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**DIGITAL PRACTICES AND LITERACY IDENTITIES IN ENGLISH
EDUCATION: FROM DETERMINISTIC DISCOURSES TO A DIALECTIC
FRAMEWORK**

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Abstract

My research explores the challenges and questions that pre-service teachers in two English Education programs confronted with respect to the role of technology in their professional practices and identities. It is evident from the data that the decision to incorporate different technologies in their professional practices implied much more than using an accessory to enhance their pedagogical effectiveness. These technologies were linked to significant changes in the activities of reading and producing texts in our society.

Dominant discourses about technology and literacy are predominantly deterministic, and this tendency was represented in the way that the pre-service teachers who participated in my study approached technology. Echoing policy discourses that promote technological innovation as a synonym of socioeconomic progress, participants in many cases assumed a vision of technology as a means to teaching-effectiveness. This entailed separating the means from the curricular ends, which were not significantly re-examined when incorporating digital technologies. In other cases, participants expressed fear of digital texts because they sensed that they were displacing more traditional literacy. This reactionary position, equally deterministic, was associated with efforts to teach students how to ward off the negative influence of digital texts by being “critical.” I argue that in teacher education it is important to engage with these discourses and address their implications. Identification with deterministic discourses closes down the possibilities for participation in powerful literacies because meanings are constructed as pre-determined, and efforts focus on “what works” without engaging in a critical examination of the purposes of education.

Nevertheless, along with deterministic moments, there were instances of dialectical engagement with technology among the study participants. These were associated with a meaningful integration of digital texts as part of the inter-text of the English classroom, and with the construction of a community of collaborative inquiry. In these cases, students were producing and sharing multiple kinds of texts, including essays, multimedia stories, videos, comic strips, online discussions, and podcasts, among others. The concept of critical media literacy, in dialectical teaching practices, did not separate analysis from productive ability, so students were taught to simultaneously produce multimedia and be critical about it. I contend that in teacher-education programs it is important to promote this concept of dialectical praxis, because it engages students with critically participating in socially relevant discourses. For this purpose, it is crucial to integrate cultural studies and critical theory with the production of multiple kinds of texts, and to promote experimentation within an inquiry community.

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Chapter One

Introduction

Throughout my academic career, I have experienced the transition from the “culture of the book” to the “new media age” (Kress, 2003), from modern disciplinary institutions (Foucault, 1995) to the *knowledge society*. In my first years as a university student in Argentina during the late 1990s, all the technology that we had was chalk and blackboard, and the photocopy machines owned by student centers and run by the political student organization currently elected. Our use of technology was limited to the possibility to type term papers on a computer using a word processor file. We read from books and journal articles that were often photocopied, and research was done at the library. Access to the Internet was not regular and Internet research was not even talked about.

At that time, new laws of education were being passed in Argentina, as part of a wider neoliberal reform based on the principles of privatization, deregulation, and decentralization (and centralized control¹). This reform restructured the national state reducing it from a Welfare structure to an orchestrator of privatized services and basic social provisions. The educational reform in Argentina was part of a wave of similar reforms in Latin America throughout the 1990s, for which the United Nations provided guidelines through the Economic Commission for Latin America and the Caribbean (E.C.L.A.C., 1992). The ECLAC document predicated the urge

¹ Hardt and Negri (2000) explain that “The decentralization and global dispersal of productive processes and sites, which is characteristic of the postmodernization or informatization of the economy, provokes a corresponding centralization of control over production.” (p. 287).

for technological innovation, arguing that one of the main drivers of development in the new knowledge economy was the production and management of knowledge through digital technologies.

The student movement at my university was at the forefront of a nationwide movement against the new laws. Since I was at the College of Humanities, where most of us were secondary education majors, my College had a protagonist role. During the year that the laws were finally pushed into parliament, the student organizations held all kinds of meetings: meetings to discuss the implications of the laws, to study the documents, to plan for action. This culminated with a student takeover of the university that led to an entire month of academic inactivity. At that time, as part of my coursework in Education, I had taken a course titled “Education, Politics, and Society,” which helped me understand the history of Education in my country, and the implications of neoliberal and neoconservative reforms. I was concerned with the upcoming changes, particularly as they implied more centralized control of academic activity and at the same time a withdrawal of the resources provided by the State.

After I graduated, I came to the United States for graduate studies. I was hired as a teaching assistant and taught Spanish in a teacher-proof program. The incorporation of technology in the program supported the teacher-proof methods used. While purporting to ease teachers’ work, it was a mechanism of control designed to ensure that all students in all different sections were following exactly the same top-down study program at the same time. The technology consisted of web-based language exercises that students accessed with a personal code. The exercises were mostly very structured (multiple choice, filling in the blanks), and the web-space included a grading component. At first, the web-based component of the program was designed by the textbook publishers, which made the textbooks more costly for the students. This

also furthered the already established alienation of teachers from their work by transferring to the publishers even more authority over the curriculum. There was much resistance from teachers and students in the program. There were technical flaws, it was costly for students, and ended up being time-consuming for the teachers, even though it was supposed to ease our workload.

