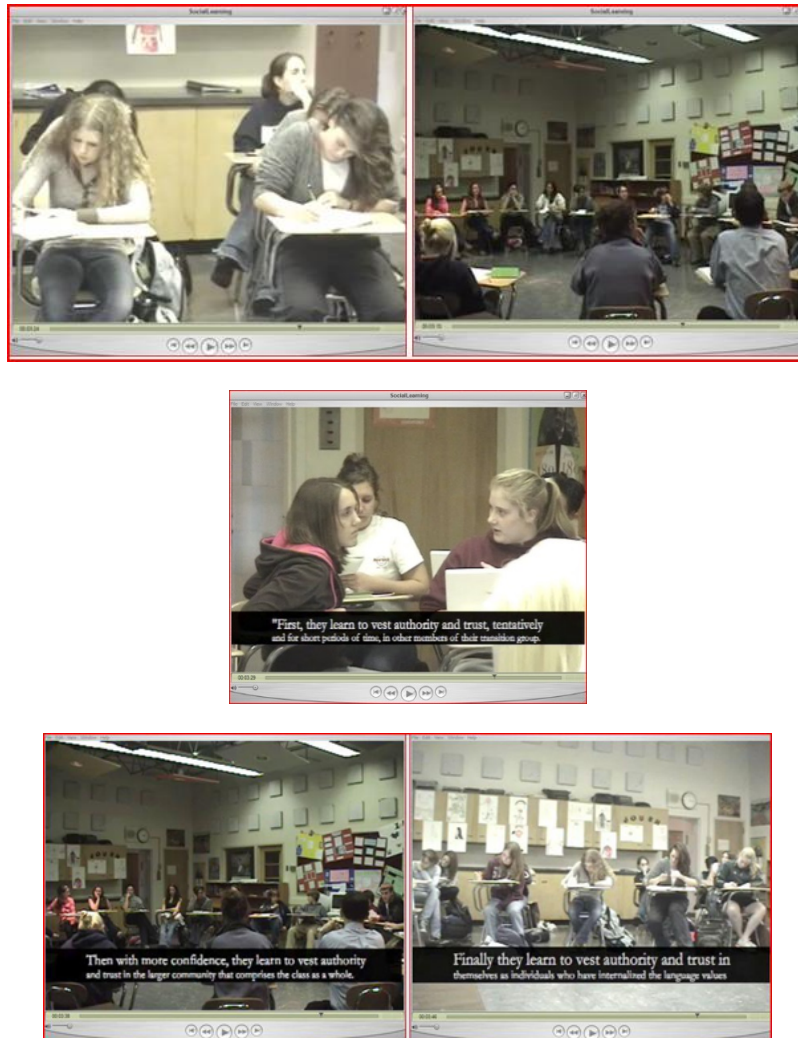
Inquiry and experimentation were closely tied with participation in a community of collaboration. The participants had multiple spaces to establish a dialog about their teaching and research: seminars, planning periods with their mentors, consultant meetings, the PDS inquiry conference at the end of the internship, and online interaction with each other and with their mentors. They also participated in a wider professional community through online interaction and involvement in professional organizations such as the National Council of Teachers of English.

The creation of communities of collaboration often occurred not only among study participants but also among their secondary school students. Ruth's students collaborated as a class in constructing interpretations of television commercials in an online forum, and they initiated a form of research exchange when they started to post links to information and texts that they were finding. This was an instance when Ruth found her students engaging in critical thinking to an extent that was not evident in other assignments.

They also worked in groups to create a news webpage related to the novel that they were reading, and they created study material for one another when producing their vocabulary podcasts. Ruth was projecting future practices where she would expand on these possibilities, for example, when she planned to compile the podcasts that her students would create so that they could be available to everyone outside of class as study material.

When Ryan's students were reading and responding to each other's digital stories, they were also participating in a collaborative community, which provided an audience for the texts that they produced. To be more precise, they produced texts within a community, for a specific audience of peers. This activity gave particular relevance to the texts that they were producing, which acquired a different performative dimension as opposed to texts written for more traditional assignments where the main and usually only audience is the teacher.

The vocabulary podcasting activities that Ryan and Ruth's students produced, the online forums, and the digital short stories, among others, were all produced for peers and involved dialog: engagement with each other's arguments and mutual critique. Ruth observed that students were more open to considering other positions and provided more constructive critique in online forums than in class discussions.



**Figure 1.** Screen shots of Ryan's digital video about cooperative learning. He videotaped the students working in small groups, participating in whole-class activities, and then applying what they had learned to their individual projects. The video incorporated fast-motion techniques and Ryan's voiceover, narrating how he applied sociocultural learning theories in the classroom. It also included interviews of students about their learning experiences.

