THROUGH THE REVOLVING DOOR:

RE-EXAMINING TECHNOLOGY INTEGRATION AND

TEACHER IDENTITY IN URBAN SCHOOLS VIS-À-VIS THE

AGENCY/STRUCTURE DIALECTIC

by

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Abstract

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This auto/ethnography brings to the foreground issues of identity, culture, and community as it documents my one and a half year collaborative journey with Carol, an English literacy teacher in a "failing" New York City public high school, as she began to integrate technology into her classroom. By describing and exploring patterns of cultural enactment (and contradictions to those patterns) within Carol's school and within a curriculum-writing group, this study examines how Carol's agency and identity re/construction were afforded or limited by communities of practice and school structures. Carol's experiences were analyzed on the micro, meso, and macro levels using data sources including videotapes, audiotapes, field journals, written reflections, and various other artifacts.

In response to two broad questions, I learned that examining technology integration as Carol experienced it meant addressing the very core of what it means to be a teacher and a student in an urban public school. At times Carol found it difficult to re/construct her identity in a setting where she was pulled in many directions at once. She often needed to address more pressing concerns of dealing with urban schooling issues such as security and control. As a teacher who did not have a strong community of computer users for support, it was difficult at times to develop a mastery of technology. By the end, Carol was able to subtly transform the culture of her classroom by adding her own computer to her room and on occasion bringing her students to the computer lab. She also began to see her students in a new light as they interacted with the technology during and after class. My journey with Carol led me to understand that technology integration in urban schools needs to be explored in further depth by addressing additional questions about: the intersection of power, culture, and technology in urban schooling; what it means to provide equitable schooling; and how teachers re/construct their identities and refine their practices within the structures of urban schools.

Dedicated to:
My husband, my family, my colleagues,
my collective.

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To all of you: if I could carve keys out of words, each of these insufficient thank you's would be a key to a place in my heart. You all make me who I am, and I could never have done this alone. Thank you.

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Chapter I: The Revolving Door

Introduction

> Maybe I could make my own movie. I could write it out and play it my head. I could block out the scenes like we did in school. The film will be the story of my life. No, not my life, but of this experience. I'll write it down in the notebook they let me keep. I'll call it what the lady who is the prosecutor called me MONSTER.
>
> (Myers, 1999, p. 4-5)[1]

My First Interview with Carol[2]
11/6/04

I pulled my coat tighter around me as I crossed the street toward Brooklyn High School. The neighborhood was quiet. With the exception of a few students walking toward the bus stop or train station, there were very few people around. High top sneakers swung lazily from the telephone wires outside the school building, as the elevated train lumbered by in the background on its slow Saturday schedule. By the time I reached the bottom of the stone steps leading to the side entrance, Carol was waiting for me with the door ajar.

"So how do you want to work this?" Carol looked back at me quickly as I followed her into the dim staircase. She gave a brief wave to the security guard in the hallway who raised an eyebrow at me as we began our ascent.

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[1] The novel *Monster* by Walter Dean Myers is a text commonly used in Ramp-up, a literacy curriculum for lower functioning readers and writers, mandated by the New York City Department of Education. The novel is about a young African American teen who is on trial for murder. It is written from his point of view while he is in prison. Carol and her students were studying this text when she and I first began working together. Its overarching themes of identity re/construction, self-reflection, fear, and isolation paralleled the themes that emerged from the data I collected as Carol and I worked together. For this reason, I use quotes from Myers's text as epigraphs for each chapter of this study.

[2] All names within this study have been changed to preserve anonymity.

"I thought maybe we could start with a general interview and then move onto talking about what your students are working on."

On the second floor, we made our way down the hallway and through a set of heavy swinging doors. We moved swiftly through the plaster and tile walls, over cracked tile floors. From somewhere beneath the faint smell of old building and notebook paper, a memory of my own time as a public school student began to emerge—this school hardly felt different from the one I had graduated from ten years ago. Still, Carol's escorting me through the side door, the graduate student in me recognizing my distance from the Department of Education, and the curious glances from other staff as Carol swept me down the hallway, made it very apparent that the presence of an outsider—my presence—was not normal, particularly on a Saturday. And while I was not necessarily unwelcome, it was obvious I didn't belong here.

Carol moved swiftly ahead of me talking about her students' work that she was eager to have me look at, "… So we've been doing this literary letter that I thought you might want to see…"

I glanced around taking in the scenery. Bulletin boards covered in student work, then covered again in thick plastic, lined the walls. Sporadically, there were literary quotes painted on the walls, Shakespeare, Salinger, Angelou, and other greats. When we arrived at Carol's room, she bent down to unlock the door with one of the many keys that dangled from a black lanyard around her neck. The key-laden cord, I would come to find later, seems to be an unofficially required part of the faculty wardrobe.

Carol's classroom is set up so that there is no real focal point in the room. When I first entered, what struck me was the arrangement of the students' desks. The uniform

pieces of furniture (the plastic chair/desk combo-type that never quite gives the right amount of work space) were grouped into clusters of four facing each other, I assumed, to promote student collaboration or group work. Carol's desk, a heavy wooden, New York City Board of Education relic, was in the far corner, scarcely noticeable upon entry into the room. Covered with piles of student work and handouts, it blended in with the wooden closet doors (also covered in student work) beside it.

"Let me just get a few of the folders out, and you can see what we've been working on," Carol said as she unlocked the closet and then ducked her head inside.

I turned a student desk to face hers and sat down on the cold plastic. I took out my tape recorder, notebook and pen, and perused the materials that Carol set on the corner of her desk. "Would it be all right if I photocopy some of these?"

Carol responded without looking up, "Of course, if you find them useful. I might have others, too, but I really wasn't sure if you'd definitely be coming, or what you would need or want, so I'm feeling a little unprepared today. I really want to find Justin's; I think he's a good example..." Carol rifled through a little more, talking as she did so. Eventually she gave up on going through the papers (still unable to find Justin's), and reached into the closet again. She grabbed a granola bar and a diet soda. "Have you eaten? Are you hungry?"

"No, I'm ok."

"You sure? I always have stuff just in case a student forgets his lunch or doesn't have money or whatever, so I have extra."

She asked again, and I wasn't hungry enough for a granola bar, but I felt uncomfortable refusing her hospitality. I accepted a diet orange soda, something I

normally would avoid, opened it, took a sip, and tried not to grimace at the too-sweet aftertaste of sugar-free Sunkist.

"So, you want to do the interview first and then work on the computers, right? We could go to the English office and use the computer there when we're done here, and you can make your copies at the same time."

I nodded.

"Ok, so tell what you want me to do for the interview."

I explained to Carol that I wanted her to talk until she had said all she wanted about how she came to be a teacher, how she views the teaching profession, her experiences at the Discovery Institute at the College of Staten Island, her motivations for using computers with her students, and how she was going to approach using the computers that semester. I explained that I wouldn't be giving eye contact, visual or verbal cues, because I didn't want her to feel I was fishing for a right answer. I just wanted her to tell me what she wanted to say, not what she might think (or I might think) I wanted to hear.

Carol settled into her chair behind her desk, and I switched on the tape recorder. For a moment she was silent, leaning on both arms, red acrylic adorned fingers folded on her desk. I could see she was tired from long weeks of teaching extra hours on schooldays and Saturdays and taking graduate classes at night. Her head was bent down in thought; her auburn hair with chunky blond highlights was bright like autumn leaves against the gray, November clouds outside the window behind her. She looked up, I nodded, and we began.

Situating the Urban Teacher Amidst the Rhetoric of Education Technology Reform

That first Saturday at Brooklyn High School, Carol, a New York City public high school English teacher and the focus of this study, shared with me something that is often underappreciated in education technology policy—how her unique teacher history resonated in her endeavors to bring technology into her classroom. She told me of her past experiences with the Board of Education, having been "excessed" after the teacher shortage of the 1980s had ended, and downplayed her feelings of being marginalized by the system (even though she grimaced and rolled her eyes throughout). She told me of her experiences working for her brother's moving business and her return to the Department of Education after September 11th, 2001, when the business began to suffer because of the damage sustained by lower Manhattan. And she told me of her concerns about providing her students with a "safe" learning environment in which to master not only reading and writing, but also computing, which she considers to be a necessary form of literacy. In her words, "When the students come into this room, I want them to know this is one safe place that we're all going to get everything that we want out of. And sometimes, that's just asking the students to do all the tasks of the day, and they don't have to get any great epiphany from the learning, but that they would just understand that in this room it's safe, that they can express themselves, that it's a kind and gentle place within the building." Her history and beliefs in the many fields of her life resonated in her goals as an educator and glimmered daily in the strategies of action she took within her school, her classroom, and the computer lab. Often, however, statistics and studies about technology in urban public schools fail to capture the nuance of the daily struggles

of teachers and students like Carol and her literacy students, and the failure to integrate technology into classrooms appears to be the fault of the teacher.

Defining "Technology"

Defined by Postman (1993) the term technology describes both invisible and visible manmade inventions used to perform tasks in a society or community. In education, invisible technologies can be thought of as ideas or constructs that have been created for a specific purpose but cannot actually be touched or manipulated physically, such as language, curricula, literacy, time schedules, and standards. Visible technologies are tangible, physical objects such as chalkboards, textbooks, overhead projectors, and computers. Rather than defining technology as visible or invisible, Lave and Wenger (1991) refer to technology and technology use in degrees of transparency—the more fully a technology is integrated into a community of practice, the more transparent it becomes. Likewise, as members enter into a community of practice, a technology will become more transparent to them as they begin to master its use within the context of a particular practice of the community. Lave and Wenger also point out that technology use (or non-use) in a given community is closely related to membership in that community. If and how community members use the tools of the community has a direct bearing on members' status in the group. This is related to Collins's (2004) concept of "sacred symbols" within interaction rituals. A community that values the use of a particular technology will generate emotional energy and build solidarity through the use of that technology or conversely through the non-use of a technology that is not valued. For example, in a community of professional photographers the most obvious sacred

symbol is a camera, although there are other technologies that are also valued like tri-pods or film processing materials, while in some circles of photographers using a digital camera rather than a traditional 35 mm. camera might be frowned upon.

In discussions about technology in schools, the term technology tends to be used synonymously with computers, since technologies like blackboards and textbooks have been used in school practice for so long that they are nearly invisible, or as Lave and Wenger say, transparent. But certainly the term "technology" should not be limited to just computers. In this study, "technology" is primarily used to discuss electronic technologies used to facilitate or mediate teaching and learning, for example overhead projectors, television sets, digital technologies, and computer technologies. In Carol's school, while there were several types of available technologies, the term "technology" most commonly meant computers with Internet access and MS Office applications. In the English/Technology curriculum-writing group at the Discovery Institute, technologies were differentiated as "high-tech" or "low-tech" with "high-tech" usually meaning computers and digital technologies, and "low-tech" acting as a blanket term for anything from television sets, to overhead projectors, to chart paper or string.

Computers in Urban Public Schools: Availability, Access, and Equity

According to Ed Week's annual education technology report, Technology Counts 2005, in public schools throughout the United States, Internet access and computer availability has steadily increased over time since 1998, "leading to virtually no difference between poor schools and their wealthier counterparts" (Fox, 2005). The National Center for Education Statistics reported that "public schools have made consistent progress in

expanding Internet access in instructional rooms. In 2003, 93 percent of public school instructional rooms had Internet access, compared with 3 percent in 1994" (Parsad, 2005, p. 4). Using similar statistics, The 2004 National Education Technology Plan identified teacher training as a primary problem when incorporating computers in education. It asserted,

> Over the past 10 years, 99 percent of our schools have been connected to the Internet with a 5:1 student to computer ratio.
>
> Yet, we have not realized the promise of technology in education. Essentially, providing the hardware without adequate training in its use—and in its endless possibilities for enriching the learning experience—meant that the great promise of Internet technology was frequently unrealized. Computers, instead of transforming education, were often shunted to a "computer room," where they were used little and poorly maintained. Students mastered the wonders of the Internet at home, not in school (U.S. Department of Education, 2004, p. 10).

Given the above numbers, it seems fairly reasonable that if more technology is available but it remains unused, perhaps teachers need additional training in order to use it in the classroom. Yet, education historian Cuban warns, "Because most people usually account for behavior by individual motives rather than the settings within which people find themselves, not unexpectedly classroom teachers emerge as the villains in the saga of educational technology" (1986, p. 62). In his article *Fiction Formulas*, Kincheloe explains that,

> All language is multiaccentual, meaning that it can be both spoken and heard, written and read in ways that reflect different meanings and different relationships to social groups and power formations. When language is used in an imperializing manner, meaning as a form of social regulation, this multiaccentual is repressed. Power wielders attempt to establish one correct meaning among

> listeners or readers in an effort to implant a particular ideological message into their consciousness. Such a linguistic act is an example of what is labeled discursive closure—a language game that represses alternate ways of seeing as it establishes a textual orthodoxy (1997, p. 62).

Consequently, studies providing national averages and blanket figures can have blind spots, and teachers' histories, priorities and situatedness are often left out of conversations about technology integration within urban public schools. According to national statistics, the ratio of students to computers with Internet access was higher in schools with the highest concentrations of poverty and lower in schools with the lowest concentrations of poverty (5.1 to 1 compared to 4.2 to 1) (Parsad, 2005). The difference in the computer to student ratio is slight, less than one student per machine, but missing from these numbers are the cultural differences between poor urban schools and their more affluent counterparts. Poor urban schools are more likely to house their computers in labs rather than classrooms, and poor urban students are less likely to have computers with Internet access in their homes.

As with any new technology, as computers have become more available, they have also become more affordable, and it seems logical that as this process occurs, the digital divide will naturally begin to narrow; yet, studies show that it appears to be widening instead. "The digital divide particularly affects students who are black, Hispanic, Native American, and poor. They are far less likely to have computers or Internet connections at home than their Caucasian or Asian peers. While two-thirds of white children have gone online, just 45% of black children, and 37% of Hispanic youth have" (Mason & Dodds, 2005). Mason and Dodds (2005) further explain that while more schools are being challenged to incorporate technology into classrooms and many

students are becoming technologically savvy at home, this is not necessarily happening across all racial and socio-economic groups. According to Carvin (2005) "more than 80 percent of households earning more than $70,000 per year are online, compared to barely 30 percent of households earning less than $15,000 a year," and "nearly nine out of 10 households in which someone has attained graduate-level education were online. In contrast, less than one in five households, 16 percent of people without a high school diploma, had Internet access."

While as of yet no studies have conclusively proven whether or not using computers in schools actually improves student achievement (Oppenheimer, 2003), questions about the efficiency of technology use in classrooms skew "the inevitable conversation about the use of new technologies in education in dangerous ways" (Bass, 2003), namely away from issues of equity in education. Computer availability and computer access in schools are not the same, and in many poor urban public schools, even if the student to computer ratio is the same as in more affluent schools, often computer access and computer use itself is different. Students who do not have computers in their homes and are accustomed to using computers only in computer labs at school will not acquire the same dispositions toward computing as students who have consistent access to them during their daily class activities. Computer use will be seen as an activity that is separate from regular classroom instruction, rather than as a resource to enhance education. As Tobin (2005) states,

> [e]ven though resolution of inequities regarding the use of technologies for learning may be a challenge, it is one that warrants resolution on moral grounds. Today, the upper and middle classes have numerous technological resources available in their everyday lives and come to formal learning sites with well-developed dispositions to use this

> technology to expand their learning. In contrast, many learners from working and lower classes encounter learning technologies for the first time in schools and other informal learning sites. Accordingly, they may not be disposed to use the different technologies and may be unaware of their potential as learning resources. In this regard, disadvantage is contained by the boundaries of social class and may be confounded by ethnicity (p. 149).

For poor urban youth, this could mean later entering colleges (or careers) at a disadvantage and being faced with long-term academic challenges. Farrell (2005) quotes Warschauer, an associate professor of education at the University of California at Irvine who says, "It's more challenging to master the skills required to use technology to find and critique information, and those skills are developed through long-term access to technology and very good education on how to use it." Without good technology skills, urban youth entering college may have a difficult time accessing information in a technology rich university setting. This may also influence the majors they select and the classes they take, since courses of study requiring less technological fluency may prove more manageable in a rigorous academic environment (Farrell, 2005). Majors leading to lucrative careers in computer programming, engineering, mathematics and sciences may seem unreachable to students who are unaccustomed to using technology in their daily lives. Consequently, disparate exposure to technology in poor urban schools can contribute to the already persistent economic divide in this country. Poor urban youth of color will yet again be fighting against the odds of securing upwardly mobile career trajectories. For urban public school teachers like Carol, teaching with technology has higher stakes than simply improving instruction or using technology to motivate young people to perform classroom tasks. Teaching with technology is also about equitable schooling and preparation for a life outside of school walls.

Purpose and Focus

In an effort to bring issues of identity, culture, and equity within technology integration and urban public schooling to the foreground, this study focuses on Carol, a New York City public high school English literacy teacher as she begins to integrate technology into her high school English curricula and re/construct her identity as an educator and technology user. Using critical ethnography informed by the agency | structure dialectic as laid out by Bourdieu and Sewell, learning community theories by Lave and Wenger, as well as Collins' theories of emotional energy, I offer comprehensive accounts of the structures and cultures Carol encountered within her school and her experiences interacting within a curriculum-writing group at the Discovery Institute[3] at the College of Staten Island. Particularly, I look at the ways in which she attempted to integrate technology and re/construct her identity within the culture of her school, and I look at how her experiences within the curriculum-writing group sheds light on the significance of a community of practice in learning how to utilize and integrate technology into daily teaching practices.

Over the course of a four-week summer curriculum-writing session and throughout the following school year, I videotaped, interacted with and observed numerous high school English teachers as they developed and discussed discovery-based

[3] The Discovery Institute at the College of Staten Island, City University of New York is a department dedicated to the renewal of teaching in New York City's public schools. Designed to function as partnerships between the College and NYC public schools, its programs include both in-service staff development and pre-service teacher education which take the form of curriculum-writing workshops, mentoring programs, teaching scholars (classroom assistants), transition to teaching, and professional development for teachers on sabbatical. The Discovery Institute also provides educational opportunities for NYC public school students, including courses for college credit, summer research opportunities, mentoring, and tutoring. Funded by the City University of New York, The Research Foundation of CUNY, College Now, and many other sources, all programs are free to public school students, and teachers attending curriculum development workshops are paid for their work at the Institute.

approaches to teaching high school English activities that utilized technology. I chose to look closely at the experiences of Carol (a self-proclaimed computer novice and new teacher at Brooklyn High School) by interacting with her periodically over the summer and during the following school year. Throughout my work, I was guided by the following overarching questions:

I. How did Carol's attempt to bring computer technology into her teaching practices contribute to the production or reproduction of culture in Carol's classroom and the re/construction of her identity as a technology user?

II. In what ways can the introduction of a new field (in this case the curriculum-writing group) serve as a "seedbed" for new culture that could be brought back into the classroom to help with the technology integration process?

Furthermore, in order to effectively capture the nuance involved in bringing technology into the high school English curriculum and enacting culture within a learning community, I also attended to several more specific questions, which focused on Carol's experiences in her school and in the group:

1. In what ways did the culture of Carol's school contribute to how she was or wasn't able to use technology with her students?

2. How did Carol use her agency to incorporate technology into her teaching practices?

3. What aspects of Carol's social and cultural capital were helpful (or not) in accomplishing her goals of technology integration in her school?

4. How did participation in the curriculum-writing group contribute to Carol's identity re/construction as a technology user?

Location of the Study

Since this study focuses on Carol's experiences within her school and within a group, much of the study is situated in Carol's home school, Brooklyn High School, and much

of it is situated at The Discovery Institute (DI), an establishment that deals primarily in curriculum development within learning communities of teachers. Brooklyn High School is a large urban comprehensive school located in a working class neighborhood in Brooklyn, NY. Within Carol's school, I worked with her in many fields, as she taught in the computer lab that housed approximately forty machines, as she prepared her lessons to bring into class, on schooldays in the attendance office, and on Saturdays after teaching Saturday school.

The Discovery Institute is housed in The College of Staten Island/City University of New York (CSI-CUNY). At the CSI-CUNY campus, the English/Technology curriculum-writing group met in a small private room situated between two larger rooms where other curriculum-writing groups focusing on different subject matter convened concurrently. During the group meetings, teachers in the English/Technology writing group had access to six laptops (seven including my own that I brought in on occasion) with wireless Internet connection and the complete MS Office suite. Each regular discussion session, except the first and the last, was videotaped with a digital video camera on a tri-pod. In addition, on two separate occasions, rather than holding regular discussion sessions, the group met in a traditional computer lab in order to carry out "technology workshops" that would provide hands-on experience creating slideshows with MS PowerPoint, building web pages in MS Word, and using the web-based teacher resource, TrackStar. These workshops were not videotaped.

Participants

Although I collected data from three different curriculum-writing groups (Summer, Fall and Spring), most of my data revolves around the participants from the summer group,

since this group worked intensively together over such a short span of time, and it was the only group that Carol was able to attend. All ten participants involved in the summer English/Technology group had only two things in common: all were (or had been) high school English teachers in New York City, and all were interested in using technology with students. In teaching experience, they ranged from having been in the classroom for only one year to nearly twenty years (with the exception of the facilitator who taught for more than twenty years and had already retired). All but one worked in public schools, and six worked on Staten Island, while two worked in Brooklyn, and the other two worked in an alternative high school in Manhattan. Two were ninth grade teachers, two were special education teachers, two were literacy/Ramp-up[4] teachers, one was a tenth grade teacher, one was an English Language Learning (ELL) teacher, and the last was a media specialist in her school library (the facilitator was not in the classroom at the time). In relation to computer use, three considered themselves to be novices, while the remainder ranged from intermediate to near expert in basic MS applications and Internet use. None had any advanced computer knowledge such as using databases, programming or other skills of a more complex nature. All but two had at some point used computers with their students, although only three on a consistent basis. Of these three, one teacher worked at a school in which all students have their own laptops supplied by the school, so computers were used nearly every day. The other two worked with special education students and had continuous access to computers for their students' special needs.

I chose to follow the progress of Carol throughout the school year because she considered herself a novice computer user, but she was very dedicated to learning how to use technology so that she could in turn teach her students. She was a Ramp-up/literacy

[4] In NYC Ramp-up is a mandated, standardized curriculum for low-functioning readers and writers.

teacher at a comprehensive high school in a working class neighborhood in Brooklyn, and as a new teacher, Carol was eager to find ways to improve her teaching skills. Some of her colleagues had suggested that she attend the curriculum-writing sessions at the Discovery Institute in order to get new ideas and teaching strategies to bring into her classroom.

Time Frame and Compensation

This dissertation is the description of a longitudinal study that began in July 2004 and concluded in December of 2005. During the summer session, teachers convened in their curriculum-writing groups Monday through Wednesday from 2:30 pm to 6:30 pm. The first three hours were spent discussing narratives that the teachers had written about the discovery[5] activities they were designing, and the last hour was considered the teachers' free time to write up or edit their narratives. There were a total of twelve group meetings, two of which took the form of workshops in the computer lab. All teachers were compensated for their time at a rate of $33.18 per hour, which is slightly less than per session pay teachers receive for staff development and extra school-associated work through the New York City Department of Education. During the Fall and Spring semesters, teachers met from 3:30 pm to 5:30 pm once a week for twelve weeks, and the compensation was as above. Activities with Carol during the school year were not monetarily compensated because they were not part of the Discovery Institute's curriculum-writing project; however, I offered to act as a technology support for her and was available by phone or e-mail whenever she needed help with or had questions about computer applications. In addition, during the Spring semester, as Carol and her students

[5] Discovery learning can be understood as very similar to inquiry learning.

prepared for their Spring Project Fair, I assisted Carol when she and her students worked on their projects in the computer lab.

Overview of the Dissertation

In *Chapter one*, I provide a rationale for the importance of technology integration in urban schools, and I explain how issues of access and equitable education need to be looked at more closely in order to understand how urban teachers re/construct their identities and integrate technology within their schools. To aid me in opening a discussion involving these issues, using socio-cultural constructs of the agency | structure dialectic, combined with learning community theory, I set several questions as guideposts leading toward an understanding of how Carol experiences technology integration and identity re/construction in her school. Furthermore, I set questions about the ways in which teachers work together in a learning community, and how this type of field can add dimension to understanding Carol's experiences integrating technology into her literacy curriculum.