The initial web-based program was discontinued after the contract with the publisher expired, and replaced with a university-based website, designed by faculty and teaching assistants in the Department. Later on, the Spanish language program moved to replacing half of the class time for students' online work, which they would do individually at the computer lab at their time of preference. This reduced teachers' working hours per course by half, ultimately meaning that fewer teachers were needed. The consequences of reducing face-to-face interaction in a foreign language program seem obvious: in this case technology reduced the human elements of creativity and contingency, contributing to the standardization of the curriculum and to reducing the level of participation of individual teachers in curricular decision-making and in all aspects of the program.

The way in which this program was developed is an instance of the university itself taking on an organization characteristic of business, moving away from the functions of a public sphere (Giroux, 2001, 2003). The teachers became technicians and not professionals, and the department incorporated the principles of management to reduce costs at the expense of serving the public interest (disregarding considerations of what kind of education would be the best public service for the community they serve). The management of the curriculum through technology was a way to take professional power away from the teachers and students, and thus to make power impersonal, unidentifiable with a person or a group of people, as in Bentham's Panopticon, responding to the "principle that power should be visible and unverifiable"

(Bentham, quoted in Foucault, 1995, p. 201). By creating an apparently objective technological curriculum, power was no longer associated with the teacher, neither even with program directors, since the techno-curriculum had taken on a life of its own. This connected back to my university years in Argentina, where the new laws were resisted, among other reasons, on the grounds that they were taking power away from teachers and students, and from university professors.

Ignited by these experiences, when I decided to pursue doctoral studies in education I wanted to address the construction of teacher-agency, and in order to do this I had to consider how particular teachers were developing their professional identities and practices. Furthermore, I soon realized that I could best understand educational policies by focusing my research on local educational contexts. I became more aware that *teacher-agency* is a multifaceted concept that is defined in complex activity systems (Engeström, 1999), where multiple discourses about education coexist, often in conflict. In addition, after my experience with the technological innovations in the Spanish language program where I had taught, I had a sense that the technologies that mediate educational practices are an important aspect in the whole process of developing teacher identities. I began to focus my inquiries on the intersection between technology, agency, and educational policies.

Another important moment that defined my dissertation research was reading and teaching the young adult novel *Feed* (Anderson, 2002), which raises a hyperbolic mirror to our growing use of technology to mediate our interpersonal relationships as well as our cognitive activities. It appeals to young audiences whose lives are populated by all kinds of digital devices from i-pods to cell phones, and who are likely to use online communication as an important way of relating to their peers and define their developing identities. In the world created in this novel,

practically all aspects of life are channeled through the *feed*: a computer chip inserted into the brain and connected to a network roughly equivalent to the Internet. The feed is responsive to signals from the brain in the same way that the brain responds to signals from the feed: commercials respond to the individual's desires (and in turn produce those desires), the information channeled responds to the individual's questions (and at the same time contributes to shape cognitive development). The feed performs the functions of TV, radio, billboards, email, chat (and even everyday conversations), newspapers, school textbooks, dictionaries; any kind of text might be incorporated as a function of the feed. The novel presents an extreme version of an invisible centralized power working through technology as a mechanism of control that curtails people's agency. It raises the question of how a totalitarian society shuts down the possibility to imagine alternative ways to live, and invites us to consider other possibilities.

The overwhelming presence of technology in *Feed* connects to Postman's (1993) deterministic argument that instead of using technology as a tool for purposeful development, our society has generated technologies that become autonomous and control our lives. Even though I realized when I conducted my field research that the relationship between technology, literacy, and education was much more complex than Anderson and Postman's deterministic renderings, I still consider their perspectives to be revealing of important aspects of the situation. Particularly, I think that they are representative of the influence of deterministic discourses on technology. They also expose the Panoptical quality of the deployment of new technologies: as I have argued with respect to the Spanish language program where I taught, the apparent autonomy of these technologies can be considered an instance of power that is "visible and unverifiable" (Bentham, quoted in Foucault, 1995, p. 201), which is a principle that Foucault identified with modern institutions such as prisons and schools. While the exercise of power in

modern institutions worked through the confinement of bodies in enclosed spaces, physical confinement was not necessary in the case of the Spanish language program and *Feed*, but instead there were mechanisms of control operating on subjects who were connected to an online network.