## **Engagement in Reading and Producing Multiple Kinds of Texts Relevant to the Lives of the Students**

The production of multiple genres and modes of texts is a way to participate in multiple social discourses. The participants in the study, as well as their students, not only analyzed texts in different media as part of the media literacy curriculum, but they also engaged in multimedia productions (digital movie, podcasts, and webpages). Powerful literacy (Gee, 2001) involves mastering dominant social discourses in order to be able to participate in their transformation. Practical involvement and critical analysis are inseparable aspects of powerful literacy practices.

Literacy education needs to transcend the modern discourse of schooling that assumes that objective analysis through essay writing is the one and only acceptable form of academic literacy. While study participants generally established the goal of critically analyzing texts, as well as producing multimedia/multimodal texts[\[a\]](#), Ruth was the only preservice teacher who showed ample evidence of critical production of multiple kinds of texts.

The term *critical* refers to literacy practices that take power relationships into account, considering how social discourses differentially relate to different social groups and to the distribution of sociocultural and economic resources in a society. In this sense, critical literacy practices would imply embracing an “ideological conception of literacy” over the “autonomous model” (Street, 1995). They would require transcending dominant conceptions of literacy skills and technological innovation as neutral and universal.

In the case of Ruth and her students, the critical literacy practices that integrated analysis and production of texts were enabled by establishing the relevance of social discourses to students’ lives. In the critical media literacy unit that culminated with the digital movie assignment, students were invited to integrate the personal with the sociopolitical, addressing how they situated themselves within the wider construct of American identity.

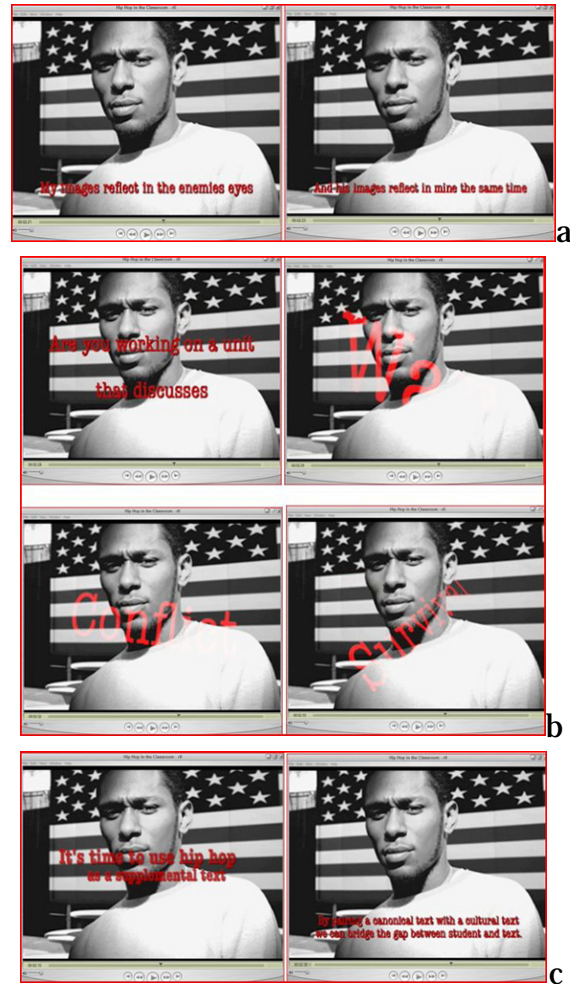
The critical approach was facilitated by previous activities in the unit where students engaged in critical argumentation through the production of multiple forms of texts within a community of collaboration (online forum analyzing Super Bowl commercials and team creation of the news webpage for the historical setting of *The Great Gatsby*).

This engagement with critical production of multimodal texts was also reflected in the digital movie that Ruth produced about flocabulary raps and podcasting (Figures 2 and 3). In that movie, she reflected about the assignment in which her students were asked to produce raps using vocabulary words in context and their definitions. The movie included clips from students performing their vocabulary raps in front of the classroom, which showed evidence of a high level of engagement in the activity. It also included audio recordings of students who chose to share their raps through podcasts instead of performing them live.



**Figure 2.** Screen shots of Ruth's digital video about incorporating popular culture in the classroom. It shows her students performing the flocabulary raps they had composed, which incorporated vocabulary words. The video captions in the first screen shot display Ruth's narrative, "Students use vocabulary words in context." The captions in the second screen shot display the rap lyrics the students are singing, "Loafer- his lazy butt sittin' at home on the sofa."

She explained that she provided the audio option only for students who felt more comfortable with that modality, which at the same time allowed for asynchronous text sharing. She used captions to provide the rationale for her teaching approach and theory to practice connections, including references to Frank Smith and music and lyrics by hip-hop artists. In short, she used the digital video format to convey a critical message about teaching by using different modes of expression (multimodal) to have her audience experience a glimpse of what her teaching looked like.