In *Chapter two* I situate myself as a researcher by explaining my own history with technology and education in order to bring to the foreground the origins of my perceptions of my work with Carol. I provide a detailed look at the theories I used to craft my methodology including critical auto/ethnography, culture, communities, and identity. I go on to outline my research methods including an explanation of my participants, data sources, and authenticity criteria

Chapter three discusses how the philosophies of the Discovery Institute intermingle with Wenger's theories of learning communities, Collin's notions of

emotional energy and collective effervescence, and Sewell's agency | structure dialectic. It offers an in-depth look at the philosophies of the Discovery Institute, and the interactions of the members of the English/Technology curriculum-writing group. Within this chapter, by examining videotape of the group's sessions, I lay out a micro-analysis of how culture is enacted in the English/Technology curriculum-writing group, how Carol participates within this community, and how a community such as this can help teachers in re/constructing their identities and transforming the culture in their home schools.

Chapter four focuses on the culture and structures of Carol's school. Using Bourdieu's notions of field and capital, combined with Sewell's notions of agency | structure and culture, I examine the difficulties Carol faces as she re/constructs her identity as an educator and technology user in a school with heightened surveillance and a climate of fear.

Chapter five delineates Carol's experiences revolving around the Winter project Fair in her school. I illustrate the presence of a loosely bound technology community in Carol's school and the difficulty of moving toward a more mastery level of technology use in such a community. I also analyze how the school's culture afforded certain strategies of action and ways of knowing while inhibiting others and how these conditions were a source of difficulty and uncertainty for Carol as she attempted to use technology in her school.

Chapter six is a discussion of the implications of this study, and what should be looked at in the future. In this section, I revisit my initial research questions, lay out the limitations of the study, and sum up Carol's story in her own words.

Conclusion

Field Notes
7/12/04

Janet has asked me why we don't just have our meetings in the computer lab. I've told her that while the lab is great, it's very hard to have roundtable discussions like we do when we have the laptops in our private room.

I think there is something going on here, but I'm not sure what. Perhaps it is how she conceptualizes what the computers are there for or how the group is to use them.

It's as if she differentiates between workshop time and computer time—workshop discussion happens without computers and computers happen without workshop discussion. I wonder why this is.

--*The Revolving Door*--

During the summer of 2004, I was asked several times by more than one teacher why we couldn't be in the computer lab for the entire session every day, and my answer was always the same—it's difficult to have a group discussion in a computer lab. The sheer physical layout of a lab is designed for direct instruction and individual rather than group activities. Still, the persistent questioning was frustrating for me, and having to insist on not being in the lab was even more frustrating. My theoretical reasoning behind my determination to spend most of our time in a group-oriented setting had not yet been developed at that point, but I knew that I wanted the group to develop into something other than the same guided instruction teachers so often receive when learning about technology. Sometimes when a teacher would ask, I would question myself: why had I

designed the English/Technology curriculum-writing group the way I had, and why I was not being flexible on this issue? I often wondered: as a responsible researcher, if it really was something the teachers seemed to want, shouldn't I try to accommodate them? Yet, I had a gut feeling that it just wasn't the right thing to do for the teachers or for my study.

By the third week of the session, the questions had begun to cease, but it was always in the back of my mind that a couple of the teachers expressed that they felt a technology workshop would be better if held in a computer lab. Frustrating as that was, I should not have been surprised; since, traditionally, that's how it seems to go with technology and teacher education in urban schools. If teachers expect learning about technology to be an isolated, teacher-driven activity, then they may demand it simply because it is what they have become accustomed to. As Dewey explains, "Familiarity breeds contempt, but it also breeds something like affection. We get used to the chains we wear, and we miss them when removed" (1971, p. 27-8). In the other curriculum-writing groups at the Discovery Institute, teachers would simply capitalize on each other as resources by sharing the activities they designed and then discussing how these activities could be improved, how someone else might use the activity, or how others implemented similar activities in the past. This is what I envisioned technology learning to be—a holistic and inclusive process that enabled a teacher to draw from all experiences and interactions in her life and not just sit in front of a computer screen performing guided tasks by herself.

In 1986, not too long after computers began to really make their way into schools, Larry Cuban surmised that teachers would be the gatekeepers of instructional technology. As he explained,

> The impact of any technology pivots upon its accessibility, purpose, and use. If a television set sits in the classroom unused week after week, its influence is lost. If television consoles rest on shelves in closets for most of the year, except for infrequent trips into classrooms, the impact of the technology may be insignificant. Thus, teachers are gatekeepers of instructional technology. This is no great insight, yet it is a commonplace observation that is often overlooked. Teachers must open the classroom door for the television to enter (p. 37).

The same can be said about teachers and computers; yet, I'd like to amend this somewhat to include teachers like Carol who desire to use technology and even attempt to do so, yet find that structural constraints just don't seem to allow for computer use in their schools. Rather than looking at teachers as untrained gatekeepers who check technology at the door, if we refocus our attention to issues of culture and identity, we can instead envision the urban public school as having a revolving door. As teachers and students enact culture within their schools, technology use may or may not be useful in achieving their immediate goals as teachers and learners. Thus, technology spins into the classroom and is sent right back out the way it came, having little impact on the culture of urban schooling, leaving urban students at a technological disadvantage. By widening the conversation about technology integration to include issues of identity, culture, and equity, researchers, policy makers, and teachers can find ways to wedge open the perpetually spinning door, so teachers can begin to use technology in ways that are meaningful and empowering for them and their students.

Chapter II

Through the Researcher's Door: Theoretical Frameworks and Methodology

Introduction

> There is a mirror over the steel sink in my cell. It's six inches high, and scratched with the names of some guys who were here before me. When I look into the small rectangle, I see a face looking back at me but I don't recognize it. It doesn't look like me. I couldn't have changed that much in a few months. I wonder if I will look like myself when the trial is over (Myers, 1999, p. 1-2).

Reflective Narrative—Summer 2000

Gravel groaned and popped under the tires of my car, jostling me in my seat as I rolled toward my meeting in the 1N building. Lot 4 was the only unpaved faculty lot at the College of Staten Island campus, but parking was easy—no access gates to go through, no waiting for scarce parking spots to open up—it wasn't a smooth ride, but it was accessible. Building 1North, the Computer Science building, is directly adjacent to Lot 4. On the campus map, it is located just behind 2South, the English building, my former home. When you're actually standing there in Lot 4, it's like being on another campus entirely. A deep, thick patch of trees sprawls between the two buildings, and most of the year, when the leaves are dark and full, you can barely see through from one building to the other.

I made my way to the side entrance of the building, feet twisting uncertainly on the ornery and shifting gravel. Once inside the stairwell, I inhaled the distinct smell of disuse that sneaks into campus buildings sometime after summer session ends and the new semester begins. Dust particles floated in front of me as I drifted up the stairs into

the afternoon sun that was leaning through the windows. On the second floor, the halls were quiet, empty, except for the rhythmic hum of a copier down the hall. My feet guided me mechanically, but my head was neurotic and analytical, insisting on trying out different demeanors and greetings, not knowing which was best for the situation. I wasn't nervous, just unsure. After all, Computer Science had offered me the job already. But I didn't really feel qualified for this position, and I wasn't certain I even wanted it. What did I know about teaching Computers for Teachers? But after only being assigned one course in the English department, I was hungry for academic work, even if it wasn't English.

Situating the Researcher

Technology Use as Culture

In the fall of 2000 when I first began teaching CSC 602: Computers for Teachers, I didn't see that I had approached a turning point in my career; I had started down the path to becoming a teacher educator. Nor did I understand just how much I actually knew about computers. Growing up in a household where my father was a computer scientist, I never felt like I knew much about technology, because to me he knew everything, and I could never know as much as him. But whether I realized it or not, computers and academic work were part of my lifeworld, and at that time, both had become very useful for keeping me employed. Only upon reflection, did it occur to me that many of my earliest memories involved technology and books. When I was a child, my father was pursuing his doctorate in mathematics and computer science, and on many occasions, I would accompany him to meetings and research sessions at New York

University. Even though I was too young to read, I loved books because of the way they looked, felt, and smelled as I touched them in the NYU library. From the time I was born, they were ever present in my life. In the late 1970s and early 1980s computers, still in their infancy, were not the informational wells that they are now, but they too were part of my lifeworld. I remember my father using floppy discs that were actually floppy, audiocassettes to save computer data, a mouse that had about ten buttons and a Plexiglas scope on it in addition to an electronic pad that it slid upon, and a modem into which you actually plugged the whole phone receiver not just the cord. My father was already using e-mail and Internet technologies, and he explained to me that by using the telephone, modem, and computer together he could talk to people in California, and in only the way a child would, I wondered why he didn't just talk into the receiver instead. By the time I was six years old, my exposure to technology was probably more than most people's in the country in 1982, although of course I didn't know it.

When it was time for me to go to high school, I applied for Staten Island Technical High School, a specialized public school for electronics, computer programming, and mechanical drawing. There I learned the basics of computer languages like BASIC and PASCAL, I used AutoCAD (a mechanical drawing computer program), I learned the basics of robotics, and I learned about wiring and binary logic. In 1993 when I was a senior in high school, I used Authorware to create an interactive multi-media CD-ROM entitled "The Magic Rabbit" which was a tutorial designed to use silent cartoons and moving text to help American Sign Language students differentiate between the various Standard American English verb tenses. A year later, the program was translated into Chinese. In college, I pursued a degree in Political Science with a

minor in English, and my technology use was not nearly as pronounced. It was mostly limited to word processing and e-mail, and in my sophomore year, after I moved out of the dorms, my father gave me an old laptop of his to use so I could type my papers. When I moved back to New York in 1998, a family friend offered me part time summer work programming MS Access databases for the College of Staten Island. When I began my Masters degree in English and I started teaching college writing that fall, I used computers for research, entertainment, and shopping in addition to word processing and e-mail. While I favored books over computers any day, computers were still very much a part of my life, and they were important not only because I knew how to make them work for me, but also because I had built social networks by using computers. In my father and my Computer Science colleagues, I had a firm community of support, and to this day, if I ever have computer problems or questions, I always know there is someone who can help me.

Yet, up until 2000 when I began teaching computer skills classes for teachers, I had not used technology in the classroom, nor had I been in any class (other than computer classes in high school or statistics in college) with a teacher who did. By the time I began teaching Computers for Teachers on Sabbatical for the Discovery Institute (DI) in 2001, my father had for several years already been working as the Vice President of Technology at CSI, and even though in the DI office there were many computer technicians who could assist me if I had problems, I knew that if I ever was in a real bind, I could pick up the phone and have my father's staff help me too. My membership in a community of academics and technology users, not to mention my status as the Vice President's daughter, provided me with a vast amount of resources, both human and non-

human, at my disposure. Technology use for me was both essential and natural when enacting culture within the academic community. I could use my prior knowledge and my social networks to help me accomplish nearly anything I needed to do that required technology use.

For Carol, on the other hand, computer use has not historically been central or even present in her life. When she and I first began working together, she explained to me that she did not have a computer or Internet access at home, and she only knew one person outside of work who did. If she needed to use computers, she went to the computer lab on the college campus where she was doing her graduate work. While I don't know Carol's precise age, I estimate from the stories she has told me that she is about ten to fifteen years older than I am, meaning she was born somewhere in the early to mid-1960s. During our conversations, she reflected on the differences she experienced between getting her Masters degree now and going for her undergraduate degree twenty years ago. As a college student, she wrote her papers and completed her academic work by using a typewriter and doing research in the library by using the card catalog. She recognized the advantages of using computers and Internet for academic work, but she also addressed the difficulties and dangers of it for someone who is inexperienced. As she explained, "I discovered during my graduate class when I was looking for information in the summer-time for an author I was researching [that] I had to be very careful not to just use any Internet information and to look for the journals that I had felt were previously regarded well in the field and not just [use] anybody's conversations." Through her own experiences, she came to understand that many of her students who have not had previous access to technology, might be at a serious disadvantage when they

move on after high school. Carol believed that technology use is more than simply a skill to be learned, it is also a matter of culture, and she wanted her students to be able to legitimately participate in a technological culture without being disadvantaged by a lack of exposure to computers and technology in their high school education.

Critical Ethnography—Research for Empowerment

Ethnography, as I use the term here, is the study of culturally shared experiences, or the study of common-sense everyday activities. By approaching my research with phenomenological and hermeneutical lenses, I aim to represent Carol's experiences as accurately as possible so that they can speak for themselves. Yet, I also acknowledge that everything I describe is interpretive, since there "are no such things as uninterpreted phenomena" (van Manen, 1990, p. 180). I recognize and accept that I can never fully capture the nuance of Carol's lived experience, and I am forthright in acknowledging that Carol's story as explained by me is not the truth, but merely one of multiple truths. Finally, since individuals have agency and can change the patterns of their actions as practices unfold and culture is enacted, individuals' actions can be unpredictable. In writing my ethnography I not only looked for patterns in cultural enactment within and across fields in Carol's life, I also looked for contradictions within those patterns as evidence of cultural reproduction and transformation (Tobin, Elmesky & Seiler, 2005).

Ethnography for Emancipation

Both historically and in the current political climate, teachers have rarely been looked upon respectfully as professionals. This manifests itself through low wages, extra

hours, over-sized classes, a lack of resources, and the imposition of standardized curricula (Kincheloe, 2002). Because of this, I felt it was unethical to conduct research about Carol in a way that did not overtly seek to empower her. I use the word "empowerment" to mean, leading people to "analyzing ideas about the causes of powerlessness, recognizing systemic oppressive forces, and acting both individually and collectively to change the conditions of [their] lives" (Lather, 1991, p. 4). In order to be emancipatory (and empowering), in my research I looked closely at Carol's daily practices in order to raise to the surface larger social and cultural issues that were embedded within these practices. I explored the intersection of choice and constraint within the culture of her school and took an empirical stance that was "open-ended, dialogically reciprocal, grounded in respect to human capacity and, yet, profoundly skeptical of appearances and 'common sense'" (Lather, 1991, p. 65). My research was a direct response to Carol's experiences, desires, and needs as the research progressed.

Auto/ethnography as a Tool for Examining Culture

According to Behar (1996), we must come to know others by knowing ourselves and we come to know ourselves by knowing others. And according to Roth, "the observer and the observed cannot be separated" (2005, p. 8). It is clear to me as I reflect up my own experiences with education and technology that I cannot take my own assumptions for granted since they are coming from within a culture where technology use was common practice. Thus, I have found it useful to understand Carol's experiences with technology and teaching English by approaching her story through my own auto/ethnographic narrative lens subject to radical doubt (Roth, 2005) because the ways

in which I convey her experiences are dependent upon my own experiences, as well. As Goodall states, "what counts as the truth depends on where you are standing when you observe or participate in it, what you believe about it in the first place, and what you want to do with it" (2000, p. 12). Rather than crafting a narrative with a clear beginning, middle and end, I attempted to craft a "new" ethnography (Goodall, 2000) in which I recognized that research and writing is an evolutionary process that can never truly be complete. To do this, throughout this work, I interposed non-sequential narratives (from my vantage point) and analyses of Carol's experiences with English, technology, and research in order to expose my own location in the web of reality. I hoped to bring to the surface that my own history and experiences influenced the origins of my understandings of Carol's stories; thereby, illustrating as honestly as I can our collaborative cultural journey over the past two years and how my own perspective plays a part in the stories I tell.

Definitions of Culture

Historically, culture has been a contested and at times controversial word. Raymond Williams (1985) described it as one of the most complex words in the English language since the root of it can be identified in hundreds of words taking the forms of nouns, verbs, adjectives, and adverbs, as in words like occult, acculturate, cultural, culturally, etc. In the past, the field of anthropology seemed to have a dominant hold on the term, and in 1973 the impact of Clifford Geertz's *Interpretation of Cultures* was enormous, providing impetus to the development of the fledgling field of cultural studies. The meanings of the word culture also became a hot topic for debate. Geertz's definition of

culture, as a system of symbols and meanings, prevailed and began to change the academic understanding of the term. But the definition also was criticized because of its limited scope. Geertz's definition was deemed by many to be idealist because it removed cultural symbols from the practices in which they were used, thereby masking issues of power that are inevitably present in the daily rituals of various peoples (Sewell, 1999a). More recently, Sewell (1999a) described culture as a dialectical relationship between a system of symbols and practices—each recursively related to the other, and Bourdieu stressed that culture is directly related to power relationships within particular fields in which practices are enacted (Swartz, 1997). Tobin, Elmesky and Seiler (2005) and Hutchison, Bailey, and Colley (in press) further affirm these notions by pointing out that cultural constructs are domain specific. In accordance with these last three groups, in this study I use the term culture as a system of symbols and practices enacted in relation to power and structure within a given field.

Culture as a System of Symbols, Meanings, and Practices

In the beginning of my fieldwork with Carol, whenever she and I would get together, I would always carry a tape recorder. Every session would begin with a friendly, informal, un-taped conversation, but when it was time to get down to business, I would switch on the device. For me as a new researcher, the tape recorder was a symbol imbued with mildly positive emotional energy (Collins, 2004) since it offered me a degree of security. I knew that if I missed something important that Carol had said, I could always listen to the tape again at a later time. One afternoon, I brought my tape recorder along as usual, but I realized when I was about to switch it on that I had

forgotten the tapes in my car. To this, Carol responded, "Oh good, I didn't want to be taped today anyway." With one simple sentence, Carol revealed to me that my tape recorder, my researcher's tool, had a very different connotation for her than it did for me. To her, the tape recorder was a symbol imbued with negative emotional energy. While my intent was to use the device to more accurately capture Carol's words and thoughts for my later analysis and representation of her experiences, I had inadvertently turned Carol into a researchable object by doing so. As the holder of power in this field, I did not realize that for Carol, the tape recorder might symbolize the unequal power distribution of researcher and researched (Goodall, 2000). Once Carol revealed her feelings about the tape recorder, my own interpretation of the device changed as well. From then on, I decided to leave it at home unless she and I had scheduled a formal interview together. From then on, the culture we enacted within our interviews was different because I altered my practices.

According to Sewell, culture can be "understood as a dialectic of system and practice" and "as a system of symbols possessing a real but thin coherence that is continuously put at risk in practice and therefore subject to transformation" (1992, p. 52). Practices are the actions, relationships and rituals that are performed or engaged in by an individual or a group within a particular field. These practices are informed by schema, which are rules, values, feelings, concepts and facts that we associate with every act we perform or artifact that we use. Symbols, most easily explained, are artifacts that hold meanings and are imbued with emotional energy (Collins, 2004) whether positive, negative or neutral. The relationship between practices and symbols is dialectical in that, the ways in which certain practices are enacted will depend upon the meanings of the

symbol used to enact the practice. The ways in which a symbol is used to enact a practice can either reinforce or transform the meanings of that symbol, and the meanings an individual assigns to a symbol, or the emotional energy one imbues upon a symbol (whether consciously or subconsciously), is also dependent upon the individual's position of power within the social space in which that symbol appears. As Carol and I engaged in the practice of interviewing, we enacted culture specific to that activity. In accordance with Sewell's notion that symbols and their meanings are constantly put at risk in practice, my enlightenment about the various meanings given to the tape recorder as well as my own position of power in this activity, enabled me to alter my practices, which changed the culture and structure of the subsequent work sessions that Carol and I engaged in. The same can be said about symbols and practices (culture) within a classroom. By understanding this fluid and dynamic nature of culture, classrooms and schools can be seen as places where cultural transformation can begin.

Structure: Schema and Resources

Systems of symbols and practices that are woven together to create culture are informed or regulated by structures, which are systems of schemas and resources that either enable or constrain social/cultural action. By schemas I mean rules, procedures, ideas, or values that are ascribed to actions or artifacts. Resources, on the other hand, can be both human and nonhuman, ranging from tangible objects that are available in a particular field to the knowledge or physical strength of an individual or a collective (Elmesky, 2001). Schemas and resources are dialectical in that, "schemas not empowered or regenerated by resources would eventually be abandoned and forgotten,

just as resources without cultural schemas to direct their use would eventually dissipate and decay" (Sewell, 1992, p. 13). In this regard, schemas and resources mutually sustain each other while they work together to either reproduce or transform culture.

As illustration, constructs such as "computer literacy" (or conversely, computer illiteracy) and "technology integration" are schemas that structure teachers' experiences with bringing technology into their classrooms. Much of the rhetoric around instructional technology over the past twenty-five years has claimed that computers have the potential to "revolutionize" the classroom and prepare students for competitive technology jobs. If hardware is available and teachers are given ample computer training so they can become "computer literate," according to these schemas, they should be able to "integrate technology" in their classroom practices, thus providing their students with an essential skill needed to get a good job.

Therefore, if the administration wires the school, sets up computer labs, and then provides teachers with training that makes them literate enough to use computers at home, but the teachers still have difficulty using computers in their classroom practices or they cannot conceptualize how to fit the computers into their classrooms and thus cannot provide their students with this vital resource, the teachers are often looked upon as being resistant to, having anxiety about or being deficient in using computers in their classrooms. Since it appears that teachers are given all the "right" resources necessary to use computers (hardware for integration and training for literacy), then it seems that the problem must lie within the teacher herself. Teachers may come to internalize that they are just not good at using computers, or that they are fearful of doing something wrong

with or to the computers, or that they just don't like or are resistant to using the computers in their curricula.

Carol believed in the importance of "computer literacy" and "technology integration", and she recognized that she had resources available to her to accomplish these goals. Yet when she recalled her first day using the computers in the curriculum-writing group, she described her feelings and actions as,

> definitely distant, and I wasn't my usual warm and easy to talk to self because I felt so uncomfortable in what I was about to try to do, and everything that we did, I mean, every time I have to touch the computer, there's always a problem. And I was constantly feeling like the idiot in the group, and of course I don't like that feeling. I mean, I don't want to feel like that. I like to be confident.

Carol had come to internalize that she is the problem in the difficulty of "technology integration" not the technology itself or the training provided. She also believed that she must continuously strive to become more "computer literate" so that she can integrate technology into her classroom, thus enabling her students to be more desirable on the job market.

She bought into the "computer literacy" and "technology integration" constructs and believed that technology use would make a tremendous difference for her and her students if she could only improve her own computing skills enough to in turn improve her students' skills.

> If I can do that, you know, by beefing up their technology skills, if that means I have to take some extra time, to learn these things, cause you know, so be it. I have the willingness, and I also know, the more I do it, the better I get at it. And I deserve that also. I deserve to know how to, to handle the future, cause this is the future (11/6/04).

The schemas of "technology integration" and "computer literacy" were sustained by the resources of computer hardware and staff development. Since hardware and staff development were both provided, it seemed that the only thing missing was Carol's ability to pull them together in an effective way. As a result, Carol felt compelled to continue attempting to build her computing skills. If either the schema or resources were absent, Carol's understanding of the importance of technology might not have manifested the way it did. That would have caused a breakdown in structure and an abandonment of schemas. In other words, if there were computers without staff development, the machines would go unused and the importance of "computer literacy" or "technology integration" might not seem as pressing. Or if there were staff development without computers, the staff development would seem to be without applicable value, thus teachers would not feel the need to attend. Furthermore, if there were staff development and computers available, but no schemas of "computer literacy" or "technology integration," the computers and staff development would be seen as not having a real value or purpose within the culture of the school.

Agency | Structure

As structures enable or constrain practices, teachers' understandings and appropriation of technology can be shaped in various ways depending upon the schemas and resources present within the field in which culture is being enacted. A person's agency, or ability to act or exert direction in a given situation, is shaped by and simultaneously shapes structure and culture (Sewell, 1992) as well. When teachers exert their agency, they are also producing structure, so it is important to look at the ways in

which teacher agency reproduces or alters existing structure (Tobin, Elmesky & Seiler, 2005).

As an example, the mandated Ramp-up/literacy curriculum in Carol's school both enables and constrains the various activities Carol and her students engage in during class time. According to the Ramp-up curriculum, students must be immersed in a literature rich environment, meaning that there must be plenty of writing hung up on the walls, and they must be exposed to others' reading and writing habits for extended periods of time. This is enabled through double periods (80 minutes instead of the usual 40minutes), scripted routines (mini-lessons, independent reading, group work and read aloud every day), and furniture arrangement (desks are arranged in clusters of four to encourage student collaboration). Normally, in the scripted Ramp-up curriculum, there is no allotted time for computer use; however, with the extended double period Carol felt she could use forty minutes of the period for the students to do the scripted Ramp-up curriculum and forty minutes of the period for the students to go to the computer lab to type and do research. The structure of a regular English class that meets for only forty minutes, would not have afforded Carol's agency in taking her students to the computer lab because of time constraints and the need to cover curriculum. However, the structure of the Ramp-up curriculum afforded her agency in exposing her students to using computers for writing and research, and by taking advantage of this structural affordance, Carol also transformed the structure at the same time.

Agency and Capital

Capital, a person's knowledge of practices and schemas within a particular field, varies in type—cultural, social and symbolic. It is both embodied and socially constituted, and sometimes people are aware of the capital they possess, while other times they aren't. *Cultural capital* is comprised of the skills, knowledges, behaviors and dispositions acquired throughout a person's life as she participates in cultural practices (Elmesky, 2001). This is similar to Bourdieu's notion of *habitus;* although, the term habitus in this study is used to describe the part of cultural capital that is cultivated throughout the individual's lifeworld and unconsciously enacted. Part of a teacher's habitus might be the unconscious disposition to move closer to a student who doesn't appear to be on task in the classroom. Whereas, knowing how to write a student-centered lesson is a conscious form of cultural capital. *Social capital*, on the other hand, involves a person's ability to interact in or form social networks. Social capital involves who you know rather than what you know. It is linked to cultural capital, since a person's ability to interact within various social circles is dependent upon her knowledge of the social norms of the group to which she wishes to gain access. *Symbolic capital* is the status one achieves; it can involve earning respect or trust, or looking good to peers. Symbolic capital involves the labeling of an object or attribute as valuable. Tied very closely to social capital, symbolic capital can be earned through the way you dress, look, speak, or the material possessions that you have. It can also be linked to a person's race, ethnicity, gender or economic background. As an example, in chapter five, Carol compares herself to Mr. O'Mally who obtains symbolic (and social) capital by keeping his students quiet and still while displaying PowerPoint slideshows; thus, he is labeled an exemplary

teacher by the school administration. The various forms of capital act as affordances for each other, and they work together to expand agency. Mr. O'Mally's "quiet" students earned him symbolic capital, which in turn helped him to form social relationships (social capital) with administrators and other teachers, which then exposed him to more cultural knowledge, thus building his cultural capital, which expanded his agency or ability to act.

The Significance of Fields

A field is the space in which culture is enacted. It differs from structure in that structures refer to the resources (symbolic, material, social) that constrain or afford the way a person should or is able to act within a field. Often the term "field" refers to physical space, but what constitutes a field is not only physical space, but a combination of physical space and structure (Swartz, 1997). Carol's classroom can be considered more than one field. When Carol is conducting class, the structure of the field is different from when she is not conducting class. During class time, it is understood that students cannot just come and go as they please without permission; however, when Carol is not teaching, students are free to enter her classroom to sit and eat lunch if they wish, and when they are ready to leave they can gather their belongings and leave without asking. Carol's classroom becomes yet another field when she and I are conducting an interview. When teachers have access to various fields they also have access to more resources and more cultural capital. Since building cultural capital is essential in expanding agency, and people have the opportunity to acquire more capital as they participate in more fields, the introduction of new fields that encourage technology use can aid teachers in obtaining the cultural capital necessary to integrate technology into their curricula.

The Individual and the Collective: Learning Communities and Identity

Communities of Practice and Legitimate Peripheral Participation

Wenger, McDermot, and Snyder (2002) define communities of practice as "groups of people who share a concern, a set of problems, or a passion about a topic, and who deepen their knowledge and expertise on this area by interacting on an ongoing basis" (p.4). Communities of practice are essential to social life. They are so informal and common, that they are often overlooked as we go about our daily lives. As Wenger (1999) explains, "We all have our own theories and ways of understanding the world, and our communities of practice are places where we develop, negotiate, and share them" (p. 48). Participating in a community naturally entails that some kind of learning is occurring. Lave and Wenger (1991) describe learning within a community as a process of legitimate peripheral participation (LPP) in which participants learn by watching or doing a task at the periphery of the community. In LPP, communities can be thought of as circular, organic entities. Participants with a mastery of the practices enacted in the community will be in a more central position in the circle, while novice members will be in a more peripheral position. The ideal learning process in a community is centripetal; whereby, novices at the periphery gain knowledge from old-timers at the center and eventually become more central members themselves. And while newcomers will learn much from central members, they will also bring their own histories and knowledges with them, adding a fresh perspective to the community, meaning all community members, new and old, will always be in a process of becoming. By association, so too will be the

community itself. Rather than a fixed entity, the learning community is dynamic as information is exchanged by members from all locations in the community.

Learning communities do not always function ideally, however. They can also reproduce counterproductive patterns that perpetuate injustices and prejudices. Within the community itself unequal power relations can occur, whether intentional or unintentional. As Lave and Wenger (1991) explain,

> legitimate peripherality is a complex notion, implicated in social structures involving relations of power. As a place in which one moves toward a more-intensive participation, peripherality is an empowering position. As a place in which one is kept from participating more fully—often legitimately, from the broader perspective of society at large—it is a disempowering position (p. 36).

A member whose peripheral position has the potential to move them toward the center of the community finds herself able to gain more knowledge and participate more legitimately in practices of the community; yet, peripherality can just as easily be oppressive if a peripheral member is denied access to knowledge necessary to become a more central member. In this case, the peripheral member of the community is marginalized.

In New York City public high schools, the segmented nature of schooling often stunts the development of healthy learning communities for teachers. Since schools are commonly divided by subject and grade level, school days are broken up into forty minute blocks of time, and teachers often hold many different roles within their schools, school structures often isolate teachers from each other, and teachers have little room to work together to further themselves as professionals and colleagues. While school administrations do not necessarily discourage the formation of communities of practice or

learning communities, neither do they tend to provide structures that are fertile for the cultivation of communities. Yet, community building and peripheral learning is inevitable, even in organizations where communities of practice are not explicitly designed by administration (Wenger, McDermot, & Snyder, 2002). As people interact on a daily basis, they develop a sense of commonality, a sense of community. The communities that naturally develop will revolve around informal friendships or collegial relationships, and the learning that occurs is unpredictable.

Teachers who seek to learn how to use technology in their classrooms may or may not be in a position to learn peripherally from others in their communities, depending upon whether or not technology use is practiced and technology information and resources are made available in those communities. In Carol's school, becoming a central member of the technology using community was a slow and frustrating process. The only two teachers she overtly recognized as technology users were Mr. Minelli (the technology coordinator) and Mr. O'Mally, but her daily contact with them was limited, and Carol would only ask for their assistance and advice on occasion because she understood that collegial etiquette required that she not burden her colleagues by incessantly asking for their help. Access to resources was limited because computers were only available for students to use in computer labs, but also because teachers were not privy to knowing exactly what other technological resources were available in the school. If Carol knew specifically what resource she might need to accomplish a task, she could ask for it and Mr. Minelli could tell her whether it was available. Carol could not simply browse all the resources and think of ways to use them. In other words, if Carol didn't know the school had a digital video camera, she probably would not design a

lesson that required students to use video. Limited access to information can limit a teacher's ability to further her membership in a given community.

Re/constructing Identity, an Individual and Collective Practice

According to Lave and Wenger, "learning and a sense of identity are inseparable: They are aspects of the same phenomenon" (1999, p. 115). As individuals participate in various communities, and as they apply their agency in various fields, they are constantly learning and constantly changing. A person's identity can be understood as fluid, mutable, and field dependant. It is something inscribed upon a person as well as something a person inscribes upon herself, and a person's identity can change depending upon the other participants in the community and how they view her status (Wenger, 1999). Since schemas and resources vary from field to field (and community to community), a person must utilize different aspects of her capital in order to exert her agency. Her means of participating in various practices will differ depending upon the field and community that she is in, which means her perceptions of self and others' perceptions of her will vary as well.

For example, a veteran teacher might feel very confident in her teaching ability, and she might be seen as a role model for others in her school because of her experience and her ability to negotiate the schemas and utilize the resources in the school. In her school, the teacher is a central member of the community. This same teacher might be inscribed with a very different identity in a staff development session meant to train teachers how to use computers. If knowledge of the computer is not part of this teacher's capital, she might feel inept or foolish. If she has a hard time following the directions

and keeping pace with the class, she might be viewed as a hindrance by others. In this field, the teacher does not hold the same powerful status as she did in her school because she lacks the cultural capital necessary to easily learn how to use the computers. Identity has as much to do with what people are as what they are not. In this setting a teacher may view herself as a poor computer user or as a non-computer-user as she compares herself to others in the community. Yet, if computer use can be seen in context as part of what it means to be a practicing educator, teachers can work alongside others to learn how use the computers while applying their knowledge of curriculum building. Teachers' identities will not be as threatened in a community that encourages informational exchange where some teachers might be computer experts but not as skilled at curriculum building while other teachers are computer novices but very skilled in curriculum building. This type of practice can create a catalytic effect that enables teachers to begin identifying themselves as teachers and computer users, increases teachers' membership in their learning communities (Wenger, 1999), and also enables teachers to affect change within their schools.

Conducting the Research

In 2003 when I initially began designing this study, I planned to look at several teachers over a long period of time as they worked together to integrate technology into their teaching practices. I hoped to compare their experiences and look for patterns within the interactions of the group. I also wanted to track the progress of a few teachers once they reentered their schools. As I began filming the first group in the summer of 2004, I soon began to realize the enormous task in front of me if I hoped to do micro-analysis of

several teachers, so I narrowed my teachers down to two: Carol and Amy. As the summer progressed, my research design yet again began to change. I felt my study would have more depth if I could work more closely with just one teacher and build a relationship with her over a long period of time. Both Carol and Amy wanted to use technology in their classrooms because they wanted to share with their students skills that have "real world applications", meaning students would be able to use these skills in the future when getting jobs. I approached both women about working with me during the school year, and both agreed; however, in the end I chose to work only with Carol because she would be teaching a Ramp-up/literacy class in the following fall, whereas Amy would be teaching ELL and special education. Because the two were working with different populations of students, their goals and experiences as teachers would be different. As a special education and ELL teacher, Amy did not contend with the same school structures as Carol. She had smaller groups of students for longer periods of time, and she did not have to worry about mandated curricula or looming standardized exams. Carol's experiences in her school were more typical of an English teacher in an urban high school. I did, however, collect data from several curriculum writing groups, since Amy continued to attend, although Carol did not. The details of my methodology, including the many participants I worked with and the data sources I gathered, are explained below.

Summer 2004 Participants

Since the purpose of the curriculum-writing groups at the Discovery Institute (DI) is to allow teachers to make choices specifically around what will best meet their needs as

professionals, I could not specifically choose participants as Guba and Lincoln suggest (1989). In order to find participants for the English Technology curriculum-writing group, I began recruiting teachers during the Spring of 2004 towards the end of the DI curriculum-writing semester by approaching all of the already established English curriculum-writing groups, explaining what the new group was going to be about, and handing out fliers for teachers to take with them and share with colleagues from their home schools. Nine teachers[6] signed up to participate in the group:

- *Amy*- an ELL and special education teacher from a public high school on Staten Island
- *Andrew and Dan*- special education teachers who team-taught in an alternative high school in Manhattan
- *Matt*- a 9th grade literacy and tenth grade teacher from a public high school on Staten Island
- *Sarah*- a librarian from a public high school on Staten Island
- *Lorraine*- a ninth grade teacher from a K-12 private school on Staten Island
- *Gina*- a tenth grade teacher from a 6-12 public secondary school in which all students are given laptops to use
- *Janet*- a 9th grade literacy Ramp-up teacher from Brooklyn High School (same school as Carol)
- *Carol*- (my case study) a 9th grade literacy Ramp-up teacher from Brooklyn High School. She will be described in further detail at the end of this section.

Aside from the participating teachers, I also needed a participating group facilitator. I knew from having observed other groups prior to beginning this one that having an effective facilitator is essential to having a productive curriculum-writing group. Therefore, I wanted the facilitator of the English/Technology group to be knowledgeable about technology and the English curriculum, and I wanted him to be very "hands-off" in his approach. In other words, I wanted him to merely guide the teachers in staying on task and cultivating productive conversation. Understanding that I

[6] All teachers' and schools' names have been changed in an attempt to ensure anonymity of participants in the study.

felt this was a critical piece of my research, the Discovery Institute (DI) coordinators arranged for the English Technology group to be facilitated by *Mark,* a retired public high school teacher from Staten Island and full time DI employee, who had extensive experience facilitating groups and had a wonderful rapport with the teachers.

Fall 2004 Participants

I began recruiting again for the Fall group at the end of the Summer '04 session, and on orientation day in the Fall. The group wound up having eight members, three of which (Amy, Sarah and Matt) were returning from the summer. The rest were as follows:

- *Marissa*- a tenth grade teacher from a public high school on Staten Island
- *Elise*- a tenth grade teacher from a public high school on Staten Island
- *Catherine*- a tenth grade teacher from a public high school on Staten Island
- *Martin*- a tenth grade teacher from a public high school on Staten Island
- *Lisa*- a 9th grade literacy Ramp-up teacher from Staten Island

We also had a new facilitator, *Andy*, an in-service public school teacher from Brooklyn who was knowledgeable about both technology and the English curriculum. It is important for me to mention that in the Fall semester, attendance was inconsistent. Matt and Marissa stopped attending entirely after four weeks, and generally there would be five or six members in attendance at any given time.

Spring 2005 Participants

My research was officially conducted during the Summer and Fall sessions, so I did not actively try to recruit teachers to participate in the group during Spring 2005. The group continued to meet; however, most of the members from the Summer and Fall

sessions no longer were participating in the Discovery Institute (DI) curriculum writing program. Still, some of the data I collected from Amy, Sarah and Lisa (all were also participants in Fall 2004), was acquired through e-mails and informal conversations during the Spring 2005 session. During this session, the group was facilitated by *Hannah*, a first-time facilitator and veteran public high school teacher from Staten Island. Throughout the semester, I also served as co-facilitator.

Carol

From the Summer of 2003 until the Spring of 2004, before I designed this study, I observed several curriculum-writing groups in action, and in the Spring of 2004, I sat with one group continuously throughout the semester. This was when I first met Carol and Sarah. When I saw that of the eight to ten members of the group, they were the only two trying to incorporate technology into their lessons, I made sure that I extended the opportunity to participate in the English Technology group to them before I began recruiting from other groups.

While I did not know then that Carol would wind up being my case study, I found her interesting from the start because her attitude toward using computers was different from many teachers with whom I'd previously interacted. She considered herself to be "computer illiterate;" yet, she was determined to build her computing skills in order to incorporate technology into her lessons. Even though she had no one to guide her in her technology use, she kept plugging away at it and trying new things on her own. She differed from Sarah because as librarian and media specialist of her school, Sarah had much more exposure to computer resources than Carol did. Furthermore, as a researcher

at the Discovery Institute (DI) and as a teacher educator, I've worked with many teachers who have considered themselves to be "computer illiterate," but most of them either appeared indifferent toward computer use or they expressed that they felt it was important, but they needed to take classes to learn how to use the computer. In my eyes, Carol was neither of these—she was eager, or as she would say, "hungry" for computer knowledge, she had a sense of ingenuity, and she didn't seem to need others around her who were using computers too, she just did it with or without anyone's help.

Carol is a native of Brooklyn, New York, and she began working as an ELL (English Language Learner) teacher in the 1980s during the New York City teacher's shortage. At that time, the city was in desperate need of teachers and filled empty faculty positions with people who might not have had teacher's certifications, but they did have college degrees. After several years, once the shortage was over, the city began "excessing" (laying off) unlicensed teachers, and Carol lost her teaching position. At that time, she began working for her brother's company that moved office furniture for businesses and corporations. While her job was primarily in sales, at times she had to serve as the immediate supervisor to the movers who worked for her brother. After the September 11th tragedy, her brother's business, which relied heavily on moving furniture into and out of offices in and around the World Trade Center, began to decline. At this time, Carol decided to get her teaching certification and begin working for the New York City Department of Education (DOE) once again. Carol's experiences working in the moving business and re-entering the DOE resonates in her goals as an educator and in her desire to use computers with her students.

In the Spring of 2003, Carol was assigned to a position at Brooklyn High School, a large comprehensive high school in a working class neighborhood in Brooklyn, NY. Brooklyn High houses a population of students that is more than 50% African American, approx. 25% Latino(a), approx. 15% Asian or Asian American, and 5% white. Many students come from lower income or impoverished backgrounds (approximately 80% of the students are eligible to receive free lunch). Carol taught two separate groups of students; the first was a single period ELL (English Language Learner) class, and the second was a double period literacy Ramp-up class[7]. While the school is only 50% African American, Carol's literacy Ramp-up class did not represent the racial makeup of the school. Carol had an official roster of twenty-two students, a modest number for a New York City public school[8]. Two thirds of the students enrolled were African American. Because of poor attendance, only fifteen or so students would be in the room on any given day. Of the students who attended class, never more than three or four were Latino(a) while the rest were African American; there were no white or Asian students.

Because of its low standardized test scores, graduation rates, and student enrollment, Brooklyn High School has been labeled a "failing" school by the New York City Department of Education. In the 2003-2004 school year, on the ELA (English proficiency) exam only 21% of Brooklyn High students who were tested performed at or above grade level, and on the Mathematics proficiency exam only 21% of all students tested performed at or above grade level. In the Class of 2004, only 59% of students had completed the English requirements necessary for graduation, and only 51% of students

[7] Carol only teaches three periods per day, because she also holds a position as a school attendance officer. Therefore, she spends the remainder of her time working in the attendance office.
[8] Because of its poor reputation, unlike many other NYC public high schools, Brooklyn High School is not plagued with overcrowding.

had completed the Mathematics requirements necessary for graduation, while 65% completed the Social Studies requirements necessary for graduation, and 59% completed the Science requirements necessary for graduation. Most telling perhaps are the numbers regarding enrollment from the year 2002 until 2004. During those three years, the number of twelfth grade students enrolled remained drastically lower than the number of ninth, tenth and eleventh grade students enrolled. In 2002, while there were 1006 ninth graders enrolled, there were only 579 tenth graders, 291 eleventh graders, and 224 twelfth graders. In 2004 the numbers show even more decline with 945 ninth graders, 457 tenth graders, 296 eleventh graders, and only 181 twelfth graders. As is often the case with troubled urban schools, Brooklyn High has also been plagued with inconsistency in the faculty and staff. As an example, the school has had seven principals in the past eleven years. Of those principals, only Mr. Stein, who I mention in Chapter five, spent any length of time there. He was the principal for four years before being replaced in 2005.

Data Sources

In order to study cultural production and cultural enactment, I collected multiple data sources from the various fields in which I conducted research. Included were videotapes, audiotapes, curriculum narratives, written reflections in the form of e-mails and teacher journals, field notes, field journals and artifacts such as lesson plans and student projects. Informed by Lather's conception of triangulation, I blended multiple methods, multiple data sources and multiple theories to establish trustworthiness of the data (1999).

Videotapes

Throughout the Summer and Fall 2004 English/Technology curriculum-writing sessions, I videotaped almost all of the group meetings with the exception of the first and last day and if we conducted a workshop in the computer lab. Since I videotaped the group sessions, I am able to review the tapes repeatedly and at various speeds in order to look for patterns of thin coherence and contradictions existing simultaneously and dialectically in the group members' interactions (Elmesky, 2001). Another advantage to using video analysis for work revolving around cultural enactment is that not only am I able to listen to the discussion that unfolds in the group, but I am also able to look for subtle body movements, eye gazes or head nods that signify entrainment and solidarity (Collins, 2004). To perform my video analysis, I used Pinnacle, a video editing software to first isolate vignettes; next I used Tacklin[9] software to review the video on the meso level, coding as I did so; and finally, I used QuickTime Pro to slow down the video and look at the group interactions on the micro level.

Audiotapes

For the first half of the 2004-2005 school year, I met with Carol approximately once every three weeks to discuss her curriculum approaches and her endeavors in the classroom. Although I did not tape all of our conversation, each week Carol and I would first have an "interview session," and then we would work on the computer. I used audiotape to record our discussion during this time. In addition, I used audiotape to

[9] Tacklin was developed in the Anthropology department at the College of Staten Island. It is a program that allows a researcher to simultaneously watch, flag and code video. It is still in beta form right now and cannot slow down video to less than .10 of a second per frame as of yet. Thus, I supplemented it by using QuickTime Pro for my microanalysis. Currently, Tacklin is unavailable for public distribution.

record other group members' reactions to video vignettes. With Carol, however, at some point I stopped audio taping her because she expressed her discomfort with it (this is mentioned in Chapter two and discussed later in this chapter when I account for authenticity of the study). To fill this gap, I replaced much of what would have been audiotape with field notes.

Field Notes and Journals

Throughout the Summer and Fall sessions, I took field notes to supplement the videotaping of the sessions. During the Summer session, I would sit in the back of the room and jot them down as the group interacted; however, in the Fall session, I took to writing my field notes immediately after the group meetings because I felt that my "researcher behavior" created a great distance between myself and the group during the Summer session. When working with Carol, I took limited field notes during our interviews when I was audio taping, just to remind myself later to listen for certain things when I played back the tape. Then after our interviews, I would write down my reflections on our session. However, as I mentioned before, at some point I stopped using audiotape, at which time my field notes became more extensive. It is also important to note that while working with Carol and her students in the computer lab, since I was acting as a tech support for the room, I could not take field notes during the classes. Instead, I would write them down immediately after I left for the day. In addition, my book of field notes also served as a reflective journal, since days after the experience, I would reread my notes and comment or respond in the margins. The purpose of the field notes and journals was to record descriptions of the setting, the

interactions that took place, and the feelings that I had as the events unfolded and after as I reflected on them (Elmesky, 2001).

Artifacts

As a requirement for participating in the curriculum-writing groups, teachers were to produce eight narratives that described how they would conduct a discovery-based activity of their design in their classrooms. Therefore, I have eight narratives from each group member from each session. In some cases I have multiple drafts that show the process of creating and then revising the activities with the help of the group. Because some teachers participated in more than one session, from them I have more than eight narratives. Also, because Matt and Marissa stopped attending the group meetings in the Fall, I only have eight narratives from Matt for his work during the summer, and I have no narratives from Marissa. In addition to the narratives, I also have PowerPoint presentations that some teachers created, as well as some samples and photographs of their students' work. From Carol, I have lesson plans, handouts, papers she produced for her graduate class, as well as samples of student work. Finally, I created a Yahoo!Group for the teachers to use to communicate and post and access resources and links.

Quality of the Research

Rather than looking at validity, in ethnographic work Guba and Lincoln urge that we look at the trustworthiness and authenticity of the study. According to their guidelines, a trustworthy and authentic critical ethnography is one that has *fairness*, *ontological*

authenticity, *educative authenticity*, *catalytic authenticity*, and *tactical authenticity* (1989). These five criteria align closely with Kincheloe's description of critical ontology, which involves individuals understanding their perceptions of themselves as well as their location in the web of reality and how this shapes the choices they make as they participate in social practices (2003). For Carol and me, our histories, our present circumstances, and the various communities in our lives help to shape the activities in which we engage and how we engage in them. Critical ontology offers insight into who we are and who we have been so that we can gain new visions of who we can become. As Kincheloe explains, "As we employ the ontological vision we ask questions about ethics, morality, politics, emotion, and gut feelings, seeking not precise steps to reshape our subjectivity, but a framework of principles with which we can negotiate. Thus we join the quest for new, expanded, more just and interconnected ways of being human" (2003, p. 48).

Fairness

Fairness as laid out by Guba and Lincoln means recognizing that various stakeholders have varied constructions and value systems (1989). For me, ensuring fairness is about identifying potential stakeholders, seeking out their opinions and constructions, and being mindful of how all the authenticity criteria are equally important; combined, they weave together a fair study. Specifically with fairness in mind, I engaged in member-checking. I had formal and informal conversations with Carol and various members of the English/Technology curriculum writing group regarding their perceptions of video vignettes, interview sessions and artifacts produced

for the group. Through this, I hoped to be able to identify stakeholders' underlying value systems and honor them within my analysis, while also ensuring that the other four authenticity criteria were also being met.

Ontological Authenticity

Guba and Lincoln explain ontological authenticity as ensuring "the extent to which individual respondents' own emic constructions are improved, matured, expanded, and elaborated, in that they now possess more information and have become more sophisticated in its use" (1989, p. 248). I tried to ensure that participation within the study helped Carol and myself to become more aware of our own constructions and how they differ from or are similar to the constructions of others and how our constructions, our actions, and our identities, are shaped by the powerful forces of social, cultural, political, economic, and linguistic structures. Through interviews taken at different times throughout the various sessions, and throughout the year, I recorded Carol's changing constructs, and through a reflective journal, I recorded my own changing constructs as well. As illustration, when Carol brought her home computer into her classroom so her students could use it, she began to see her students in a different light. Her students, who are in her class because they tested below grade level on a standardized literacy exam, were avidly using the computer to communicate with other youth vie e-mail and instant messaging. She realized that her students could express themselves very well, yet their form of communication did not qualify as literacy in the school. For myself, recognizing the differences in technology exposure in my life as compared to the lives of Carol and her students helped me to see that my dispositions toward technology use were drastically

different than Carol's and her students'. The challenges Carol and her students faced in using computers were not simply the result of a lack of computer knowledge, but also because of a very different social and cultural experience when using computers in their communities of practice.