**Figure 3.** Screen shots of Ruth's digital video showing images of the music clip "I against I" by Mos Def & Massive Attack. The video captions in 3a display lines from the song lyrics, while the video captions in 3b and 3c display Ruth's message, "Are you working on a unit that discusses war, conflict, survival? It's time to use hip hop as a supplemental text. By pairing a canonical text with a cultural text, we can bridge the gap between student and text."



## **Teachers' Involvement With Critical Discourses**

What made it possible for Ruth to reach such a developed tool-and-result modality of teaching and to perform an ideological approach to literacy? Establishing direct causation is difficult, yet some suggestive aspects of Ruth's practices and personal history differentiated her from the other participants. The main difference was her involvement with cultural studies and critical theory, which she adopted as a lens not only to design her units and assignments, but also to understand social discourses and institutional relationships in which she was involved.

Remarkably, Ruth had been able to establish relevant connections between the theories and her practical engagement with media discourses, and she provided an explanation, saying that it began when she was working in media communications at the same time as she was taking an Introduction to Media Literacy course (Interview, 6/12/2007).

Accessing the critical cultural theories in connection to a relevant context where she was actively involved seemed to have facilitated the connection. Such a connection with academic reading had not been a constant in her life, since she had "hated" reading in school because she found school practices senseless and irrelevant, although she did enjoy reading with her parents at home (Interview, 6/12/2007).

Ruth's ideological approach to literacy enabled her to respond to institutional relationships with a critical perspective. She could analyze student resistance to her assignments not only in relation to standardized tests that promoted a limited conception of literacy, but also as linked to wider discourses of schooling and what counts as academic. She could identify the contradiction between the general push for innovation in an abstract way and the enforcement of standardized tests, both associated with the same set of policies.

## **Conclusions**

The four forms of tool-and-result engagement presented here can serve as a framework for English education programs that aim to promote the development of teacher-researchers and communities of inquiry. Current research calls for an integration of critical discourses with digital literacy practices in school and teacher education contexts (Gainer, 2010; Hughes & Robertson, 2010; McShay, 2005; Woodcock,

2009). The program within which the research was conducted facilitated ample conditions for some of these engagements, particularly the first three: inquiry and experimentation, professional collaboration, and practical engagements with multiple kinds of texts and technologies.

Tool-and-result perspectives and practices were emerging among several participants (Ruth, Ryan, Mandy, and Lori). Nevertheless, the performance of powerful literacy that established relevancy and productive participation in social discourses, linking the personal to broader sets of social relationships, was identified in only one case. Ruth presented a specific personal history through which she could connect cultural studies and critical theory to her practical discursive engagements in the production of media texts.

Although more research would be necessary to fully support these conclusions, the data suggest that the integration of the four conditions described here could be a powerful way to develop transformative English education programs toward the formation of a critically participant citizenry.

## **Notes**

[a] Lauer (2009) explained that the terms *multimedia* and *multimodal* do not present substantive differences in meaning, but are used in different contexts and for different audiences: “While ‘multimedia’ is used more frequently in public/industry contexts, ‘multimodal’ is preferred in the field of composition and rhetoric.” (p. 225)

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## **Appendix**

### **Sample Questions for the First Interview**

For what purposes do you incorporate popular media in the class (songs, movies)?

Can you describe the flocabulary raps assignment? How do you think the technology (podcasting) related to the dynamics of the activity (such as student engagement and learning process)?

Describe your experience of creating the digital movie.

Follow-up questions: Had you created a movie before? Did you encounter any challenges? What did you learn from the experience? How was it different from presenting your material in a paper? Did it change the way you thought about your topic, your learning process?

For what purposes do you use piccle (online discussion board interface)? How is it different from class interaction? What challenges does it present to you? How do you manage assignment requirements and issues of authority/ your presence as a teacher?

#### Sample questions asked in the second interviews:

So then, before coming you had an idea of what it meant to be an English teacher, could you describe how it changed after going through your internship?

How do you explain to them what would be a reliable source?

Do you use technology for professional development? In what ways is it a part of your internship?

(discussion board) Do the students interact with each other or just answer your questions?

Regarding your digital movie on collaborative learning, you show pictures and videos of students collaborating with a laptop, and without (with paper and pen). You also show students working individually, isolated, with computers or without. How do you view the use of computers in relation to collaboration or lack thereof?

**From what you said, what would be a connection that you could think of between technology and power?**

**You also talked about ambiguity in relation to this project, how would you define that? What was the ambiguity, and how do you relate it to these objectives?**