Educative Authenticity

According to Guba & Lincoln (1989) ensuring educative authenticity means ensuring that stakeholders in the research understand and appreciate the constructions of others. By its very nature, the curriculum-writing group is a source of educative authenticity in that teachers from very different backgrounds, with different levels of teaching or computing experience gather together to exchange ideas and develop lessons. Their constructions manifested as motivation and inspiration for the lessons they created. These things were openly discussed and valued during the group discussions. By engaging group members in dialogue or e-mail conversations, I solicited confirmation that this process occurred.

Catalytic Authenticity

One of the primary goals in critical ethnography is the stimulation of action. In other words, how has the research process facilitated stakeholders in taking some form of action or making some sort of decision? There are various examples of catalytic authenticity throughout this research process. Specifically, within the group, teachers made decisions about which technology integration techniques would work best for them. For example, Carol was prompted to try new types of computer-based projects with her

students. In addition, her new knowledge of restrictive forces within the school inspired her during a faculty meeting to raise a discussion about the technical support policies in her school.

Tactical Authenticity

To ensure tactical authenticity, I solicited input and feedback from group members during the sessions so that I could alter any practices the teachers found to be constraining, and I could provide them with resources they thought would be helpful to them. For example, when planning workshops, I allowed the teachers to decide what the workshops would be about and when they would take place. When working with Carol, I consistently made room for her opinions and ideas by not only asking her questions, but also allowing her to decide what we needed to work on when we got together to plan her curriculum. A good example of tactical authenticity was the tape recorder incident I mentioned in chapter two. When Carol expressed her discomfort with being audio taped, I decided to no longer tape her unless we had scheduled a formal interview and she had authorized its use.

Conclusion

During the Summer of 2004, Carol explained to me that at times it was difficult for her to prepare the lessons she needed to write for the curriculum-writing group. Since she didn't have a computer at home, her access to computers was limited, and she couldn't practice creating web pages or using PowerPoint. In the mornings before our group met, I taught a class for high school students in a computer lab, so I extended an invitation for

Carol to come work in my room if she wanted. This provided her not only with access to computers, but also to me and my teaching scholars (classroom assistants) if she needed help. She was feeling overwhelmed and intimidated by the curriculum-writing group because she felt that several of the members of the group were much more knowledgeable about computers than she was. I tried to assure her that she didn't need to know all of the skills she wanted to learn just yet. She simply needed to decide what she wanted to accomplish in her class, and then focus on learning those skills she needed to accomplish her goals.

My answer, while simple to me was not quite as simple for her. To Carol, learning computer skills meant taking classes and being instructed on how to use the computers. For me, it was about figuring out what you needed to learn in order to do what you wanted to do, and then experimenting with the computer to figure how to do those things. I hadn't taken any computer classes since high school, but even though no one actually showed me how to perform tasks on the computer, I was not actually self-taught. My dispositions toward computer use had been cultivated throughout my entire life, so my answer to Carol was an obvious one for me. The skills I taught in my Computers for Teachers classes were not skills I acquired in a classroom, but I had plenty of help and guidance from my family and colleagues around me. I had been a peripheral participant in a community of technology users for a very long time, only I didn't see myself that way.

For Carol, however, this was not the case. The communities she participated in did not use technology, so anything she tried to do with computers felt like a very solitary activity for her. Culturally, computers and technology use fit into our lives in very

different ways. With this in mind, in the following chapters I provide detailed accounts of Carol's experiences with technology in her school and in the curriculum-writing group. I aim to bring to the surface the significance of community, culture, and power as Carol attempted to bring technology into her classroom and re/construct her identity as a computer user within her school.

Chapter III

Through the Adjoining Doors: Re/Producing Culture in the English/Technology Curriculum Writing Group

Introduction

> "I have been taking movies of myself. In the movies I talk and tell the camera who I am, what I think about. Sometimes I set the camera up outside and walk up to it from different angles. Sometimes I set the camera up in front of a mirror and film myself as a reflection. I wear different clothes and sometimes I try to change my voice" (Myers, 1999, p. 279-80).

--*The Narrow Room*--

During the summer of 2004, as is the case during any summer, the College of Staten Island campus was quieter than in the fall and spring, but in the Engineering building where the curriculum writing groups met, it was desolate. The participating teachers were assigned to meet in only five rooms, but it felt as if we had the building all to ourselves. Two of the assigned rooms were regular classrooms, down the hall far apart from the rest. The other three consisted of two very large rooms (formerly chemistry labs replete with stone table tops, non-functioning sinks, gas hook-ups, eye wash stations, and showers) connected by one very small room (formerly a lab technician's room) situated between them. The larger rooms had high ceilings with exposed pipes running through, like you might see in a basement. The floors were tiled, the stone table-tops and metal fixtures were situated around the perimeters of the rooms, and the back walls were lined with large windows. With only metal folding chairs and tables for furniture, the large rooms with their hard surfaces and high ceilings became echo chambers. And when sixty or so teachers were emphatically sharing stories about the curricula they were developing, the noise level at times was dizzying.

In contrast, the smaller room in the center was very long and narrow, about ten feet wide by twenty feet long. Considering the size of the room, the furniture was massive. Two six-foot folding tables were set up end to end with ten folding chairs around them. Beside the tables, against the wall, was a large wooden cabinet system that stretched from ceiling to floor and ran nearly the length of both tables. The room was cramped. And when teachers sat around the tables, getting in or out meant asking others to stand up or suck in their stomachs and scoot in, while the person seeking entrance or exit slid by with his or her back against the wall. At the other end of the room, two metal teachers' desks, a single chair on wheels, and an ancient, oversized, metal filing cabinet lined the three walls. There was a lone window on the back wall and metal shelving beside it. This part of the room resembled a crowded, abandoned office. Acting as a divider between the office part and meeting part of the room were two heavy, wooden, adjoining doors that locked from the inside. There was one on either side of the room directly opposite the other.

Knowing that I would need a quiet place to film, the coordinators of the curriculum-writing program assigned the English/Technology group to meet in the adjoining room. And as cramped as it was, I was thankful it was there—even more thankful that we were given the privilege of using it. I would always arrive at the room early, loaded down with a laptop, a bag of books and supplies, power strips, a tri-pod, and my loaner digital video camera. I felt like a technological nomad, and every day I would set up my equipment in the office part of the room and the teachers' laptops in the meeting section of the room. Afterward, I would sit in the office area and wait until it was time to start filming. As teachers arrived, they usually entered the room on my right

first, since that's where the coffee urns and cookies were set up. They socialized with colleagues and made their way from the first large room, through the narrow room, into the other large room, and sometimes back again. When all of the English/Technology teachers had arrived, I would close the adjoining doors and start filming.

I discovered that the best place to set up the tri-pod was right in the path between the two adjoining doors. From that angle, the only person who wouldn't be filmed at least in profile was Mark, the facilitator. Yet, I discovered that this was also the most hazardous place to film. Many of my early tapes have sections that are jumpy and unclear because a swinging door nearly took out the legs of the tri-pod causing the very expensive, loaner video camera to come frighteningly close to toppling over. After getting fed up with the interruptions and the fear of damaging the camera, I began locking the doors from the inside, only to get other interruptions in the form of impatient, loud, knocks from people wishing to travel through. Sometimes the interlopers were travelers on a pilgrimage for coffee, other times they were administrators distributing official paperwork, sometimes they were simply friends saying hello or goodbye, and sometimes they were investigators who were curious about what I was filming in our private little room. Even on days when the through-traffic and knocking was minimal, the other teachers' presence was still heard; their echoing voices in the outer rooms reverberated as a constant buzzing in our ears. At the time, all this activity was an incessant frustration for me. I was always fearful that I was going to miss something important, or my video would be too shaky, or my audio wouldn't be loud enough over the buzzing of the other rooms. Looking back, that narrow, adjoining room serves nicely as a metaphor.

When looking at how English teachers re/construct their identities as technology users, the curriculum writing groups that I observed at The Discovery Institute can be recognized as an adjoining field. Like the adjoining room, it has porous boundaries, and people, objects, and culture can travel in, out, or through. Situated somewhere between teachers' in-school and out-of-school lifeworlds, the curriculum writing group is a field of its own; yet, it is always dynamic as teachers come and go, carrying with them their own unique experiences. As I learned when I tried to close the adjoining doors, what comes from one field cannot be shut out from another. Whether transient culture manifests as a hazardous disruption, an impatient knocking, or a constant, irritating buzz, it's simply impossible to prevent it from traveling through. So rather than trying to extract transient culture from the field as traditional skills classes often do, it is important to pay closer attention to the culture that is being produced between those adjoining doors. Alternatives to the traditional staff development model, like the English/Technology group, have the potential to be places where teachers like Carol can collaboratively re/construct their English teacher/technology user identities with other teachers like themselves. Throughout the summer of 2004, teachers were able to share their knowledge of technology, curriculum, and life experience in a field where their diverse knowledges and histories were honored, and the adjoining doors were not locked from the inside.

An Overview of the Discovery Institute[10]

The Discovery Center began in 1987 with a $6,000 grant procured by its founders, Dr. Leonard A. Ciaccio (Biology) and Dr. James W. Sanders (Teacher Education). They

[10] A detailed description of The Discovery Institute's philosophies and programs can be found on their website at http://discovery.csi.cuny.edu.

began working with four high school teachers to redesign their four separate academic curricula into a unified, interdisciplinary, activity-based curriculum, in hopes that a more interesting and engaging curriculum would better prepare their students to go on to college. Nearly twenty years and fifty grants later, The Discovery Center has become a $4.5 million dollar annual operation, and it has officially been declared an "Institute" mandated to disseminate programs throughout the City University of New York.

Their mission, however, has remained the same. All programs within the Discovery Institute are geared toward the "renewal" of teaching through professional development of in-service teachers in curriculum writing workshops and sabbatical programs, and through the recruitment and education of highly qualified future teachers in their Teaching Scholars program. In all their programs, The Discovery Institute stresses the need for teachers to restructure learning environments so that students can be in charge of their own learning within a "discovery" (or inquiry-based) curriculum that incorporates state standards, basic skills, interdisciplinary themes, and connections to the lived worlds of students. Yet, within the above parameters, teachers are free to explore and create curriculum as they choose. The Discovery Institute does not supply teachers with pre-packaged or scripted curricula, and they discourage teachers from using them. They respect the diverse knowledges that teachers bring with them by asking teachers to create and share their own lessons and implement them in their own ways. As such, they recognize that no lesson designed by an "expert" will ever be as meaningful as a lesson a teacher designs herself.

The Discovery Institute's Curriculum Development Workshops meet weekly throughout the school year and daily during intensive summer sessions. Teachers group

themselves within the discipline and age level or focus of their choice (i.e. ninth grade English, American History, Sequential Math A, etc.) and within these groups, they are provided with an open-ended learning environment in which they discuss lessons of their own design and share their experiences implementing these lessons with colleagues from various other New York City schools[11]. Each group is led by a Discovery Institute facilitator, usually a veteran public school teacher, who has spent much time working with the discovery method. Facilitators are there as subject area and discovery method resources, but they never dictate the content of the lessons. The discovery activities are designed solely by the teachers who will be using them. As its goal, The Discovery Institute seeks to empower its participants by acknowledging them as professionals capable of tailoring their curriculum to the needs of their students. In this study, the parameters of The Discovery Institute's curriculum writing groups provided a much needed space for teachers to confidently renegotiate their teaching practices to use technology for teacher and student empowerment.

Capitalizing on the Porous Boundaries of Fields

When teachers attend The Discovery Institute's curriculum writing sessions, they must leave their schools and the Department of Education and travel to The College of Staten Island. The curriculum writing groups are new fields in teachers' lives, and as such, they are also new arenas for cultural production. By leaving their home schools and

[11] Because The Discovery Institute is located in Staten Island, during the school year, most attending teachers work in schools in Staten Island and Brooklyn. Limited time for travel after school usually prohibits teachers from other boroughs from attending. However, since schools are not in session during the intensive summer sessions, the population of teachers hails from other New York City boroughs as well.

collaborating with teachers from other schools, curriculum writing teachers can access new resources and then capitalize on the porous boundaries of fields. The introduction of a new community of practice with its own culture creates opportunities for cultural transfer. In other words, when teachers are empowered to collaborate with each other outside of the structures of their schools, they are afforded new visions for possibilities within their classrooms. They can acquire schemas and resources with which they can begin to transform the oppressive circumstances in which they and their students find themselves on a daily basis.

Without another community from which to draw new ideas and experiences, teachers are more likely to reproduce rather than transform the oppressive and isolating cultures of their schools. As Wenger explains,

> In the process of sustaining a practice, we become invested in what we do as well as in each other and in our shared history. Our identities become anchored in each other and what we do together. As a result, it is not easy to become a radically new person in the same community of practice. Conversely, it is not easy to transform oneself without the support of a community, as reflected by the countless support groups proposed by the self-help industry (1999, p. 89).

While teacher training and staff development situations can also be seen as new fields for cultural production, skills acquisition of that sort does not necessarily resolve cultural conflicts within our public schools, particularly since the training offered is designed to reproduce rather than transform the pre-existing culture of public schooling. In general, "Our institutions, to the extent that they address the issues of learning explicitly, are largely based on the assumption that learning is an individual process, that it has a beginning and an end, that it is best separated from the rest of our activities, and that it is

the result of teaching" (Wenger, 1999, p. 3). When teachers learn to use computers in ways that are not related to their curricula and their needs as teachers, the skills they acquire do not necessarily have any foreseeable application to their teaching practices within their classrooms. Once the duration of the course has ended, teachers are no longer members of a community in which technology use is an integral part. This is not to say that skills classes aren't useful; certainly, a teacher needs to know how to use a computer if she plans on using it in her classroom. But computer training can have only a limited affect on transforming a teacher's practice as long as she is only a member of communities that see learning as an activity that occurs within a person's mind rather than as a shared practice that involves a collective of individuals who are learning and producing culture dialectically. However, being involved in a learning community that values and supports teachers' diverse histories and knowledges energizes teachers to produce new culture to take back with them to their schools. This creates a catalytic, spiraling effect in which teachers dialectically transform the culture of their classrooms and schools while also transforming the culture of the learning community; since, as teachers move from one field to the other, they are continuously enacting and producing new culture that can be used in either field. Thus, even though the fields are separate, they are linked to each other like a network, with the teachers acting as connecting channels.

Building Group Solidarity: Storytelling, Imagining and "Technology Talk"

Within the English/Technology curriculum writing activities, the participating teachers simultaneously produced culture and developed their identities as teachers and

technology users, not only by developing curriculum that included technology, but also by furthering their membership in the group itself. There was consistent evidence of this during the group's many discussions. As explained by Collins, prolonged personal membership in a group is dependent upon verbal exchange.

> The contents of this talk are such things as what one did that day, or stories about one's experiences from the past. Much of the exchange of friendly relationships is the willingness for both sides in turn to act as a sympathetic audience to these stories, and also to take one's turn on the stage and offer some narratives of one's own (Collins, 2004, p. 84).

In the curriculum writing groups at The Discovery Institute, discussion usually takes two forms: first, collegial storytelling about teachers' histories, lessons and experiences, and second, imagining by putting oneself in another's shoes or "trying on" another teacher's lesson as it pertains to one's own classroom. Within the English/Technology group, it also took a third form: in-depth discussion about technological resources. Teachers often shared their knowledge of various technologies and their applications, and as they did so, they generated positive emotional energy. Conversations like these were most productive for building group solidarity and producing new culture.

By videotaping the group's interactions I was able to capture instances of storytelling, imagining and "technology talk" during which there was evidence of group entrainment indicated by rhythmic body movements, eye gazes, head nods, and overlapping complimentary speech. Over the course of the year of group meetings, and particularly during the intensive summer session, I observed the group's interaction patterns that indicated, "The greater the entrainment, the greater the solidarity and identity consequences; and entrainment reaches much higher levels by activity than

passivity" (Collins, 2004, p. 83). In these successful interactions, all or most group members contributed to the conversation by telling about past experiences, imagining future experiences, or building on technological knowledge. Interactions that have very high levels of positive emotional energy can be understood as having a collective effervescence which, according to Collins (2004), charges group symbols with emotional energy that resonates in teachers' memories when they are involved in other situations. Put simply, when teachers feel good about their curriculum or technology use in the curriculum writing group, they in turn feel energized to put their newly acquired capital to work in other fields, namely their schools.

--*Carol's Commercial*—

On July 19th, 2004, Carol presented a lesson to the English/Technology curriculum writing group. It was designed so that students would work in teams to write and then film commercials advertising a destination for a dream vacation of their choice. The activity required students to conduct research, apply literacy skills, work as a team, evaluate each other's work, and successfully present their advertisements to an audience. In the discussion following Carol's monologue about the lesson, there was substantial evidence of burgeoning solidarity within the group. The group members cumulated emotional energy through collegial sharing starting with "technology talk", and moving to storytelling and imagining. As the conversation shifted from topic to topic, it circulated around the table as different teachers took turns at being protagonists. Nearly everyone at the table spoke, and even those who didn't speak were engaged. During a storytelling phase, the group hit a peak that culminated in a collective effervescence. To illustrate this, I will approach this discussion as having three critical components that I

will analyze separately, but in relation to each other. The video analysis that follows will highlight "Technology Talk", Storytelling, and Imagining. The order in which these components appear are interchangeable, and any component can happen at any time within an exchange as long as it is synchronous with the ongoing conversation.

"Technology Talk"
(Duration: 1min. 9 sec.)

In the "technology talk" exchange, Gina, Carol and Andrew are the main protagonists, as Gina explained to Carol that students in her school use iMovie to do video projects. At about twenty seconds, Gina was prompted by a question from Andrew. This shifted the conversation into a new direction. She went into an in-depth description of the features of iMovie as Carol and Andrew responded with head nods, eye gazes, and complimentary speech. Throughout the exchange, all other members also displayed signs of synchrony in body orientation, eye gazes, head nods, hand gestures, overlapping anticipatory speech, and verbal utterances. Speech was quick, and turn-taking was fluid, usually prompted by questions with coordinating eye-gazes and body movements.

Speaker	**Time**[12]	**Text**
Gina	00:00:00	In our school I know we have, um, an iMovie camera. You could do this on iMovie if you had it… which is like a digital video camera that they can plug into the computer, and they can manipulate their actual video on the computer. Which is again, if you happen to have the equipment, but if you happen to have it, iMovie is really good for that. *(Gina looks down.)*
Carol	00:17:90	iMovie, I'm going to write that at the top. That sounds [good.
Andrew	00:19:96	[What do you mean ["manipulate"? *(Andrew seems prompted by Gina breaking eye contact with the group.)*
Carol	00:21:13	[iMovie.
Gina	00:21:60	You could put it in there, you could [cut it, edit it. You could add

[12] Time is measured in minutes, seconds and hundredths of a second. An open bracket [indicates the beginning of overlapping speech.

		sound to the background like fake clapping, [you could add text to it, [scrolling credits. [You can do a whole lot of stuff [with it—still frames and things if you wanted, um::
Mark	00:23:03	[Edit…
Andrew	00:26:03	[Oh, text…
Carol	00:28:66	[Wonderful…
Andrew	00:30:40	[Music…
Sarah	00:32:16	[That's a good idea…
Carol	00:36:13	So that's a digital camera but it gets [connected to a…
Gina	00:38:10	[It plugs right into the port on the computer, and then you import the clips you've taken, which is basically the video, and then you can manipulate it in a program called iMovie. [Again I don't know if that's… that's on the Mac. And uh::
Amy	00:49:13	[Is that on the iMac?
Lorraine	00:54:20	I'm sure there's something comparable.
Carol	00:55:76	I'll ask about [it.
Gina	00:56:63	[Yeah, you could ask. I'm just saying if you had it, that's a next step you could take as far as doing this good project. That would just be another [step you could take.
Carol	01:03:36	[Yeah. That'd be wonderful. They would love that. 'Cause they love seeing themselves on the ??? (01:08:43)

Within the first nineteen seconds of the exchange, Gina established a mutual focus by initiating a discussion about a technology with which many of the teachers were unfamiliar. At just under twenty seconds Andrew took advantage of a turn-taking opportunity indicated by Gina breaking eye contact with the group. He zeroed in the focus of the discussion by asking for clarification about the specific capabilities of the program. While the group was already entrained in the conversation, Andrew's question opened up further elaboration about the software, which created an opportunity for not only gaining knowledge, but also building solidarity as the group members worked together to understand the capabilities of the program.

The conversation fluidly shifted from Gina and Carol to Gina and Andrew (and the rest of the group), and then closed with Gina and Carol again before moving on to the next topic. All participants were entrained and seamlessly shifted gears. Through

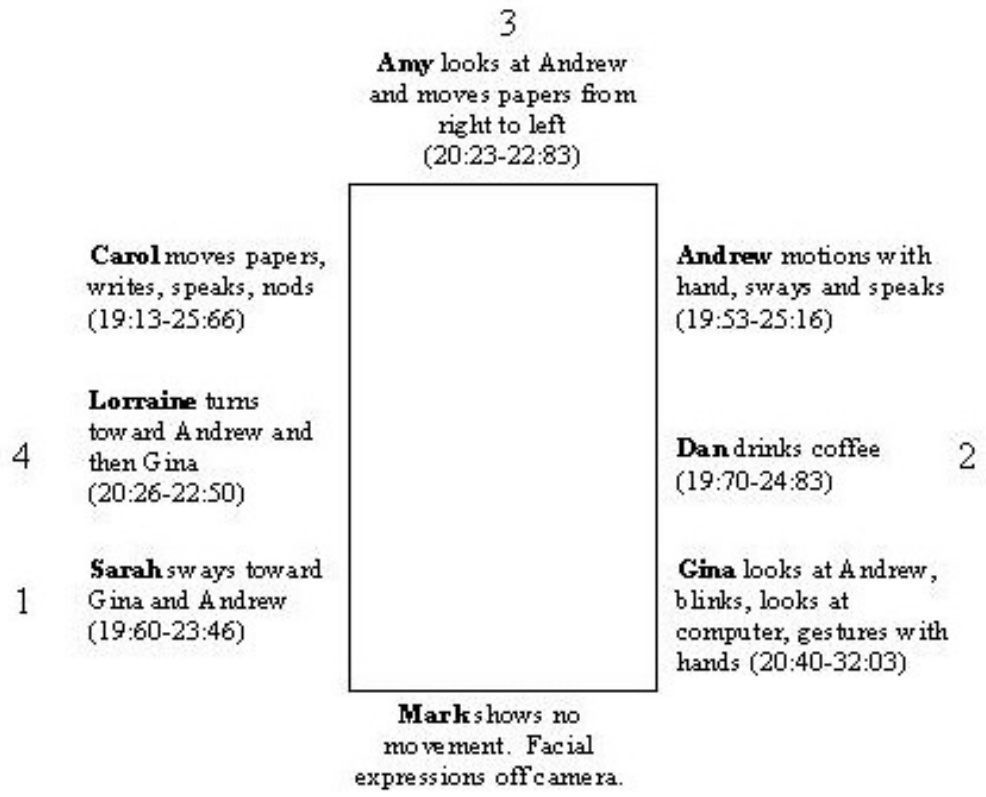
microanalysis, this is evident in the rhythmic body movements that coincided with the verbal exchange. The group appeared to hit the peak in this phase of the conversation from the time Andrew asked his question at 19.9 seconds until Gina finished her explanation at 34.8 seconds. During this fifteen second exchange, synchronous activity was concentrated and involved all members of the group either physically or verbally. Before and after the exchange, however, synchronous activity was more sporadic, usually involving only one or two members other than the protagonists. The table below delineates the synchrony and growing solidarity during the fifteen second peak.

Oral Text[13]	**Gina**	**Carol**	**Andrew**	**Amy**	**Dan**	**Other Participants**
19:96-21:10 *Andrew:* What do you mean "manipulate"?	*Looks down (18:76-19:30)* *Looks at Andrew (20:40-* *Blinks (21:30)*	*Moves papers from left side to right side (19:13-21:03),* *looks at Andrew and then down says,* "iMovie" *overlapping (20:33-21:10)*	*Lifts head (19:53-19:90)* *Lifts hand to head, looks at Gina (19:90-20:83)*	*Looks up and toward Andrew (20:23-20:63)*	*Moves right hand to reach for coffee (19:70-21:26)*	*Sarah sways forward toward Gina (19:60-20:63)* *Lorraine turns toward Andrew (20:26-21:10)* *Sarah sways toward Andrew (20:66-*
21:60-35:30 *Gina:* You could put it in there, you could cut it, edit it. You could add sound to the background like fake clapping, you	*20:63)* *looks down at computer (21:33-21:56)* *blinks (21:73)* *Gestures with left hand (22:46-*	*Writing, nodding (21:60-27:73),*	*Brings hand down, looks down (22:03-22:56)* *looks to Gina (22:60)* *leans forward (22:66-25:16)*	*Moves papers from right to left side, looks down (21:10-22:83)*	*Brings coffee back and drinks (21:50-24:03)* *looks at Gina, puts cup down (24:03-24:83)*	*21:53)* *Lorraine turns toward Gina (21:60-22:50)* *Sarah leans back (21:60 - 22:43)*
Oral Text	**Gina**	**Carol**	**Andrew**	**Amy**	**Dan**	**Other Participants**
could add text to it, scrolling credits. You can do a whole lot of	*22:76)* *Gestures with both*	*nods head (24:23-25:66)*	*blinks, leans back (25:16-25:66)* *leans far*		*folds arms (25:06-25:90)* *looks away*	*Sarah looks at Gina (22:46-23:46)* *Mark "edit"*

[13] Time is measured in seconds and hundredths of a second.

stuff with it—still frames and things if you wanted, um…	*hands, looks at Andrew, looks at Lorraine and Sarah (22:83-32:03)* *Looks at Andrew (32:86)* *Gestures with left hand (32:96-33:60)* *turns further toward Andrew, blinks (33:76)* *raises left hand to mouth, looks up in thought (34:30-34:80)*	*nods head "iMovie" overlapping (27:26-28:40)* *"wonderful" overlapping (28:66)* *Lifts paper brings it to her lap (29:30-30:76)* *Looking down, leans in (31:26-31:76)* *Smiles (34:20-34:80)*	*forward "oh, text" overlapping (26:00-26:83)* *sways, bobs, nods, blinks "music" overlapping (27:00-34:80)*	*looks at Gina (28:86)* *leans back (29:70-30:80)* *focuses on Gina*	*(25:33) looks back (26:30) bites lip (26:60)*	*overlapping (23:03)* *Sarah nods head (23:63-31:76)* *Lorraine blinks, nods (26:43-32:16)* *Mark Moves hands up, sways, stretches, moves hands down (24:40-36:13)* *Sarah leans forward toward Gina "that's a good idea" overlapping (31:80-32:56)*

Even though this verbal exchange directly involved only Gina and Andrew, the other group members seemed to propel the discussion with their supporting comments and actions. For example, when Gina broke eye contact with the group at 18.8 seconds, Dan's, Amy's, Sarah's and Lorraine's actions followed shortly after and were in synch with Gina's, Carol's and Andrew's subsequent actions. As Andrew transitioned the conversation, the other members' movements appeared to "circulate" around the table in accordance with their seating arrangement. Sarah, in the foreground of the video and across the table to Andrew's left, began to sway. Dan, to Andrew's immediate left moved to reach for and drink his coffee. Amy, to Andrew's right began to shift her papers toward Andrew. And Lorraine swiveled her body, turning to face Andrew and then Gina. The actions of the four non-protagonists indicated that the group members supported and accepted the transition from Carol to Andrew; since, they occurred in time with Carol's, Andrew's and Gina's actions as indicated by the diagram below.



The climax of "technology talk" occurred at 34.8 seconds when Gina finished her description of iMovie's capabilities. At that instant, Gina touched her hand to her mouth, Andrew nodded and blinked, and Carol broke into a smile. Their synchronous actions indicated entrainment and the accomplishment of their individual and collective goals. Afterward, another shift occurred, during which the conversation addressed whether or not iMovie was available at Carol's school. The actual availability of the software, however, seemed less important than the discussion of it. Carol's statement, "I'll ask about it," and Lorraine's encouragement, "I'm sure there's something comparable" indicate that knowledge of the software is most important in this field; accessibility could be dealt with in the teachers' home schools. Yet in the curriculum writing group "technology talk" such as this did more than just provide technical knowledge. When Gina shared her knowledge of iMovie in hopes that Carol could enhance her students' learning experience, she also showed that Carol's idea was valuable enough to build on. Furthermore, Carol's lesson and Gina's knowledge not only enhanced learning opportunities for Carol's students, but it also provided opportunities for producing culture within the curriculum writing group itself. Finally, it helped build group solidarity and set the stage for storytelling and imagining.

Storytelling & Imagining
(Duration: 4 min. 18.5 sec.)

In the following section, I analyze the storytelling and imagining phenomena as separate occurrences; yet, coincidently in this vignette, they occurred together in an alternating pattern. After the "technology talk," Carol and Mark had an exchange about storyboards and the proper length of commercials. However, I didn't include that

particular segment of the discussion in my analysis because it functioned more as two monologues rather than group exchanges. Instead, I picked up again two minutes later when all the participants were building culture together as a group. The incidents of storytelling and imagining were interesting because quite accidentally, as the protagonists took turns speaking, they alternately shifted the conversation between the two types of exchanges. Yet, this is not necessarily the case in all interactions; storytelling and imagining can happen at any time, as can "technology talk".

The table below outlines the series of five short verbal exchanges in which group members took turns telling stories or "trying on" Carol's lesson in their own ways. It began with storytelling by Lorraine, moved to imagining by Mark and Andrew, back to storytelling by Mark, Carol and Lorraine, then imagining by Amy, and finished with storytelling by Mark and Amy. Turn-taking was still fluid and quick, but individual group members tended to take longer turns at speaking; since, during each turn a group member was sharing a story or explaining how they could use the lesson with their students. All group members except Sarah and Dan took a turn at storytelling or imagining; some members took more than one turn. By doing so, they expressed their individual experiences and identities as they related to the collective experience and identity of the group. In turn, they also built group solidarity through their collective appreciation of video as a tool for learning.

Speaker[14]	**Time**	**Text**
Lorraine (S)	02:25:30	Well anyway, I thought yours was so good because it was exactly what I [did, and I thought, so as I'm listening to you I'm smiling thinking, 'that sounds great.' And one of the reasons I think it works so well is because you can do it with any types of kids [at any level, and it really can be

[14] Beside the speaker's name (S) indicates storytelling; (I) indicates imagining. An open bracket [indicates the beginning of overlapping speech. Time is measured in minutes, seconds and hundredths of a second.

		[very basic, or it can be very [sophisticated.
	02:32:40	[*Group laughter*
Mark	02:40:10	[That's true. [I love this.
Mark	02:44:03	[I love it. I love it. *(Points to Andrew and Dan)* I was thinking about your kids with something like this.
Andrew	02:48:36	Yeah.
Mark (I)	02:49:53	I mean even if you have kids that are on a very, a very low level and you give them some of the vocabulary and you say ok, 'this is what you're going to say' and now you put it together in a commercial, they would go crazy. They would love it.
Andrew (I)	03:08:06	Yeah I was kind of thinking how I could use this for the autobiography, and it could be about some interest that they really like or even a commercial [about themselves, or like you know…
Gina	03:15:00	[about themselves
Mark	03:15:00	[They would love it. They would love it.
Andrew	03:17:20	"I am...."
Mark (S)	03:19:10	I mentioned to you the last couple of years of my career, when I taught, I taught in the TV studio. And I'm telling you, the kids absolutely love it, and they'll write! They'll get it right! They'll revise it. They'll make it perfect. The motivation is up here. *(Motions above head with hand).*
Andrew	03:37:03	Yeah.
Lorraine	03:38:43	Yeah.
Mark	03:39:03	It's [unbelievable.
Carol (S)	03:39:16	[It's…It's true because I taught it with a class that never did anything, and on the day that I said that—we had done a public service announcement—and on the day that we were filming, it actually took us three days. They wouldn't let me stop because for the first time they were all engaged in making the most, the best product and I did end up showing them what a story board was later, but at this point, I felt again, it gets complicated.
Mark	04:03:70	Incidentally, your principal would be interested in this.
Carol	04:07:00	He liked it very much.
Mark	04:09:00	He… he in the '70's, helped me design some innovation for the studio.
Carol	04:15:00	He did. He was helpful with this, with that whole… *(trails off, motions behind her, nods and sways).*
Lorraine (S)	04:22:26	Well my lesson was geared toward kids who, they really, really, could make an effort to manipulate someone using advertisement. So knowing that they had a certain level of mastery, the idea would be, could they con them, could they make the audience believe what they were saying, and what kind of, what kind of expressions would be

		memorable? So the plan was that they could create, they could actually design their own product and come up with an ad for that product, so it's very *(inaudible).* And I did it because I have been hooked on this commercial about the great news where I just saved so much money on my car insurance.
Amy	05:01:56	You mean the Geico, the gecko, the car insurance?
Lorraine	05:04:16	Every time I see it [I laugh.
Dan	05:05:30	[Mister Diggyfly?
Mark	05:06:96	Geico.
Carol	05:08:06	Yeah.
Gina	05:09:16	I always like the one when they're in the car, and he's singing 'everybody was kung-fu fighting.' And he's sitting in the backseat. I love that little gecko.
Carol	05:25:83	*(to Lorraine)* I'm happy because I didn't feel you were loving my lesson. (*laughs*)
Lorraine	05:28:83	*(to Carol)* I do because I *(inaudible)*
Amy (I)	05:28:16	*(to Mark and Dan.)* It seems like the kids would like to do, um, like you were saying, your kids would like to do, um even something for um, an audition, an audition tape for a reality show using a story starter. There's all those floods of reality shows; you could make up your own reality show with them. *(inaudible, trailing off)*
Mark (S)	05:51:50	As soon as you take out a camera and start to roll, [their composition, everything changes. Everything changes; kids are completely different. It's wonderful.
Carol	05:53:83	[Oh yes.
Carol	06:03:70	They were on time. They got dressed. It was incredible. It was really… wonderful.
Amy (S)	06:12:06	I used it as the kids made, as a training tape for getting ready for a job interview. And it was really… you know, at first they hated to look at themselves, but it was very, very helpful to get the finger pointing to, you know their body language, how they made eye contact, and what was that limp handshake all about. It was very helpful, more helpful than just role-play. Really. *(smiles, looks down at papers.)*
		(06:43:56)

The most dramatic display of solidarity involved Carol and Lorraine who, during the exchange, discovered they had designed very similar lessons. Throughout Lorraine's thirty-eight second explanation, during which she elaborated on the way her students

were supposed to design commercials, Carol was deeply entrained in the conversation. She displayed nearly constant movement that was synchronous with Lorraine's movements. Other members of the group were also entrained, as indicated by fixed gazes, but synchronous actions were minimal until Carol and Lorraine opened the conversation to the group. When Carol leaned back in her chair and nodded (5:00:00, 05:01:30) and Lorraine leaned forward and looked at Andrew and Dan (05:01:43), their actions signaled that the conversation had shifted to a more inclusive topic, in this case a popular television commercial.

The group interaction began to peak at about five minutes and zero seconds when Lorraine revealed that the Geico commercial was her inspiration for the activity. All members at the table recognized the ad, and as a collective, they laughed and chimed in with verbal quips. During the seventeen seconds that followed, their bodies moved synchronously as they nodded and smiled. Gina took the opportunity to share her favorite Geico commercial as well, and after the collective effervescence reached a climax, there was a five second lull in the conversation. The extended break in speech indicated that the storytelling/imagining session was reaching its conclusion. This created an opportunity for Andrew to excuse himself from the table and for Carol and Lorraine to engage in a short verbal exchange between themselves. The table below illustrates the seventeen seconds of synchronous activity at the peak of the conversation.

Oral Text[15]	**Lorraine**	**Carol**	**Amy & Mark**	**Gina**	**Andrew & Dan**
05:01:56-05:03:10	*leans forward, looks at Andrew and Dan (05:01:43)*	*lifts head, leans back (04:59:46-05:00:00)*			*Dan looks at Lorraine (05:01:00)*
Amy: You mean the Geico gecko, the car insurance?	*looks at Amy (05:02:10)*	*nods (05:01:30) turns head left*	*Amy smiles (05:02:50)*	*looks at Lorraine (05:01:40)*	*Andrew looks at Carol (05:02:46)*

[15] Time is measured in minutes, seconds, and hundredths of a second.

Oral Text	Lorraine	Carol	Amy & Mark	Gina	Andrew & Dan
		to look at Amy (05:01:83)	*Amy looks at Andrew (05:03:06)*		*Andrew looks at Amy (05:02:70)*
	looks at Gina (05:03:20)	*turns head to the right (05:02:90)*		*places hand on computer (05:04:10)*	*Dan smiles (05:02:76)*
	looks at Dan (05:04:10)	*looks at Lorraine (05:03:10)*	*Mark turns head slightly to the right (05:05:63)*	*looks at Lorraine (05:04:83)*	*Dan, wide smile (05:04:00)*
05:04:16-	*lifts head, places left*	*blinks (05:03:90)*	*Mark moves hands*		*Dan unfolds arms (05:04:23-*
05:06:14	*hand on chest (05:04:40)*		*(05:06:26-*		*05:05:16)*
Lorraine (laughing):	*looks at Carol (05:05:00)*	*chews gum (05:04:33)*	*05:06:83)*	*smiles (05:06:53)*	*Andrew looks at Lorraine (05:04:36)*
Every time I see it I laugh.	*gestures with hands (05:05:63-*		*Amy, smiling, looks at Mark (05:06:60)*	*turns head right*	*Dan: "Mr. Diggyfly?" overlapping (05:05:30)*
	05:06:13)	*tilts head to the right (05:04:96)*	*Mark :"Geico" (05:06:90)*	*toward group (05:06:83)*	*Dan smiles (05:06:40)*
		turns head to the left (05:05:66)	*Amy looks at Lorraine (05:06:93)*		*Andrew smiles (05:06:86)*
		turns head slightly to the right			*Andrew looks at Gina, smiles (05:07:26)*
	turns and looks at Mark (05:07:63	*(05:06:63)*			*Dan looks at Gina (05:07:50)*
		"Yeah" (05:07:36)		*looks left and down*	*Dan looks at Lorraine (05:07:76)*
		looks at Lorraine (05:07:96)		*at computer (05:07:83)*	*Dan looks at Gina (05:08:16)*
		nods,			*Andrew looks at Lorraine (05:08:33)*
	hands papers to Mark (05:08:66)	*chews gum (05:08:03-*	*Mark takes papers from*		*Dan looks at Mark, wide smile*
		05:10:20)	*Lorraine (05:08:66)*	*turns head right toward*	*(05:08:40)*
05:09:16-				*group*	
05:17:16			*Amy looks at*	*(05:09:56)*	*Dan looks at*
Gina: I always like the one when they're in the car and he's singing 'everybody was kung-fu fighting.' And he's sitting in the backseat. I love that little gecko.	*settles hand in lap, looks at Gina (05:10:10)*	*looks at Gina (05:10:33)*	*Gina (05:09:70)* *Mark tilts head down (05:10:33)* *Mark tilts head toward group (05:10:70)*	*leans back, motions with hand, turns left toward Lorraine (05:10:03-* *05:11:66)*	*Gina (05:10:00* *Andrew looks at Gina (05:10:06)* *Dan smiles (05:10:60)*

Oral Text	Lorraine	Carol	Amy & Mark	Gina	Andrew & Dan
			Mark moves right arm (05:11:20-05:11:76)	*blinks (05:12:40)*	
		chews gum (05:12:80)		*makes fist (05:14:56)*	
	smiles (05:13:90)		*Amy looks at Lorraine (05:13:33)*	*brings hand down, swivels head and body to the right (05:14:90)*	*Andrew smiles (05:15:33)*
	nods (05:14:03-05:15:10)	*nods (05:14:90-15:17:00)*			*Dan smiles (05:15:36)*
			Amy looks at Gina (05:14:96)		*Dan wide smile (05:16:86)*
	sways back, puts head down (05:15:33-05:17:33)			*leans back (05:15:30)*	*Andrew leans forward, moves arms (05:16:36-05:17:66)*
		smiles (05:17:43)	*Amy looks at Lorraine (05:17:40)*	*turns toward Lorraine (05:15:96)*	

By the end of the discussion, it was evident that the solidarity experienced by Carol and Lorraine had spread to the rest of the group. This was particularly apparent in the amount of activity displayed by Andrew and Dan. Throughout the group interactions, Andrew and Dan tended to show less movement than the other participants. Often their facial expressions were nearly unchanging, and eye-gazes were their most common indicator of entrainment in a conversation. Yet, by the end of this exchange, they showed significantly more movement than Carol who in general had a tendency toward constant rhythmic movement during entrainment. When Lorraine and Gina shared their stories about their favorite advertisements, they did more than illustrate the inspiration for Lorraine's lesson. They also connected the lesson to the group members' non-teacher identities. The group members smiled and laughed not only at the description of the advertisement, but also when Lorraine laughed at herself at 05:05:00. Taking advantage of the tone that Lorraine had set in motion, Gina heightened the group's positive energy into an effervescence by sharing her favorite advertisement, as well. She sang the song

from the ad and mimicked the character's actions which provoked more smiles and laughter from the group. By the end of the entire discussion at 06:43:56, there were at least five resulting outcomes: 1) every member of the group had spoken (at least with a small quip) and most members had shared some knowledge or experience with the group, 2) Carol's lesson was connected to the in-school and out-of-school lifeworlds of the group members, 3) Carol's and Lorraine's lessons were charged with a positive emotional energy, 4) group solidarity was increased, and 5) new culture had been produced.

Contradictions—When Collegial Sharing Doesn't Result in Solidarity

While in general group solidarity was achieved through sharing stories, ideas for the future, and technological knowledge, there were also times when these patterns broke down. Using the above vignette as an example, at the end of the storytelling/imagining session, Amy contributed an idea and a story that were accepted but did not generate the same type of positive emotional energy as others' stories and ideas did. In Amy's case, her contributions were asynchronous. They followed a dramatic pause in the conversation which signaled to the other group members that the session was coming to an end. Amy missed her opportunity to successfully contribute to the group because she allowed too much time to lapse before she began to speak. Thus, Andrew had excused himself from the table, Carol and Lorraine began a conversation of their own, and Gina began intently working on the computer. And while the other group members did pay attention to her as she spoke, her contributions were not very well received because they fell victim to poor timing and being upstaged by the prior exchange that had generated an exceptionally high level of positive emotional energy.

Within other vignettes, there was evidence of this type of breakdown as well. For example, there was one discussion between Lorraine and Andrew during which they were debating over how to use PowerPoint in the classroom. Andrew had created a lesson that aimed to engage students in a whole class discussion about various artists' self portraits by displaying images and questions in a PowerPoint slideshow. His idea was to project the slideshow in order to keep all students moving at the same pace. Lorraine questioned this strategy by asking Andrew, "Isn't the ultimate goal to get the students to do this themselves?" Andrew, however, was concerned about maintaining control over what the students were doing in the class. Lorraine worked at an elite private school, and drawing from her school's culture, she believed that a program like PowerPoint should be used to empower not control students. Andrew worked at a public alternative school in Manhattan, and drawing from his school's culture, he recognized that while it was possible to use PowerPoint for student empowerment, at times it was more desirable to use it as a means of controlling students. In this case, the discussion never turned negative, but it was not charged with much positive energy either. In the end, the two teachers never came to an agreement, and they conceded to turn over the discussion to someone else.

Finally, Amy had brought in a lesson geared toward helping ESL students build on their vocabulary. In her lesson, she used a cartoon that had many different objects in it. Together as a class, the students would define different objects shown in the picture. Amy sought a way to use technology so that each time she did the lesson, she wouldn't have to write all the vocabulary on the board. Janet[16] immediately suggested a "low

[16] Janet was another member of the group who also worked at Carol's school. She was not present on the day that I filmed "Carol's commercial".

tech" solution to Amy's problem. She explained that Amy could write the words on chart paper and connect them to the appropriate part of the cartoon with yarn. Janet's idea fell flat, and the other group members seamlessly shifted the conversation to ideas involving smart boards, scanners, PowerPoint, and Inspiration.[17] By the end of the discussion, the group members had decided that the most realistic way of meeting Amy's needs was by using an overhead projector, to which she would surely have access. In a group where technology was a "sacred object" (Collins, 2004), Janet's low tech idea generated neither positive nor negative emotional energy, and it could not be entertained unless there was no other technological alternative.

Conclusion

"Dropping a Rock into a Pond"
February 2004—Field Journal Reflection--

Warm, inviting sunlight streams through the large wall of windows in the upstairs atrium of 1P, the performing arts building. Round wooden tables surrounded by teachers from various high schools clutter the normally open loft where students often seat themselves to read between classes. The smell of coffee courses through the air, and invites the teachers to take a cup to give them a boost after a long day in their classrooms. Most accept the offer and make their way to the coffee table where they fix their beverages and maybe indulge in a cookie or two while they're there. Coffee and cookies is usually the first priority when the teachers enter, since the coveted chocolate chips go first and no one wants to miss out. Because of the vaulted ceiling and terrible acoustics, the noise level is high as the curriculum-writing teachers greet each other

[17] A program for creating thought webs.

fondly and make their way toward their chosen groups where they sign in, fill out time sheets, and prepare for their two hours of brainstorming and curriculum building. This is the weekly routine at The Discovery Institute at The College of Staten Island.

I sit at the table in the far corner away from the windows because I know this is the usual spot where Chris (the facilitator) and his 9th grade English group meet. My purpose here is to observe the group in order to gather ideas for my research project, which is scheduled to begin in July and will later become a source of data for my dissertation. I'm not exactly sure at this point what my focus is, but I know that of the groups I've observed, I enjoy this one the most. I attend Chris's group regularly, and I almost feel like I belong here. There is always a flurry of activity-- discussion, constructive criticism, expansion of ideas. While it doesn't happen with every lesson, always at some point during the session, someone will share a lesson or toss out an idea that triggers a chain reaction of new ideas and suggestions from the other group members. Chris explained, "I love to watch what happens when a teacher drops a rock into a pond and you can see all the ripples spread out from the center." He has said that to me on many occasions, and I concur. It makes me feel energized and inspired. It makes me want to teach.

In hindsight, I understand that what drew me to Chris's group in February 2004 was the positive emotional energy, collective effervescence, and group solidarity that radiated around the participants when they were together. And while not every session felt that way, it was inspiring to be there with a table full of teachers who were enthusiastically re/producing culture. Yet, lacking in that group was room for technology use. While teachers were free to use technology, it just didn't seem to be a necessary part

of the group's culture. While it wasn't discouraged, it was not overtly encouraged either. I would soon come to find this was often the case in Carol's school as well. It was in this group that I first met Carol, and I remember she had written an Internet based lesson about the novel, *Red Scarf Girl*. While it was accepted by the group, it did not generate the same positive emotional energy that her television commercial lesson did in the English/Technology group. She was one of only two teachers in the group of ten to incorporate technology in her lessons,[18] and her efforts were fairly unrewarded. It was this observation that inspired me to begin the English/Technology group in the first place and, furthermore, to offer the first seats in the group to Carol and Sarah.

Cultural re/production is a never-ending process, and if teachers are not involved in a community of practice that holds technology as one of its "sacred symbols", technology use may simply fade into the background, as it so often does after teachers no longer attend skills classes or workshops. When re/constructing their identities as teachers and technology users, a community of practice that values technology use, teacher experience, and unique teacher history can help teachers in satisfying the diverse demands of the many fields in their lives. As teachers re/produce culture in this type of "in-between" field, there is potential to simultaneously charge technologies and curricula with the positive emotional energy necessary to spark change in their home schools. Technology, curriculum, and teacher experience cannot be kept in isolation from each other. Instead, it is important to capitalize on the transient nature of culture as it travels through the adjoining doors between fields. From there, teachers can confidently begin to re/produce a new culture that includes technology and is empowering for them and their students.

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[18] Sarah was the other.

Chapter IV

Through the Classroom Door: Problematizing Technology Integration In Brooklyn High School Vis-à-vis the Agency/Structure Dialectic

Introduction

> "Sometimes I feel like I have walked into the middle of a movie with no plot and no beginning. The movie is in black and white, and grainy. Sometimes the camera moves in so close that you can't tell what is going on and you just listen to the sounds and guess" (Myers, 1999, p. 3).

"Just shut that behind you, ok?" Carol walked out of her classroom and led the way toward the English office.

I took hold of the doorknob to Carol's room, and the door locked as I pulled it shut behind me. The knob was cool to the touch, egg-shaped, solid brass, sturdy-- a reminder of the school system's past, haunted with ideals of assimilation, Americanization, deprofessionalization, and plenty of other identity-stripping nouns ending in "tion." The same type of doorknob is located on nearly every classroom and office door in the building. I noticed it again as we entered the main office of the English department. I didn't know it then, but I would continue to notice those doorknobs every time I was in the building from there on.

As evidence of its history, embossed on it are the words "New York City Board of Education Public Schools." Now, in 2006, the Board of Education no longer exists. In 2002 Mayor Michael Bloomberg gained control of the city's schools, unified the forty different school districts, and renamed them the Department of Education, in true corporate style. Yet, it is still fitting that every time a door is opened or closed in Carol's

school there is the subtle reminder that the opening or closing motion is performed always with the BOE (or DOE) in hand. No matter what decorations hang on the walls, no matter which students enter the room, no matter which teacher keeps her belongings in the closet, the domain is still property of the DOE. And no matter how Carol tries to bring technology into her curriculum, she will always contend with the issues that arise from within a large urban school system.

As teachers begin to re/construct their identities as technology users, often the biggest obstacles for them to overcome have as much to do with the actual computers as they do with the complications that arise from working within an urban school. Thus, the process of technology integration should be looked at as dialectically intertwined with the process of urban schooling. Like the doorknobs in Carol's school, so often used and not examined, the daily process of teaching and learning in an urban high school can also seem heavy, sturdy and cool to the touch. It has been going on for so long that like text embossed on a brass doorknob, the finer subtleties of it are often missed especially when in the shadow of a glowing computer screen. It's easy to just pull the doors shut behind us and keep on moving without wondering who we are locking in or out and why. For those who have keys to unlock these doors or can figure out how to wedge them open, public schooling can provide many opportunities; for those who don't, public schooling can just as easily prevent access to resources and equitable education. As a teacher, a student, an administrator, and especially a researcher, the story lies in the palm of your hand, though it's so close, it's nearly impossible to see. Like in Myers's *Monster,* the images feel black and white, and grainy—static on a television. It's times like these,

when it's most necessary to take a moment to step back and read the writing on the doorknobs.

--*Opening a Door to Brooklyn High School*--

> "I was trying to ask questions and nobody could hear me. I was shouting and shouting but everyone went about their business as if I wasn't there. I hope I didn't shout in my sleep. That would look weak to everybody. It's not good to look weak in here" (Myers, 1999, p. 63-64).

4/22/05

I walked into the large foyer of Brooklyn High School, and approached the security desk where I was asked to show photo I.D. and sign in. I watched as late entering students removed their belts and watches and walked through a metal detector while their belongings were x-rayed and their I.D. cards were scanned into a computer. It felt strange and uncomfortable that I was a visitor, yet I was not subject to any of that surveillance. I was merely given a big white and red sticker to slap on my shirt before being sent on my way.

I felt nervous and unsteady being in the school during school hours. I was glaringly "other" with my big sticker and my field notebook as I arrived at Carol's Ramp-up literacy class during independent reading time. Since the door to her room was locked from the inside, one of the students had to get up to open it, and I became an immediate disruption. Students stared at me in curiosity. Some said hello, most didn't. Carol introduced me as "Miss Kress who will be helping us on the computers," to which one student blurted out, "Yo Miss Crest, do your husband own a toothbrush?" Not getting the joke right away, but knowing it was a joke on me, I felt my face twist in puzzlement and

flush with embarrassment. Carol quickly shut him down and told him to get back to his independent reading, and I, quietly pondering how the student had automatically assumed I was married, clumsily took a seat at an empty student desk toward what seemed to be the back of the room.

The students read for another ten minutes or so as Carol held a conference with one girl by her desk. Since the class meets for a double period, when the bell rang for the other students in the school to change classes, Carol's class stayed put. Once the hallways had cleared, Carol asked Ms. T (the paraprofessional assigned to assist a special needs student in the class) to go down the hall and unlock the computer lab. Next, she had the students line up as she stood at the doorway, and she handed each student a floppy disc before he or she left the room to go to the lab. She did this slowly, and I noticed she called the students not in the order the discs were in, but in her own not-quite-random order. Once the last of the students had left, Carol and I followed them down to the lab.

"So today, I'm having them get images from the Internet to use to create their PowerPoint timeline of the Civil Rights Movement," Carol began as we walked down the hall. "I decided to just let them do a Google search even though I did give them a few sites that I recommended. So, they're supposed to decide on five significant events, and then find images to go with those events." The students had been reading *The Watsons Go to Birmingham,* a novel about an African American family that travels from Flint, Michigan to Birmingham, Alabama during the Civil Rights Movement, so Carol decided it would be worthwhile for her students to create a timeline of the Civil Rights Movement. By doing this, they would situate the events in the text by connecting them to

real life events, thus understanding the importance of setting and the progression of time in the novel.

When we arrived at the lab, we walked in on a full-blown argument between Ms. T and Tanisha, a female African American student in Carol's class.

"But it's mad cold in here!" Tanisha strode toward the air conditioner and turned it off.

"I told you, don't touch that! That's school property, and you're not supposed to touch that!" Ms. T turned the air conditioner back on.

Tanisha stomped back toward the air conditioner (and Ms. T) and reached out her hand to flip the switch again. "I don't care! It's mad cold in here!"

Other students echoed agreement with a medley of, "yeah miss, it's cold."

"Don't touch that, and don't touch me!" Ms. T turned to Carol for assistance. "You've got to get her out of here now. She has to leave!"

"But Ms. Ameno, it's mad cold in here," Tanisha half-pleaded with Carol.

"Come on Tanisha, let's go," Carol said escorting her out of the room.

"But where I'm supposed to go?"

"You know where to go."

Tanisha sucked her teeth and stomped a little on her way out of the room. She muttered under her breath, "I don't understand why it always gotta be so cold." The door closed and locked behind her and Carol proceeded to establish order and get the students on task.

I stood uncomfortably against the wall, feeling as if I had just witnessed a family fight. Perhaps sensing (or maybe seeing) my discomfort, Ms. T looked at me apologetically and said, "She knows she's not supposed to touch the equipment. We go through this every time." I smiled slightly, hoping to show Ms. T that I didn't fault her for the incident, and shrugged hoping to show that I felt it wasn't anyone's fault. Then I suppressed a shiver, because it was only April, the air conditioner was on, and it *was* cold in there.

Overlapping Fields and Conflicting Structures in New York City Public Schools

New York City public high schools are notoriously structured by many rules and regulations involving security procedures, curriculum requirements and time schedules to name just a few. Some of these rules are mandated by the city, some by the school region, some by school administrators, and some by teachers and faculty within the schools. Since there are so many activities happening within a school's walls, a school can be thought of as many fields that are layered, overlapping, and bleeding into each other through weak and porous boundaries (Sewell, 1999b). As explained by Swartz (1997), Bourdieu's notion of fields

> denotes arenas of production, circulation, and appropriation of goods, services, knowledge, or status, and the competitive positions held by actors in their struggle to accumulate and monopolize these different kinds of capital. Fields may be thought of as structured spaces that are organized around specific types of capital or combinations of capital (p. 117).

Combined with Sewell's notion of culture (Sewell, 1999b), then, a field can be thought of as a structured space where culture is enacted and capital is exchanged amidst a struggle

for power. Each of these fields is structured by schema and resources that participants within the field access and appropriate in order to meet their goals and either reproduce or transform the structure and culture of that field. Because there are many fields operating concurrently, macro structures (such as city policies) often constrain or conflict with micro structures (such as classroom practice). And because structures are always dynamic, the immediate goals of teachers and students are sometimes not supported by static macro structures. This is precisely what I walked into on my first day in the computer lab at Brooklyn High School.

The irony here is that macro policies are put in place in order to create spaces in which teachers can teach and students can learn; but these structures cannot regulate the nuance and flux of daily practice in the classroom. Therefore, even though teachers and students may hold the same goals of teaching and learning as city policy makers and school administrators, their immediate goals, such as adjusting the temperature of a room to create a comfortable learning environment, are not afforded by a broad macro policy that requires computer rooms to be kept cool in order to preserve the hardware. What results then is a macro structure that is oppressive and can impede the agency of teachers and students within this field, making it much more difficult for students and teachers to achieve their goals. Contradiction and instability such as this can result in an unpredictable unfolding of events that can complicate the process of technology integration and the re/construction of a teacher's identity as an educator and technology user. This is not something that computer fluency and lesson planning alone can resolve.

Agency | Structure in the Computer Lab

--*The Air Conditioner Incident*--

The "air conditioner incident" as I have termed the above event is just one example of how structural constraints can lead to cultural conflicts that have the potential to slow down or halt computer use in Carol's classroom. Computer hardware is sensitive to excessive heat, and if the temperature of a machine rises above approximately eighty degrees the machine may get damaged. To address this, logically, the computer lab rules in Brooklyn High School required that the air conditioners be on at all times so that the labs stayed cool and the computers did not overheat. However, aside from knowing that this air conditioning rule existed, Carol, Ms. T, and the students did not know what temperature was considered hazardous for the computers, or what the appropriate temperature should be in the room. Even if they had, there was no thermometer or thermostat to gauge or regulate the temperature.

The rule regarding temperature is just one aspect of the macro-structure of the school. Ideally, this structure with its schema (rules and mandates) and resources (air conditioner and mindful faculty) should preserve the computers, thus affording the teachers and students agency when using the computers in the computer lab. However, since New York City tends to be about fifty-five degrees in April (the time of the incident), and newer computers give off less heat than old computers used to, it is now unnecessary to have the air conditioner on to keep the machines cool. Under these circumstances, the rule made little sense and actually had the reverse effect of what it was supposed to achieve. Suddenly, once Tanisha had pointed it out, the temperature became an enormous distraction and needed immediate attention. For Tanisha, the structure of

the field was detrimental to her immediate goal of creating a suitable learning environment. Her first priority in this situation was comfort. By using her capital (knowledge of how the air conditioner works) and exerting her agency to shut off the machine, she was able to (if only briefly) alter the structure of the lab to suit her needs as a learner.

Unfortunately, in a response to the power dynamics at play within the classroom, Ms. T misconstrued Tanisha's agentic act as sheer defiance. What resulted was a ripple effect that culminated in a power struggle between Tanisha and her classmates and Ms. T. The students began to build solidarity around their burgeoning negative emotional energy (Collins, 2004) associated with the frigid temperature, the unfair rule, and the clash between their goal as learners (comfort) and Ms. T's goal as faculty (enforcement). The students demonstrated this solidarity with their echoed chorus of "yeah, miss, it's cold!" But as a faculty member and rule enforcer, Ms. T. knew that according to school regulations the air conditioner was supposed to be running at all times, and she was not willing to turn over authority to Tanisha. In addition, since the air conditioner is school property, she recognized that only she and Carol should have the authority to touch it, since they would be held responsible if the machinery were damaged. Her reaction of prohibiting Tanisha from touching the machine stemmed from the high surveillance atmosphere of the school and her faculty habitus, part of which is her disposition to enforce school rules and uphold the structure created by the administration. When Tanisha was insistent, Ms. T interpreted her action as a personal threat. Using her social capital (Bourdieu, 1990), Ms. T then looked to Carol to support her in enforcing the rules and ejecting Tanisha from the computer lab for being unruly.

While normally Carol holds substantial power in the room, in this case, Ms. T was the primary holder of power because of her social capital associated with being a member of the faculty. In a later interview Carol explained, "I would never disrespect another faculty member in front of a group of students. It's just not something you do." Carol's understanding of faculty schema involving collegiality in the workplace prohibited her from siding with Tanisha because it would have been taken as an affront by Ms. T. Furthermore, Ms. T was often a much-needed resource in Carol's classroom; siding with Tanisha could mean losing Ms. T's helping hand. "She doesn't have to help me, you know," Carol explained. "By contract, she's just there to assist the one student she's assigned to. She could sit and read the newspaper if she wanted to. There are some [paraprofessionals] who do that. So she's really great in that regard." And finally, as holder of a key to the computer lab (a symbol of power), Ms. T made Carol's life slightly easier, since she could open the lab at anytime; thus, it was unnecessary for Carol to solicit help from an administrator of the English or Math department. Given the circumstances, Carol felt she had no choice other than to truncate Tanisha's agency by ejecting her from the room and restoring order to the class; thereby, reinforcing Ms. T's authority, maintaining the structure of the computer lab, and reproducing the culture of the field, including Tanisha's disadvantage.

In the end, this power struggle was a time-consuming process. Since the students' goals shifted from simply using the computers to creating a more comfortable learning environment, much of their time (yet another macro structure of the school) was spent entrained in the confrontation rather than getting settled at their consoles. By the time Tanisha was ejected and the students began working, there were no more than twenty

minutes left in the class period. If all students had been on task the entire time, this still would not have afforded them sufficient time to accomplish their goal of researching and collecting all their images for their Civil Rights Movement timelines. And by this time, the mood of the class had shifted anyway. Ordinarily the students looked forward to working on the computers, and going to the computer lab created an air of positive emotional energy in Carol's class. However, the argument between Tanisha and Ms. T reified the power dynamics within the classroom and summoned the negative emotional energy associated with an oppressive and unfair learning environment. As a result, some students no longer seemed interested in working on their projects. One student was playing on-line checkers; another was reading about the New York Knicks, and another was reading about Spongebob. Sadly, it seemed that for those students, at this point, their last priority was their schoolwork, and their time in the computer lab amounted to very little actual work being accomplished.

Surveillance, Fear, and Symbolic Violence: Structuring Forces Between and Within Fields

In New York City's large public high schools, as in many large urban schools in the United States, surveillance and scrutiny of both students and teachers is rampant. Vinson and Ross (2003) use the term surveillance-spectacle, defined as the observation of the many by the few (as in cameras in the hallways) and the observation of the few by the many (as in published reports of students' and schools' test scores), to denote the current 'standardization by gazing' policies being implemented within our urban public schools. As they explain,

> Surveillance operates (principally) on the micro level as educational managers observe and encourage *particular* activities and procedures. Spectacle operates (principally) on the macro level as the media report specific test scores frequently identified school-by-school and district-by-district. With respect to schooling, surveillance and spectacle are mutually empowering, circular, leaving teachers and students (and others) in an unfortunate position relative to the disciplinary gaze—observed by small numbers of powerful officials *and* by large numbers of the general public. Needless to say the pressures to 'appear' a certain way, to conform to the dominant image are immense (Vinson & Ross, 2003, p. 247-8).

Naturally, the resulting self-consciousness and paranoia influence the ways in which teachers and students enact culture within their schools on a daily basis.

This is no different in Brooklyn High School. When I first entered the school building, I realized at once that surveillance is nearly constant and strictly adhered to. Students are subjected to bag searches, having their belongings x-rayed, and daily walks through metal detectors. On the walls of the hallways there are printed signs, stern reminders, announcing that students must display their I.D. cards whenever requested by security personnel. The entire school building is wired with cameras that display continuous live feed at security stations. All doors are locked from the outside, and those wishing to enter must either have a key or be admitted by someone on the inside; thus, my glaring interruption when I entered Carol's classroom during independent reading. Even though as wielders of keys, teachers are afforded a higher level of power than students, they too, are subject to surveillance. When clocking in and out in the mornings and afternoons, teachers must place their hands on a high tech device that scans their fingerprints and documents when they enter and exit the building. Carol's school has been declared a "failing" school for the past several years, and they have had unfortunate

racial incidents in the past, causing the school to be disparaged in the local media. As a result the teachers are routinely subjected to unannounced observations of their classrooms. When teachers and students are victims of this type of symbolic violence (Bourdieu, 1997), teachers may choose to exert their agency toward a more pressing goal of protecting their students and their reputations, thus reproducing the structure of the school, before exerting their agency in exploring ways to provide technological resources for their students.

--*The Meanings of Floppy Discs*--

In Carol's class, as is the case with many Ramp-up literacy classes, many of the students have a history of chronic lateness and excessive absence. In the past, some have been involved in incidents that resulted in disciplinary actions (like suspension) being taken against them. And some are students who are repeating this course for the second or third time. While every year is different, these types of urban schooling issues are always present in one or more of these forms. Thus, Carol is always mindful of her students' behavior both inside and outside the classroom. This is evident in her use of the students' floppy discs as "passes" to the computer lab.

When Carol first began bringing her students to the lab in the fall of 2004, she instructed her students to save their work on the hard drives of the machines. This is standard procedure for many other teachers' classes, so she did not anticipate needing private storage for her students' files. However, since the computer lab is a shared space, many other students also have access to the machines. Carol learned quickly that students' work can be lost or tampered with if others have access to it. As Carol explained, "I had them save their work into a folder with the class's name on it, but you

know, whose work was missing or damaged or they didn't save in the right place… And it was really a debacle." To remedy the problem, I suggested that Carol provide her students with floppy discs to use in class. Knowing her students' past histories and their tendencies not to bring supplies and schoolwork from home, she decided she would keep the discs in a box in her closet. This way, the students' work would always remain safe and available. Also, her students could pick up and work with their files where they left off, even if they were absent for long periods of time. The discs were initially meant to be used as a resource so Carol wouldn't have to worry about whether or not a student lost her work on the computer or forgot her disc at home.

However, that day in Carol's class, the floppy discs were not merely used for safeguarding the students' work. As faculty, and specifically, school attendance officer, Carol was concerned about her students' behavior in the hallways. Feeling the need to protect them from potential confrontations with other faculty or security, which could result in harsh consequences, Carol decided to use the floppy discs as a means of structuring the activity that took place as students were moving through the halls from her room to the computer lab. Using one student, Akeem (the one who heckled me as I entered the class), as an example, she explained, "you know, certain students will talk if they converge in the hallways, and if they were to run into a security guard, I hate to think of what could happen. The last thing I want is for a security guard to ask Akeem why he's in the hall, because I know him. He would tell the guard to f*** off, and that would be the end of Akeem. He wouldn't even make it into the lab." Carol's teacher habitus within this culture of scrutiny and fear predisposed her to be not only a rule enforcer but also a student protector. Consequently, she found herself trying to find a

way to ensure that her students would adhere to school policies so that she could provide her students with learning opportunities in the computer lab.

Since the floppy discs were intended as a means of preserving the students' work, Carol succeeded in altering the structure of the shared lab by giving the students a small bit of private space where they could save their files. But in turn, she also transformed the structure of the hallway by using the discs not only as storage devices, but also as hall passes. She thus changed the meaning of the discs and was able to appropriate them as a resource with which to achieve her immediate goal of safely corralling her students from one field (the classroom), through a second field (the hallway), and into a third field (the computer lab). While other classes were in session, the hallway was a shared school space where the structure was different from the structure in classrooms during this time. While classes were in session, the conduct for moving through the hallways was different from when classes were not in session (i.e. between classes as students are moving from one class to another). According to hallway schema, silence was expected while classes were in session. This was reinforced by security officers, other school faculty, and surveillance video. As part of their habitus, some of Carol's students had a tendency to be verbose, a disposition that is not supported or tolerated in this field. Therefore, Carol was fearful of how her students might be treated by other faculty or security personnel if her students were rowdy in the hall. If a student like Akeem were removed from the hallway by security, his agency in learning and using technology would be truncated before he even got to the lab.

Furthermore, as a Ramp-up literacy teacher who was exposed to symbolic violence in the form of frequent surveillance and scrutiny within the school, Carol was

concerned about how her students' behavior in the hallway would reflect upon her as a teacher. As she explained, "First of all, it could make me look like I'm not doing my job. Like, 'Oh there goes Ms. Ameno's class again; they're always out of control.'" This type of fear is not necessarily unwarranted. Since Brooklyn High School is on the city's list of failing schools and has come under harsh scrutiny in local media, teachers (and particularly Ramp-up teachers) are often being watched and reprimanded. As a new teacher, Carol felt particularly vulnerable to this type of judgmental scrutiny. "Just recently," she explained, "I was teaching a class, and in walk these people from the Department of Ed to do an observation, and it was only October! We [the students and I] barely know each other by that time, so you can just imagine. I mean, it was wild, just wild. You know, sometimes I'm happy if I can just get them all in their seats at the same time. And so I felt like this was the worst lesson I'd ever taught, and I was sure they'd want me fired. But you know, if they had come in December, once everyone had really settled into a routine, it would have been a totally different story." In Carol's school, rules concerning silence and orderly conduct are part of the structure of the school. Silent and still students are considered indicative of a successful learning environment and effective teaching. Simply getting students through the halls into the computer lab without incident, let alone actually getting on the computers, is a looming concern and can serve as a deterrent to using computers in general. By using the floppy discs as a resource, Carol reinforced the schema of silence in the hallway. In order to transform the structure of her class to afford students an opportunity to use technology, Carol used her agency to limit her students' agency and reproduce the structure in the hallway. By doing this, she was able to avoid incident and ultimately achieve her goal of getting her students

safely to the lab so they would have access to the computers, which would hopefully expand their agency in developing their literacy and technology skills.

Contradictions-- Establishing a Field of Trust During Non-class Time

While patterns of a culture of fear and mistrust permeated the building and Carol's teaching strategies, there was also evidence of contradictions to these patterns. For example, at any given time that Carol was not officially teaching a class, there were always students idling around her. When Carol was in her classroom or the computer lab during non-class time, several of her Ramp-up students would come to her classroom to read or eat lunch, sometimes sharing Carol's own lunch that she had brought from home. Even students who were disruptive in class or who didn't always do their assigned work during class time would come to Carol's classroom during non-class time and do their classwork. If Carol and I were working in the computer lab, students would often come to work on their projects, since the time allotted in one normal class period was not always sufficient for getting much work done. On more than one occasion while Carol and I were working in the computer lab, Carol turned off the air conditioner and even handed over her classroom keys to a student so he could access the floppy discs locked inside the closet within her locked classroom down the hall. In these cases, the classroom and computer lab became different fields with different rules because Carol's class was not in session. Within these non-class fields, Carol's role as a teacher and the level of responsibility placed upon her as a rule enforcer were different. Since the fear of scrutiny was not as strong during non-class time, Carol's disposition to strictly adhere to school rules was also not as strong. What resulted was a more equalized field of trust in which

school and classroom power dynamics did not hold as much weight. During these times, Carol and her students interacted in an informal learning environment in which her students were able to set their own goals, and Carol was unafraid of administrative surveillance.

Conclusion

--Field notes --
4/22/05 (shortly after "the air-conditioner incident")

It's hard researching in a computer lab. I can't just sit [down] and watch because then I can only see the screens near where I'm sitting. At the same time though, I don't want to move around the room because I don't want the students to feel like I'm [there as more surveillance].

Carol went over to a student near me and coached him on Google searching, I suppose, something in relation to the book [*The Watsons Go to Birmingham*]. *Once she walked away, he opened up the page he was previously looking at—NBA info…*

Carol (to student): Are you playing?

Carol (to me): Is he playing? Cause he'll try.

I shrug.

She directs him to Google again.

Carol (to student): Find 5 events…

When I first entered Brooklyn High School during school hours, I hadn't expected the school's culture to play such a significant part in my work. Once I visited Carol's classroom, however, I began to see that small everyday run-ins with school structures can often be the deciding factors in whether or not a teacher like Carol chooses to use

computers with her students at all. In a hierarchical school system where the city watches the central administration, the central administration watches individual schools' administrations, principals watch assistant principals, assistant principals watch teachers, and teachers watch students, accountability is sought by way of rules, surveillance and fear. Surveillance is present in macro structures such as school and teacher evaluations by DOE officials, and in micro structures as in teachers monitoring students in the classroom. Yet, as saturated with this culture as Brooklyn High is, there will always be times when someone isn't looking. Like the student from my field notes or Carol and her students during non-class time, in order to achieve their goals, participants in a field can subvert or transform oppressive structures when they know who is watching them and when or why. Thus, there is still potential to work through, around or even within these structures when participants are overtly aware of how they can use the capital they have to productively exert their agency within these fields. This heightened awareness is essential in technology integration, since a structure as taken for granted as temperature, or a schema as simple as silence could make or break students' learning opportunities. Opening up conversations about technology integration so that they include these urban schooling issues provokes questions about how teachers re/construct their identities as computer users under these conditions, and what it really means for students to have access to technology. Expanding our view of technology use as a matter of culture and identity could lead to a spiraling process that unlocks doors to more possibilities for learning with and about technology in urban schools.

Chapter V
Through the Teacher's Door: Hegemony, Community, and Teacher Identity Within the Culture of an Urban School

Introduction

> "I lay down across my cot. I could still feel Mama's pain. And I knew she felt that I didn't do anything wrong. It was me who wasn't sure. It was me who lay on the cot wondering if I was fooling myself" (Myers, 1999, p. 148).

3/12/05

"This is the AP's computer," Carol explained to me as we sat down in front of the sole computer in the English Department office. "It's fine if we use it, as long as we don't download anything; I'd just as soon not do that. With my luck we'd get a virus or something." That Saturday afternoon, as was the case on most Saturday afternoons, the building was quiet, echoing, and hollow without students and faculty around. Saturday school had just let out, and I was meeting with Carol so we could debrief about the disappointing outcome of the Winter Project Fair and then brainstorm for the upcoming Spring Project Fair.

The English Department office was not small, but for a literature-lover like myself, it was cozily overrun with books and papers. A large patchwork quilt, comprised of bits of student work pasted onto colored construction paper and tied together with pieces of yarn, was prominently displayed in the front of the room to the right of the entrance. Carol noticed as my gaze shifted to the behemoth artifact and she explained, "the Project Fair was full of poster boards and things like that. [This is the one] which, she [another teacher in the English department] made, it's a quilt that [her students] tied

together of events in Holden Caulfield's [descent into madness in] *The Catcher in the Rye*." In contrast to the showcased quilt, the computer was located in the shadowy far left corner close to the Assistant Principal's book and paper-covered desk. Looming over the computer from the perpendicular back wall, a large white poster with black letters commanded its readers to, "Sound smart. Quote Shakespeare."

"So, I have something for you," I said as I fumbled through my purse. "It's just a little thank you. I thought you might like it." I finally found the 128-megabyte flash drive, pulled it from my bag, and handed it over to Carol with a smile.

"Oh, I know what this is," she said immediately working on opening the tough plastic packaging. "I know exactly what this is."

"I thought it might help you to organize your students' files. I know you like to keep master copies of all their work, and this can hold a hundred times what a floppy disc can," I boasted, proud of the gadget's capabilities.

"I've seen them around the building," said Carol as she worked her fingers to attach the storage device to the key-heavy lanyard she wore around her neck. "I noticed all the smart people wear them like this."

Being "Smart"— Teacher Identity in an Urban High School

Wenger describes identity as "the social, the cultural, the historical with a human face" (1999, p. 145). Rather than a singular stable thing, identity is a fluid conglomerate of various identities inscribed by oneself and others (Wenger, 1999). It is continually put at risk in practice as we interact with different structures and resources (both human and non-human). In tandem, identity re/construction is usually subconscious but always

continuous and dialectical (Roth, 2006). It is closely linked to capital and our ability to exert our agency to meet our goals in various fields. It cannot happen in isolation, and as much as identity re/construction is a personal act, we do not re/construct our identities solely on our own. As a social act, identity re/construction is necessarily interconnected with the practices and worldviews of those around us. "Our practices, our languages, our artifacts, and our worldviews all reflect our social relations. Even our most private thoughts make use of concepts, images, and perspectives that we understand through our participation in social communities" (Wenger, 1999, p. 146). As part of their identities, all teachers carry with them their own histories, dispositions and capital, which can be described as habitus, which is continually in flux as teachers navigate various fields and structures, encountering other people and resources, both inside and outside their schools.

Identity re/construction is also a matter of learning. By this, I don't necessarily mean engaging in activities that are specifically intended to teach a skill or concept. I use the term to describe the process of being and becoming in the social world as we interact within and around various cultures and communities on a daily basis. According to Lave and Wenger,

> Learning through legitimate peripheral participation takes place no matter which educational form provides a context for learning, or whether there is any intentional educational form at all. Indeed, this viewpoint makes a fundamental distinction between learning and intentional instruction. Such decoupling does not deny that learning can take place where there is teaching, but does not take intentional instruction to be in itself the source or cause of learning, and thus does not blunt the claim that what gets learned is problematic to what gets taught (1991, p. 40-1).

People and communities are continuously in process, and it is impossible to predict what people learn as they participate in their daily practices. Simply by being in their schools,

teachers and students are learning about technology, although the lessons they are learning might not be enough to provide equitable education for our urban students.

Communities of Practice and Legitimate Peripheral Participation in Brooklyn High School

--*"Smart" Symbols—*

In Carol's daily routine at Brooklyn High, she was continuously engaged in, as Wenger describes, "a subtle dance of the self" (1999, p. 41). Re/constructing her English teacher/technology user identity in the school community involved recognizing how to use her capital from the business world in conjunction with her capital from the teaching world. She strove toward this to afford her agency when developing pedagogical strategies capable of satisfying her goal of leading her students to acquire technology skills that would be useful in both the school field and the business field. This meant that traditional literacy was not the only skill that her students should be acquiring in her class. In her words, "Real world application, that's something that I keep up front for my students, and a lot of that comes from having worked so closely with the movers, who I know didn't function well in high school."

Since many of the movers Carol worked with were high school dropouts or had diplomas but did not go on to college, Carol saw a potential correlation between her literacy students and the movers in the moving business. In Brooklyn High, literacy students, as compared to traditional students, have a greater risk of not finishing high school, or, if they do finish, not going on to college. Therefore to Carol, a good literacy teacher was someone who had aspirations for all her students to go on to college, but who

also prepared them for entering the job market. As she explained, "[by] integrating the literature with the technology, then I can really feel like I'm working to my maximum capacity as an English teacher. 'Cause I can see how we can use technology for the business world, and now [I want] to find a way to put them together—English with the business world." For this reason, inadvertently, the USB flash drive I gave Carol was more to her than a simple storage device.

I appreciated the USB drive for its functionality, and Carol did too. Yet, she also appreciated the flash drive in a way I hadn't anticipated. In Carol's school, the keys that the teachers wore around their necks functioned as material resources and symbolic capital simultaneously. As objects that unlocked chronically locked doors, keys denoted access and power—the more keys a teacher possessed, the more doors she could open, thus the more power she had within the school. In turn, the flash drive denoted access and power of another kind. For Carol as a peripheral member of the technology using community, it was representational of one's status as a technology user. As a migrant from the business world where technological fluency is valued, Carol associated technological know-how with being "smart". A flash drive worn on a teachers' key chain around her neck indicated that she possessed the technological knowledge necessary to utilize the device within her teaching practices. When I gave Carol the flash drive, I had also given her symbolic capital designating her as one of the "smart people".

However, in Carol's school technology use was not given the same weight as in the business world. With its schemas of professionalism and efficiency, in the business world, technological know-how is essential for quickly and clearly disseminating information in a professional manner. The business community is known for using e-

mail, laptops, and hand-held technologies as necessary tools of their daily practices. In Brooklyn High School, students were differentiated from professionals. Technology use was addressed separately from their regular classes. Efficiency was the mastery of a mass of academic concepts that could later be used on Regents exams. Computers and technology, while not unwelcome, were not integrated into the daily practices of the school community. The computer labs were often in disrepair, and with only one technology coordinator for the whole school, technical support was not readily available for teachers as they needed it. In an urban school where technology use does not necessarily take precedence over raising test scores or ensuring school safety, using computers in way that empowers students is not necessary for being "smart". Combined with bureaucratic structures that tend to isolate teachers from each other, the communities of practice that develop were informal and loosely bound. While Carol was able to participate in the technology using community in a limited way, resources in her school were not so readily available to her, and re/constructing her identity as an educator and technology user was often uncertain and challenging.

--Peripheral Participation in the Technology Community—

The series of Project Fairs that I mention in this work were the product of a grant received by Brooklyn High School. All teachers and students in Brooklyn High were asked to participate, and projects were displayed representing school-run classes as well as extra-curricular school-sanctioned clubs. According to Mr. Stein, the principal at the time, he and a group of teachers chose to apply for this particular grant because its conditions hinged on building a project-based curriculum that did not include scripted or

packaged materials; furthermore, the terms of the grant gave ample latitude for integrating technology into the teachers' curricula. As an event that broke the routine of the normal school day, the Project Fair created a field where teachers, as a community, could view the work that each others' students were doing in the classroom. Throughout the day teachers and students spent their free time perusing the various displays and discussing the work that went into putting the projects together. For Carol, as a new teacher, the Project Fair was also an opportunity to have contact with other members of the school community in order to get new ideas for her classroom.

In a short paper that Carol submitted for a graduate class assignment, she described how viewing other teachers' contributions to the Spring 2004 Project Fair inspired her to design a web-based project for her students to display in the Winter 2004 Project Fair. In her words:

> As I walked around the Project Fair, I noticed some sophisticated projects which were planned around technology in the classroom. I was determined to get on board the technology train… I decided to incorporate the elements of the Ramp-up curriculum with technology by asking students to create a Web Page from their Book Talks. I chose this assignment because students are familiar with the Book Talk early in the term… I use lessons that [will] explore literature by including the author's biography, character analysis, text to text connections and a literary critique. All of these lessons are designed around the story *Monster* by Walter Dean Myers. The culmination of these lessons will be posted on the Internet for all Internet browsers to read (November 17, 2004).

Mr. Minelli, the school technology coordinator and also an English teacher, was Carol's primary inspiration. That year, his students had created family tree web pages, and Carol immediately felt this would be a valuable skill for her students to learn.

Twice a year, the Project Fairs afforded teachers time and room to learn from each other as a community. As a peripheral member of the technology using community in her school, Carol was able to see the results of other teachers' technology endeavors. This limited interaction was good for providing inspiration and vision, but it was not enough to enable Carol to use technology more fluently in her classroom practice since she did not actually witness Mr. Minelli in action as he was planning or implementing his lessons, or as he was interacting with his students and the computers. On a regular day-to-day basis, the structures within Brooklyn High School, like in many large urban schools, impeded the development of communities of practice. They also impeded Carol's ability to gain more of a mastery of technology. For Carol, this meant slow progress building her technology knowledge, which was frustrating for her and her students in the computer lab.

School power relations (whether intentional or not) influence the creation of structures like time schedules, multiple roles for teachers, location and distribution of resources, and surveillance of teachers and students. These structures afford and impede teachers' abilities to engage in communities of practice in varied and unpredictable ways. "Peripherality [in a community], when it is enabled, suggests an opening, a way of gaining access to sources for understanding through growing involvement. The ambiguity inherent in peripheral participation must then be connected to issues of legitimacy, of the social organization of and control over resources" (Lave & Wenger, 1991, p. 37). Bureaucratic structures in schools like Carol's can create a segmented environment. Teachers are often isolated from each other as resources, and they are not

given full knowledge of what non-human resources are available to them or how to use them.

Carol recognized Mr. Minelli and another teacher, Mr. O'Mally, as central members of the technology using community in the school, but she had limited contact with them during normal school days when they were actually preparing their lessons that included technology. Mr. Minelli, as the technology coordinator was occassionally available to Carol if she had a computer problem, but Carol was not in a position to learn from him on a consistent basis. Mr. O'Mally used PowerPoint to deliver lessons to his students, and other teachers were encouraged to watch him use PowerPoint in his classroom, but for Carol this offered limited opportunities to learn how to use technology more fluently herself. Even if she wanted to use PowerPoint in her classroom, she did not have the technology in her classroom to do so. According to Lave and Wenger, "In particular, unequal relations of power must be included more systematically in our analysis [of communities of practice]. Hegemony over resources for learning and alienation from full participation are inherent in the shaping of the legitimacy and peripherality of participation in its historical realizations. It would be useful to understand how these relations generate characteristically interstitial communities of practice and truncate possibilities for identities of mastery" (1991, p. 42). When Carol encountered structural difficulties, her peripherality proved to be confusing and disempowering. Without being able to consistently work with a community around her she was removed from others' learning processes and was only privy to seeing the successful end product. Carol's inability to seamlessly integrate technology into her teaching practices further affirmed her belief that she was a technology novice without

necessarily providing much vision of how to get where she would like to be in the future, since Mr. Minelli's and Mr. O'Mally's levels of mastery seemed unreachable to her.

Hegemony, Rhetoric and Reality—Internalizing Structural Constraints as Deficiency

--The Outcome of the Winter Project Fair—

Two days before the Winter 2004 Project Fair as Carol and her students were putting the finishing touches on their projects, Mr. Minelli advised Carol not to upload the web sites onto the Internet in case there were problems with the Internet connectivity during the event. He instructed her to have the students create the pages and the links and display them on the computers as if they were going to be on the web, even though they were not actually published to the web. While logical and potentially helpful, because of Carol's limited computer knowledge, this recommended strategy had a hidden fatal flaw. Since Carol's students' work was not being accessed from the Internet, Carol needed to change the destinations of all the hyperlinks in the students' projects in order to make them work. As a novice computer user, Carol didn't know this. Carol trusted Mr. Minelli's advice as the technology expert, she did not realize the projects might not work properly, and Mr. Minelli did not tell her. Even if she had known about this problem, she might not have known how to fix the links on her own anyway, but she could have asked Mr. Minelli for his help. As a result, when Carol saved the students' projects onto floppy discs in order to transport them to the library for the Project Fair, many of the students' hyperlinks "broke" and did not work when the students were trying to showcase their work.

Carol had her students prepare their web pages to be Internet ready. When the hyperlinks were being created, the destination files that they would link to were saved onto the hard drives of their consoles in the lab. If Carol and the students had uploaded their pages onto a web server, they would have in the process adjusted the links so that they took their viewers to another uploaded page on the site. On the Internet, the destination of the links would have been consistent because they always would be on the same server regardless which computer was used to access the site. However, when Carol's students saved their projects onto floppy discs and then moved them onto different machines, even though they had created and saved all their files and links, the links didn't work. The hyperlinks they created directed the computers to link to files located on the computers' hard drives, but all their files were now located on floppy discs. As a result, when a link was clicked, the computers responded with an error message that said that the files could not be found. Since the files were on floppy discs and had not been saved to the hard drives of the machines at the Project Fair, the computers were searching for the files in the wrong directory. Without time to figure out how to fix the problem, the students displaying the projects remedied the problem the only way they knew how-- by opening each individual file to show spectators the work they had done. This outcome was disappointing and embarrassing for Carol and her students.

After speaking with Carol about the incident, I understood, as did she, that even if the links had worked, the outcome, while certainly better, would still have been disappointing because of the way that the computers were "displayed" in the school library where the Project Fair was being held. The computers were clustered together in

a corner apart from the rest of the projects. The seventeen-inch monitors were dwarfed by the massive tactile projects done on paper and poster boards. Carol described the set up in the library as she brainstormed about how she would showcase her students' work in the future:

> There [were] all these tri-fold boards, and so many things were displayed widely and full of color, and my students were off to a corner with the computer banks without any display, because I didn't want to take away from the computer project by putting up a display board. And so there was very little general attraction in that area. So this time I would also produce the tactile graphic that would be there, the timeline, and then a huge tri-fold, since [my students did all] this work that never got pinned up. The hard copies were never there. And I went against the hard copies thinking that it would defeat the purpose of the project, but that will also keep me honest in how I'm going to do my hard copies now. So the timeline will also have to be represented first in its largest most graphic form. So it would be started like this [in PowerPoint] and then have big pieces of paper connected to it for the tri-fold board.

--*Hegemony and Rhetoric in Carol's School*--

In our society, cultural institutions such as family, religion, government, media, and education perpetuate and maintain cultural and ideological domination. Our urban public schools are no exception. As evidence of this, one needs only to turn to the local news for soundbytes regarding testing, standards, and accountability. Public schools like Carol's are likewise permeated by a hegemony of their own that reflects not only dominant societal culture but also public schooling itself, including its ideologies concerning education and technology. As defined by Gramsci, hegemony is social, ideological domination by consent (1971). Villanueva explains that,

> every culture contains particular worldviews, ideologies; some of these are common to the cultures within a society and are common to the cultures that comprise the dominant groups. We accept commonly held worldviews as truths. The dominant does more than accept, it capitalizes. We accept the dominant's actions based on truths; we approve of acts based on truths; we consent (1993, p. 123).

For Bourdieu, culture as a whole is "not devoid of political content, but rather is an expression of it" (Swartz, 1997, p. 7). It is inextricably linked to power, and while it "provides the very grounds for human communication and interaction; it is also a source of domination" (Swartz, 1997, p. 1). Hegemony and dominance does not simply involve ideologies; it involves all cultural symbols, artifacts, and practices (including linguistic practices) and their contributions to the shaping of our communities. Spoken rhetoric combined with structural impediments often masks hegemonic ideologies in subtle ways, covertly complicating teachers' identity re/construction processes and preventing them from integrating technology into their curricula.

As stated by Villanueva, "Hegemony exploits language and the worldview it contains…If reality, or at least a view of reality, a worldview, is linguistically defined, then alternatives to that reality in the absence of alternative terms becomes a problem" (1993, p. 124). In Carol's school, technology use was verbally encouraged. Mr. Stein took pride in the school's technology resources; he deemed the Project Fair desirable because of the extended possibilities it provided for technology use in the classroom, and he praised Carol for her determination to use technology. Linguistically defined, the worldview within the school supported the use of technology. However, when Carol attempted to create a "sophisticated project" "planned around technology in the

classroom", the end result was unsatisfying and less rewarding than if she had designed a more traditional tactile project.

Since the linguistic expression of the school's technology ideology touted possibility and encouragement, Carol had no way of explaining the failure of the project as anything other than a product of her own shortcomings. She explained the negative emotional energy associated with the events of the Project Fair as feelings of frustration and inadequacy that arose from the preparation for and presentation of the projects:

> [S]ome kids' hyperlinks weren't working due to my original problem of trying to put [the projects] on the Internet, a hyperlink rather than just a [link] from one document to another… and there was a lot of that type of confusion all around me… It wasn't as orderly and sensible as I would like it, but again, I learned that's the story with me.

On the surface, technology use was highly encouraged, and since Carol already identified herself as a computer novice, she internalized the outcome as a personal deficiency that needed to be overcome. She personalized the hyperlink breakdown as "my original problem of trying to put [the projects] on the Internet" rather than recognizing the limited community support, the lack of Internet access, and the lack of time to test the projects on library machines beforehand as structural impediments. She further emphasized that by allowing the hyperlink breakdown, she had created chaos, and being "orderly and sensible" is something she strives for but is consistently unable to achieve, by saying, "It wasn't as orderly and sensible as I would like it, but again, I learned that's the story with me."

Changing Goals and Changing Symbols—Using the Agency/Structure Dialectic to Expose the Covert Schema of the Project Fair

Within Carol's school, the Project Fair and preparation for the Project Fair were free-form activities. There were no specific rules associated with the Project Fair itself. Teachers and students were given leeway to design projects of their choice using the medium of their choice, and while many teachers assigned grades to the projects, they were not mandated to do so. They were only required to display them. As a separate field that occurred on only two occasions during the school year, the Project Fair was structured by schemas and resources unique to itself. However, unlike the overt schemas of the school (like silence and surveillance), the schema of magnitude within the structure of the Project Fair only revealed itself once the event had begun. Even though the projects were intended to be symbols charged with positive emotional energy associated with individual and school-wide achievement and pride, as the schema of magnitude began to take shape, it soon became evident that within the structure of the Project Fair, Carol's students' projects, because they were smaller in size, were not as eye-catching and impressive as other projects. For Carol, the meanings of the projects began to change.

In Carol's classroom prior to the Winter Project Fair, the web-based computer project was imbued with positive emotional energy, since it symbolized her students' future desirability on the job market. She explained, "I want them to know how to do things with technology that will help them in the job world. I don't want to use exercises… that could just as easily be done on paper, like a book report." By having her students learn how to create web pages, she felt she was giving them a "leg up" over others, and she achieved her goal of having her students use the computers to create

projects that could not be done with pen and paper. What's more, her students also enjoyed working on the projects, as Carol explained "it was good because the kids liked doing it and they were actively working on the computers. They really loved the idea of being able to pull together the hyperlinks."

However, the collective goal within the Project Fair was not real world application, but rather showing off the students' work. Projects done with pen and paper were more useful for achieving this goal. This was obvious in the prominent display of the Holden Caulfield quilt that was showcased in the English office. As a matter of convenience, the computers were arranged in a corner close to the walls and power outlets of the library; therefore, Carol's students' projects were situated on the margins of the Project Fair, and there was not much foot-traffic in their general direction. Had Carol possessed more knowledge of technology, she might have remedied the problem by requesting a projector. However, in Brooklyn High School the actual number of projectors was few, meaning that these types of physical resources were not readily available. Mr. Minelli strictly regulated their use, and on such short notice, they were not available at all. In contrast, the quilt in the English Department office, while comprised of only one page of work from each student in the class, did not require electricity or a projector, and it was still being displayed in the English office three months later; it was a successful project because it still showcased the students' work but it also commanded attention.

While Carol was able to accomplish her classroom goal of having her students create in-depth projects using real world skills, this was not apparent to onlookers at the Project Fair. Her goal of notoriety was trumped by projects that were physically larger

and more successfully able to illustrate academic concepts the students had learned. The mastering of real world computer skills, on the other hand, is not something that is translated well in a visually striking way, particularly with a display that is only seventeen inches high. Thus, Carol began to associate the web-based computer project with negative emotional energy prompted by the faulty hyperlinks and the lack of attention her students' projects received. Afterward, Carol recognized that having her students' work "pinned up" was essential to the success of a project in this field; therefore, as she planned for the Spring Project Fair, she decided to assign a Civil Rights Movement timeline created in PowerPoint that would "also have to be represented first in its largest most graphic form" with "big pieces of paper connected to it for the tri-fold board." Through her experience at the Winter Project Fair, Carol gained an awareness of the covert schema of the event. She was then able to exert her agency toward designing the next project in such a way that it would meet her classroom goal of providing her students with real-world computer skills, while also achieving her Project Fair goal of drawing spectators.

Contradictions—Computer as Teacher's Tool

While patterns of these types of structural impediments in using technology persisted within Carol's school, there were also times when these patterns broke down. For example, Carol consistently makes mention of Mr. Minelli and Mr. O'Mally. As technology coordinator, Mr. Minelli's technology knowledge was valued in the school because it was useful for performing his job. He was expected to produce technological projects with his students and to be a model for other teachers. Further, as technology coordinator and a more central member of the technology using community, he was

aware of precisely what resources were available to him and how to get them, so technology break downs and resource availability did not affect him in the same ways as it did Carol.

Mr. O'Mally on the other hand used technology as a means of maintaining control in the classroom. Carol considered him an excellent teacher, but she "didn't want to see [herself] using the PowerPoint for [her] personal use to… put lessons in front of students." Because as she explained, "his students just sit there like this." Carol set her head in her hand, rolled her eyes upward as if watching a projection, and let her mouth slack open. His students were consistently quiet and still when the PowerPoint was on, and in Carol's school, quiet and still students symbolize a successful learning environment and an excellent teacher, but for Carol it meant preventing students from learning to use the machines themselves. For Carol, students were best served if they could learn how to create PowerPoints and web pages to help them so the applications would "not to seem like a secret to my students."

Using PowerPoint lessons to control students' behavior was rewarded by labeling Mr. O'Mally as a model teacher, but becoming a more central member of the technology using community was difficult for Carol and others since most teachers were not provided with the resources to execute this type of teaching strategy. To be in accordance with the regulations of the administration, Carol opted to use the overhead projector in her room to project information for her students. In this case, whether the teacher used an overhead or a PowerPoint, the result was the same—direct instruction and teacher control; technology use and student empowerment was secondary. As Carol interacted with the schemas and resources in her school over time, I came to realize that

her role was very peripheral, almost chronically so. Some of the things she learned as she re/constructed her identity as a technology user were not necessarily what she had in mind, but they brought to the surface questions about what it means to use technology in an urban school.

Conclusion

--Field Journal Reflection--
5/19/05 --Spring 2005 Project Fair—

The Project Fair was much bigger than I had expected. The gymnasium was a sea of tactile projects. Very few participating groups used technology as a medium for presentation—only three to be exact, including Carol's class. One was an extra-curricular group of student activists who had created a web site that they accompanied with a tri-fold board and literature for attendees to take with them. The other was a class who had worked on a video project, which was playing on a loop on a television-- the audio and video attracted an audience. Carol's students were on the far side of the room near the wall and away from the entrance. They were one of the last displays to look at after wandering through all the other tables set up in the middle of the room.

I walked by various set ups displaying historical dioramas, three-dimensional models of books, science projects, art portfolios, and more-- tri-fold boards, seemed to be the medium of choice. However, the most prominent display was located in the middle of the room. I recognized it as the school garden project that Carol described to me after the Winter Project Fair. The mammoth project was a collage that consisted of the design layout of the garden the extra-curricular group was working on, as well as samples of the flowers that were used and photographs of the students at work. Like the quilt in the office, the collage was bigger than me, and it commanded attention.

I made my way to Carol's students' table where Marina and Anthony, two of Carol's best students, stood by to explain the projects to spectators. On their table were two colorfully decorated tri-fold boards about the Civil Rights Movement and the computer monitor playing the students' PowerPoint presentations one after the other on a loop.

I smiled at both students and complemented them on their hard work. I turned to Marina, "Where's Ms. Ameno?"

"I don't know. She was here, but she left."

"No sound, yet?" I asked mildly disappointed, though not surprised.

"No. I think she went to find Mr. Minelli."

It was one o'clock, seventh period, and the day was coming to an end. Mr. Minelli had told Carol he would put Martin Luther King Jr.'s "I have a dream" speech on the students' projects for her. We had hoped the audio would draw curious spectators. She and I had searched the Internet for it beforehand, but were unable to find a downloadable file. Carol learned later that Mr. Minelli already had the .wav file. So she approached him about it, and he offered to set it up for her. Because of this, she had told me my help wouldn't be needed that morning.

As I waited by the project table, a few of Marina's and Anthony's friends came by to look at the projects. Marina and Anthony stopped the PowerPoint loop and progressed the slideshow to proudly show off their individual contributions to their friends.

A few minutes later Carol showed up with Mr. Minelli who quickly loaded up the sound to play as the slideshow looped. Even though the day was nearly over, the project was finally complete, as we had hoped.

When I first began working with Carol in the fall of 2004, I had not planned on entering her classroom during class time. After the disappointment of the Winter Project Fair, however, I realized that simply helping her prepare her lessons outside the classroom was not enough to enable her use the technology comfortably in her school. There were other cultural happenings, and I needed to see them first hand to understand how to help remedy them. It would have been very easy for me to assume that Carol's problems with the technology stemmed only from her own lack of computer knowledge; after all, many of the complaints she voiced revolved around what she felt she didn't know how to do or what problems she encountered when trying to use the computers. Identity re/construction as a technology user, however, is more complicated than simply receiving more training; it also brings into question issues of community and access to resources. There is no training that could have prepared Carol for the breakdown of her students' hyperlinks. There is no training that could have prepared Carol for the feelings of disappointment that came along with her students' projects not receiving attention because they were not as prominently displayed as a paper quilt. And there is no training that can help a teacher strike a comfortable balance between what her history and experience, tells her is "smart" and what the administration in her school rewards as being "smart".

Many of Carol's difficulties in using technology in her school stemmed from the structure of the school itself. Since teachers have limited access to technological

resources outside a computer lab and limited access to other teachers as resources, it is difficult to regularly and fluently blend technology use into a classroom routine. Technology use becomes an activity in and of itself, not a practice within the larger community of teachers or within the culture of the school. As such, it becomes difficult for teachers like Carol to gain a sense of mastery in technology when they are rarely exposed to the ways in which other teachers use technology in their schools. For urban students who might not be familiar with technology use, this may be problematic later in life. If technology use in schools is superficial and extracted from social practices, students may have a harder time developing dispositions toward fluent technology use when they arrive in college or on the job market in years to come. If teachers are denied access to technological resources and communities that utilize them, their students will be denied access as well.

Chapter VI
Through the Front Door:
Research Findings and Implications

Introduction

> I have seen movies of prisons but never one like this. This is not a movie about bars and locked doors. It is about being alone when you are not really alone and about being scared all the time.
>
> I think to get used to this I will have to give up what I think is real and take up something else. I wish I could make sense of it.
> (Myers, 1999, p. 3-4)

December 10, 2005

I walked up the stone steps leading to the side door of Brooklyn High School and entered the building alone. I was a little early, so Carol was not waiting for me at the door.

I was greeted by two security guards who knew an outsider when they saw one. "Can we help you?" One asked pleasantly.

"Hi. I'm here to see Ms. Ameno."

"Oh sure, she's in the last room on the left at the end of the hall. You can go on down and wait for her," the security guard pointed down the hall in the direction of the classroom, and I smiled and responded with a quiet thank you.

I made my way down the hall to the strange room. It was not Carol's classroom that I was used to working in; this was her Saturday school room. As I approached the entrance, I heard her giving instructions to her students. Class was still in session, so I paused outside the open door, not wanting to become a disruption.

From down the hall, the security guard coaxed me to enter, “That’s it right there. You can go in.”

“I don’t want to interrupt her. I’ll just wait here,” I responded.

Our voices echoed in the empty hallway, and Carol poked her head outside the room. “Oh, you *are* here. I thought I heard voices. Come in and sit down; we’re just finishing up.” She addressed the class, “This is Ms. Kress, a friend of mine who helps me on the computers,” a couple of students nodded, a couple smiled, none heckled me, in fact, most did nothing at all.

The atmosphere in this class was strikingly different from Carol’s literacy class from the year before. There were about ten or so students sitting quietly at desks arranged in a horseshoe. Most of the students were Asian, a couple were white. There were no Latino/a or African American students at all. The students were silent and still—exemplary in this school. And even though Saturday school was meant for tutoring or enrichment for students who needed extra help, it was apparent in the students’ behavior that they were either overachievers or maybe they just needed to boost their grades a little. These were not students indicative of a failing school. I briefly considered how different this study would have been if these were the students that comprised Carol’s class the year before.

Once the class concluded and Carol and I made our way back to her room, she told me, almost apologetically, that she hadn’t been bringing her students to the computer lab. Again, I noticed the lanyard full of keys around her neck. This time, the flash drive was also there; its silver casing was worn from continuously rubbing against the other keys.

"You know, I really should, but I've got all these other things going on. I'm starting a detention program because every day we consistently have nearly four hundred students that are late," she explained. "I was talking to one student the other day and I asked her if she had an alarm clock and she said she didn't. Can you imagine, the girl is chronically late, and no one has ever asked her that before. Such a simple solution."

After our small talk, she shifted the conversation to the computer that was now in her classroom. "Did you notice the computer?" She asked me, obviously proud. "I have a roommate now who has a computer. So I brought mine from home, since we don't need two. I even set it up myself. All those cords and wires, they're all mine except the extension cord, that's Mr. Minelli's. But I set the whole thing up by myself. I thought you'd be interested, I know how to do that now."

--*Looking Back*--

As Carol and I spoke that day, I began to feel slightly guilty. Once we had stopped working together, she also stopped going to the computer lab. In my head I compared her to Amy, who also started with the Summer 2004 group but continued to attend throughout the three sessions that followed. Amy, who considered herself a computer novice in July 2004, had begun teaching a Saturday computer class in her school. She had purchased a laptop and found out that her school had a smart board she could use. Yet I also had to consider that the two women were teaching in different schools with different students. Carol was feeling the strain of having to prove herself to a new principal (the school's seventh in eleven years) because Mr. Stein had been replaced, and Amy had the support of the group, while Carol didn't. And even though

Carol had not continued to go to the computer lab, she had still changed the structure of her classroom by adding her own computer. She explained that once a student finished a book, he or she could use the computer to do research or type their book talks.

Carol explained that when she wasn't teaching, the number of students who idled in her classroom had multiplied. Now students would come to use the computer in addition to reading or eating lunch. Some students had even set up their own user domains on the computer. Carol also discovered that her literacy students, who were considered low functioning readers and writers, were avid users of an on-line message board and e-mailing community for high school students. As she explained, "I watch them e-mailing to each other, and it's very clear to me that they are very literate. They can express themselves very well to each other, just maybe not in the way the school expects. I myself can't understand all they're saying because they use slang and abbreviations, but they understand each other just fine."

By the end of the day, Carol had decided that she could use the e-mailing community in her literacy lessons by having students write book talks and then share them with each other via e-mail. She also decided she would bring the students to the computer lab the week before Christmas, since their motivation in class was generally low that time of year, and the computers would give them something different to do. And in the end, while the results of this study weren't a spectacular success story where Carol and all her students began using technology seamlessly on a consistent basis, they were still a success. With Carol's computer in the room, students who chose to come to her room during non-class time had access to a computer that they might not otherwise have had in the school. And as Carol had said, "When the students come into this room, I

want them to know this is one safe place that we're all going to get everything that we want out of. And sometimes, that's just asking the students to do all the tasks of the day, and they don't have to get any great epiphany from the learning but that they would just understand that in this room it's safe, that they can express themselves, that it's a kind and gentle place within the building. Absolutely I've been able to accomplish that, and I feel very proud of myself there."

Summary of the Study

Throughout the preceding chapters, I crafted my experiences working with Carol, a literacy/Ramp-up English teacher in a large urban high school, into a "new" critical autoethnography about a teacher's experience re/constructing her identity as she attempted to integrate technology into her teaching practices. Carol and I began working together in July of 2004 while she participated in a Discovery Institute curriculum-writing group geared toward assisting high school English teachers in integrating technology into their classrooms. In the fall of 2004, Carol and I continued to work together on Saturdays as she prepared her lessons, and during the spring of 2005, I assisted her as she worked with her students in the computer lab. Over the course of the year that she and I worked closely together, I collected data in the form of video and audio tapes, lesson plans, samples of student work, Carol's written reflections, and field notes and reflective journals of my own. By using a critical auto/ethnographic approach I questioned the traditional rhetoric of technology in education by addressing technology integration as a matter of culture, agency/structure, community, and identity. I further illustrated that learning situations like those I observed in the curriculum-writing group, when taken advantage of, can be used as sites of cultural production and transfer. They

are also places where teachers like Carol can gain confidence in using their unique knowledges to incorporate technology into their curricula while also gaining more technological know-how and improving their computing skills.

Revisiting the Research Questions

In chapter one of this dissertation, I situated my research by posing two overarching questions. First, *how did Carol's attempt to bring computer technology into her teaching practices contribute to the production or reproduction of culture in Carol's classroom and the re/construction of her identity as a technology user?* Second, *in what ways did the introduction of a new field (in this case the curriculum-writing group) serve as a "seedbed" for new culture that could be brought back into the classroom to help with the technology integration process?* I then narrowed my focus by asking four specific questions: 1) *In what ways did the culture of Carol's school contribute to how she was or wasn't able to use technology with her students?* 2) *How did Carol use her agency to incorporate technology into her teaching practices?* 3) *What aspects of Carol's social and cultural capital were helpful (or not) in accomplishing her goals of technology integration in her school?* 4) *How did participation in the curriculum-writing group contribute to Carol's identity re/construction as a technology user?* In the following section, I address the latter four questions, and in doing so, I also provide answers to the first two.

In what ways did the culture of Carol's school contribute to how she was or wasn't able to use technology with her students?

Urban teachers like Carol are often pulled in many different directions at once, forcing them to prioritize their goals as educators. They must satisfy the demands of the

school, their own beliefs, and the needs of their students simultaneously. For example, Carol not only is a teacher, she is the school attendance officer, the school media liaison, a student confidant, a Saturday school teacher, and a graduate student. These are only her school related roles; she also has social and familial roles to fill. As such, many times technology use in the classroom can get in the way of teachers' most immediate and pressing concerns within their particular schools. In chapter four, Carol was expected to simultaneously monitor her students' behavior and learning while also being mindful of her own image as a teacher. The fear of scrutiny and the urgent need to adhere to school regulations often served as a deterrent to technology use in Carol's curriculum. Chapter five highlighted how the structural impediments in Carol's school made it difficult for teachers to learn from each other as a community which made it difficult for teachers to further their technology skills and bring technology into their classrooms. Also, teachers who used technology to dominate their students were showcased as being exemplary, and the frequent malfunctions in the computer lab, the unavailability of hardware (like projectors) and technical support (inside and outside the lab) deterred the integration of technology. These cultural conditions created difficulty when Carol tried to use technology in her curriculum, and even though her efforts resulted in, for the most part, successful learning experiences for her students, they were never really became a fluent part of classroom practice, and the overall outcome was not entirely satisfying for Carol in the end.

How did Carol use her agency to incorporate technology into her teaching practices?

Many times, incorporating technology into urban classrooms involves ingenuity and improvisation. For Carol, using her agency to incorporate technology often meant

negotiating between her goals as a teacher and the culture of her school. In chapter four I explained how at times Carol felt that it was necessary to use her own agency to limit her students' agency in order to enable them to use technology. This was apparent in her use of the floppy discs as "hall passes", and her tough decision to eject Tanisha from the lab. In chapter five, at the Spring Project Fair, she improved the display of her students' projects by having them create poster boards to accompany the computer projects, and she solicited the help of the technology coordinator in order to add sound to the projects. Carol's quick responses to arising obstacles showed that, being fluent in the culture of the school was just as, if not more, important than being fluent in technology use.

What aspects of Carol's social and cultural capital were helpful (or not) in accomplishing her goals of technology integration in her school?

Because of their unique histories, teachers carry with them diverse forms of capital and ways of knowing, and this diversity leads teachers to approach their goals as educators from various perspectives. As a migrant from the business world, Carol tended to think of literacy and technology use in terms of their practical applications in the world outside of school. She wanted her students to learn these skills by using the computers themselves, not by watching her use them. Consequently, as was evident in chapters three through five, she was able to design creative lessons geared toward enabling her students to master literacy skills while simultaneously being exposed to technology. Her relationship with Mr. Minelli also proved useful, since while he was not always able to be around, he did help her when he could. Like in chapter five when he provided her with sound for her students' projects, and in this chapter, he supplied her with a power strip for her computer.

How did participation in the curriculum-writing group contribute to Carol's identity re/construction as a technology user?

Large urban schools are generally isolating places for teachers. There is not often room or time for collegial sharing, and teachers have to feel their way through their curriculum by trial and error. In the curriculum-writing group, Carol had a different experience than she did in her school. In chapter three, I described in detail the group interactions of the English/Technology participants. In this setting, Carol's ideas for using technology were encouraged and honored. While her technology skills might not have been as advanced as some of the other group members, she could present the lessons she designed, and others in the group would offer her helpful suggestions for using technology effectively. The positive energy generated within the motivated and supportive group gave Carol a confidence in using technology that she did not have before. She came to see that she didn't have to be a technology expert to recognize how technology could most effectively help her reach her individual goals. Furthermore, the group experience helped her see that she has her own style and priorities, and while other teachers had wonderful ideas that she could learn from, she also had wonderful ideas that others could learn from too. What she lacked in technological know-how, she made up for in experience, and other members valued that. As a group, the participants were able to exchange capital and help each other in various ways, technical or otherwise.

Limitations of the Study

As a case study located at a specific place and time in the web of reality, this study has some obvious and not so obvious limitations. Most evident is my selection of Carol as

my case study. Because of her history as an educator, then as a supervisor in a business, then as an educator again, she had a unique perspective on what schooling should be and what skills she felt her students should learn. Carol also chose to teach literacy classes; she preferred them, and because she had a double period with her students, she was able to spend a lot of time going to the computer lab, while other teachers in her school who didn't have a double period might not be so quick to spend instruction time in the lab. Certainly, the experiences of any other teacher would have turned out very differently, I'm sure. Not to mention, the experiences of a teacher from a different school teaching a different subject with different students also would have had very different outcomes. In the case of the Project Fairs, these events were unique to Carol's school. They were telling for me because I was able to get a tiny glimpse of what the entire school was doing and how Carol's projects were received, but in another school, this would not have been the case.

My methods also had their limitations. When I first began working with Carol in the English/technology curriculum-writing group, I had not planned on entering the Brooklyn High School during class time. I was interested in the ways Carol integrated technology in her lessons, and I thought it would be enough to work with her outside of class time as she prepared her materials and reflected on her experiences in the classroom. I realized after the Winter Project Fair that I needed to be in Carol's classroom to get a better sense of her life inside the school and inside the classroom. Since students and faculty in the school were not actually part of this study, I kept my interactions with them to a minimum and focused mainly on Carol. Carol's principal had welcomed me into the school under the understanding that I was researching Carol, so I

limited the student and faculty appearances in this work to mere cameos. I felt that doing detailed analysis involving key players in Carol's story would have been unethical and unfair since they hadn't agreed to be involved in this. As such, my descriptions of Brooklyn High School and the students and faculty are not nearly as detailed as they might have been if I had initially begun my work with the specific intention of researching within Carol's school.

Finally, I recognize that my own past and present circumstances lends to my perspective of the various events that occurred during the time of the study. In particular, while working with the Discovery Institute and their curriculum-writing groups for an extended period of time I developed a heightened appreciation of working in groups and learning from other professionals outside of a bureaucracy. While, for me, the curriculum writing sessions were representational of what learning in a community should be, teachers don't have to sit around a table together to share a sense of community. Likewise, a group of teachers sitting around a table doesn't necessarily translate into a learning community either. Over the course of three years I observed many curriculum-writing groups in action, and in some, the sense of community was definitely stronger than in others. In the summer of 2004, Carol and I were fortunate to be part of a closely bound community. Consequently, the communities of practice in Carol's school were sometimes difficult for me to recognize because they were not as formal as those at the Discovery Institute. In my eyes, the two experiences stood in contrast to the other. Because of my own limited perspective, other readers' opinions of Carol's experiences may be very different from mine.

Implications for Policy Makers, Administrators, and Teacher Educators

--Carol's Reflection on the English/Technology Group—
11/6/04

The two young men that were doing that team teaching about self-reflection with their students, I felt were using the computers to the maximum, were using technology-based lessons to the maximum capacity of implementing various parts of the books they were studying, that self-reflection piece. I felt that was very, that students would find that useful… I was kind of interested, but again, I didn't think it was the best way that I would want to use the computer for my students. And then we had Sarah who often does computer information, but she links us right away to other links. She doesn't necessarily-- I think it's wonderful what she does because she takes lesson plans, and then she tells the students where they can go to find more information on a topic… However, I needed to find a place for me that I can learn how to use the computer and other technology, in particular PowerPoint, because those were two places I wanted to go… I had to find a place where I could use technology in the classroom that would make sense for me… So, when we were asked to produce some lessons, I immediately thought of lessons where the students would learn how to do web pages and PowerPoint. Not me, I didn't want to be the one putting web page and PowerPoint lessons on the board; that wasn't my plan.

Technology integration, like teaching, is not something you simply learn once and then possess for life. It is a process that requires continuous collegial support and sharing. As a teacher re/constructs her identity as a technology user, it is important that she see herself as a member of a community that uses technology while being given room to honor her history and goals as an educator. Since teachers are generally isolated

throughout their school day, it is important to have a place where they can imagine together and envision what is possible outside their own segmented lives. Carving spaces where teachers can learn together within a supportive group of colleagues can provide teachers with the confidence and energy they need to make changes to their teaching practices. Without this, teachers may simply adapt their practices to fit within the pre-existing culture of their schools. Unfortunately, for some of our most underprivileged students this could have detrimental consequences later on in life. As we develop new forms of teacher education and education technology policy, it is important to consider what it means to be an educator/technology user and what it means to provide access to technology and equitable education.

The problems with technology integration go to the very core of what it means to be a teacher and a student in an urban public school. As such, integration initiatives need to begin by asking questions like, "what are the structural conditions teachers face when attempting to use technology?" The answers that arise may prove to have very little to do with the technology itself. In fact, they may not be answers at all. Instead, they may just give rise to more questions like, "why are all the classrooms wired for Internet access, but there are no computers in them," "why are there one hundred computers in the building, but none of them work consistently," "why is there no reliable technical support for teachers within the building," or "why is Mr. O'Mally's way of using computers rewarded by the school while Carol's isn't," or even more importantly, "what messages do our actions and the schools' conditions send to teachers and their students who wish to use technology?" Questions such as these need to be addressed if technology integration initiatives are to be successful and if education is to be truly equitable. Truly embracing

and encouraging these questions can lead technology integration and education in a whole new direction.

Conclusion—The Front Door

Throughout my time working with Carol, I tried my best to really listen to her as I worked with her in her school and in the curriculum-writing group. I offered advice on including technology in ways that would help her achieve her individual goals within her school, and she offered advice on my approaches to research and theory. We shared information and learned together throughout the project. I found that it was best to first let her tell me what she sought to accomplish and then respond by offering several suggestions that seemed to fit her needs. From there, she would pick the solution that seemed most useful, and she would run with it. Her excitement and enthusiasm were the driving forces behind her learning to integrate technology into her curriculum in ways she felt were important. Once she had conceptualized what she wanted to do, then we would work on learning the skills necessary to do it. When talking about my research with her, she did very much the same for me. In the end, I've learned that we all have different goals and priorities, and for teachers like Carol, goals range from the simple immediacy of moving students safely through school hallways to the more complex, like her desire to provide her students with skills that will help them in college so they can attain jobs where they wear nice clothes and walk through the front doors of beautiful office buildings. Honoring these goals and nurturing communities that honor them, not simply

teaching skills, must be kept in the foreground of technology integration. In the spirit of my study, I leave Carol with the last word.

--My First Visit with Carol (Reprise)--
Excerpt from Carol's First Interview
11/6/04

You know what, two weeks ago, I'm watching The Apprentice, and they had to do, the kids, the apprentices, had to do an ad for the New York City police recruitment, and I thought, 'that's a PowerPoint presentation!' And my kids need to learn how to do that kind of a PowerPoint presentation. So maybe someday they want to be in advertising, you know. At least when people are talking about it, [they'll know what it is], even if they [the students] never get to apply it in their lives, [but] I think that they will. I think when we start early enough, asking them to do these things from the behind the scenes piece, not that I'm teaching them lessons through PowerPoint, but they create their own PowerPoint lessons—someday they're going to be on job interviews and saying, 'you know, I did a PowerPoint presentation, and I know what that means.' And it won't seem so unfamiliar to them. And they'll seem more business savvy to future employers, perhaps.

I mean, that's what I want for my students. I want my students to walk out of this building—I really want this for my students more than anything else—I want them to walk out of this building being employable, and not having to do work where they're breaking their backs, and they're always at the back end of a building in the night time, pushing and pulling dollies upstairs, getting sweaty and filthy. I want my students to be able to walk into the front of the building, the front of those beautiful office buildings that we used to go into every day to get the job. And I want them to feel like, 'whatever's

being done in this building, I can do that too.' That to me is the most important thing I can give my students—the information, the confidence to know that whatever's being done in those buildings, they can be a part of that, and they don't always have to be at the back end of the building. If I can do that, you know, by beefing up their technology skills, if that means I have to take some extra time to learn these things, then you know, so be it.

Coda:
Reflecting on the Individual/Collective Experience

Shattered Me
Concave-convex-complex-me
Too warped, too sleek to grasp.
So shatter me.
Filter out smaller me's.
Discard fine shards,
and images appear
more accurately in
broken.
flat.
shattered.
me.
No excess.
No essence.
Just shattered me.
And solid-bloated-you.

Two years ago, I wrote the above poem as an expression of the frustration and powerlessness I felt as I was categorized by myself and others as a "techy", an academic, a woman, a wife, a non-mother, and more. None of these titles seemed to capture me as I understood myself, rather, they seemed to remove all else that was me but didn't fit into those boxes. I was feeling disconnected and marginalized—and well, frankly, ticked off, thus the imagery of shattering a mirror. Reflecting back, I recognize this as the first time I felt the individual | collective dialectic in my lifeworld—and imagine my surprise when I discovered the minds and bodies of others resonating within *my* mind and *my* body, the only things I really felt I had sovereignty over at the time. Living in a society where it has been beaten into my head all my life that we can be whomever we wish, that we are individuals, choose your own path, blah, blah, blah, I simply tripped over the idea that I do not make my decisions solely on my own, that my daily practices are the result of and in response to the historical resonances of myself and other people and structures I've been in contact with. It was not that this notion had come as a complete surprise to me; it's just that I hadn't paid it much attention in my own life until that point when I wasn't

sure why I was feeling so broken. Quite simply, I was experiencing the deficiencies of embodying the Cartesian notion of "I think therefore I am." But alas, as Dewey reminds us, we get used to the chains we wear, and we miss them when removed. Poetry was my way of coping with the removal of those chains.

Lately, my understanding of self and world is more closely aligned to the African notion of Ubuntu, or "I am because we are." And while it wasn't my intent, this dissertation has developed nicely as an allegory of that. As I made explicit within my methodology, this was not just my story or Carol's story; it was *our* story. But it was also the story of a larger collective—of teachers and scholars and people in general. As Roth states,

> The specifically human form of existence is possible only because of society. Auto/biography therefore always also is biography, a pattern of life history not only of an other but also of a generalized other; auto/ethnography therefore is always also ethnography, the exploration of culture in general, whether it is someone else's or, because of transference and countertransference in the research process, one's own" (2005, p. 4).

Beneath the surface of my text is the reflection of a twenty-nine year epic story that has culminated in four years of interactions with colleagues in the hallways, conversations over lunch in the café, sharing resources in study groups and classes, meetings with professors, and more. Asynchronously, it also includes hundreds of e-mails, and the many conversations I've held in my mind with all the authors I've read over the years. King refers to writing as a kind of telepathy (2000); it's the exact moment when a writer and reader connect at a particular place in time. I would like to take this notion a step further. This is the exact moment when the writer and reader become part of the same collective. Consequently, these ideas and theories are not simply mine. This dissertation

has further expanded my collective in ways I may not even be aware of, since by its very nature, writing has connected my readers not only to me, but to everyone who has traveled this journey before me, with me, and after me.

My original poem focused on an individual notion of identity—it was very "me" oriented, and the collective was present as a powerful adversary. Two years later, I understand that my discomfort rested in the absence of "we" in those terms that categorized me. I was all of those things and none of those things, and depending on whom I was with at the time or with whom I would be in the future, those things would change. The Cartesian notion of "I think therefore I am" is not fine enough to capture the subtleties of "we" that drift around like fine dust in the air we breathe. If you break a large mirror into many little pieces and then glue it back together again, you'll never see the same smooth image that was there in the beginning. Often unrecognized, those missing fine shards are the very essential, though often intangible resonances of the collective. As my final thought, I leave you with an amended version of that same poem I wrote two years ago at the turning point in my journey. With this, I embrace and honor the collective that has been the foundation of this work.

Shattered We
Concave-convex-complex-we
Too warped, too sleek to grasp.
So shatter we.
Filter out smaller me's.
Discard fine shards,
and images appear
more accurately in
broken.
flat.
shattered.
me's.
No excess.
No essence.
Just scattered me's..
And fractured, forgotten we.

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