There is a commonality between the objections to the educational reform that was being passed in Argentina in the 1990s, my experience in a teacher-proof program, and the vision presented in the novel *Feed*: the concern about the curtailment of human agency. I contend that human agency is never completely free, and never absolutely blocked, but it is always defined in social practices that simultaneously open and limit possibilities for development and transformation. Activity theory accounts for this complexity through a dialectical approach that counters deterministic orientations such as those identified in Anderson and Postman. The latter are conditioned by a Western tendency to separate “the study of socioeconomic structures from the study of individual behavior and human agency” (Engeström, 1999, p. 19). This separation would make social structures appear as “stable, all-powerful, and self-sufficient,” while individuals would follow their own paths of development without ultimately having much influence over those structures. On the contrary, activity theory

implies a radical localism. The idea is that the fundamental societal relations and contradictions of the given socioeconomic formation –and thus the potential for qualitative change –are present in each and every local activity of that society. And conversely, the mightiest, most impersonal societal structures can be seen as consisting of local activities carried out by concrete human beings with the help of mediating artifacts, even if they may take place in high political offices and corporate boardrooms instead of factory floors and streetcorners. In this sense, it might be useful to try to look at the society more as a multilayered network of interconnected activity systems and less as a pyramid of rigid structures dependent on a single center of power. (p. 36)

In this dissertation, I address the interconnections between the construction of agency in a particular local context and wider discourses of education such as educational policy and educational theory.

In Chapter Two, I begin by analyzing two documents, the National Education Technology Plan (NETP) in the United States, and a policy report issued by the OECD (Organization for Economic Cooperation and Development), an international organization of which the United States is a member. I incorporate critical policy analysis (Edmondson, 2004; Shannon & Edmondson, 2005) as a framework to take up the overarching discourses that frame the programs where I conducted my field research.

In Chapter Three, I explore ideological constructions of technology and literacy in relation to human agency and historical change. I connect my analysis to socio-cultural theories of learning and activity theory (Y. Engeström, & Miettinen, R., 1999; Lantolf & Thorne, 2006), and to post-structuralist and post-Marxist theories of power (Bourdieu, 1991; de Certeau, 1984; Foucault, 1995), in order to address how agency is developed through engagement in social activities and power relationships and look at its collective, historical dimensions. I also draw from theories of critical literacy and approaches to new literacies such as the New London Group (Frye, 1997; J. P. Gee, 1990, 2001; Kress, 2003; Street, 1995), which conceptualize the ways in which literacy technologies shape and are shaped by social practices, the historical changes in literacy practices, and the implications of these changes for formal education.

The last three chapters focus on my field research study, connecting the specific context of two related secondary English teacher-education programs with the policies and discourses analyzed in the previous chapters. Chapter Four presents the methodology. In Chapter Five, I focus on three in-depth cases, while Chapter Six analyzes overarching themes across

participants. Chapter Seven projects the findings of my study towards rethinking the future of literacy education.

I conducted my research in two parallel English teacher education programs located at the same university; thus, I worked with two groups of pre-service teachers. One of them participated in a professional development schools (PDS) program, going through a year-long mentoring experience in a secondary school that served simultaneously as student-teaching and literacy education content course(s). The other group took a regular literacy education course of nine credits as part of the coursework to be completed before their two semesters of field experiences, which would consist of one semester of pre-student teaching and more methods courses, and later the semester-long student teaching. While the PDS group developed their academic abilities and pedagogical knowledge through their teaching practices and collaborative activities (no previous literacy education courses were required, but instead they attended in-school seminars to guide them through their internship), the on-campus group started developing their teaching philosophies and teacher identities relating the course readings and discussions to what they anticipated as challenges, possibilities, and limitations that they might encounter in pursuit of their pedagogic goals in their future teaching practices. Beyond these differences, both programs took a similar inquiry approach to teaching and to incorporating digital multimedia technologies in the English classroom. I do not conduct a group comparison in my study; however, I consider the particularities of each program when analyzing individual cases.

In both teacher-education programs, digital technologies were incorporated as mediating tools for communication, identity construction, and development of knowledge through multiple sign systems. The technologies integrated included online discussion forums, website development, the production of i-movies, podcasting, as well as the use of digital files in the

production of multi-genre/ multi-modal work. My research explores the challenges and questions that these two groups of pre-service teachers confronted with respect to the role of technology in their professional practices and identities. The decision to incorporate different technologies in their professional practices implied much more than using an accessory to enhance their pedagogical effectiveness. These technologies were linked to significant changes in the activities of reading and producing texts in our society, in the purposes and forms of interaction (Kress, 2003; Lankshear & Knobel, 2003).

With these changes, the English curriculum has come under question, and the role of literacy teachers is being re-defined. Their job is no longer exclusively to teach how to read literary works or print material and to type essays and sometimes some piece of creative writing. There are new kinds of texts that have become important for them to engage in their classroom, including multimedia texts. This implies not only teaching to use new technologies (and thus learning to use them), but also a reconfiguration of the meaning of their work. Thus, I consider it crucial to look at teachers' agency and how it is constructed in their institutional practices. For this purpose, I chose to observe teachers in their formative years, during the pre-service experiences in which they begin to develop their professional identities. In my analysis, I consider the participants' experiences in the particular teacher education programs where they participated, and I link these with wider discourses of literacy and of education, such as educational theories and policies.

Based on the analysis of policy documents, reactionary voices, and general assumptions of the pre-service teachers who participated in my study, my research suggests that dominant discourses about technology and literacy are predominantly deterministic. Such determinism rests on an assumption that the technologies are intrinsically connected to a particular socio-

economic system, and thus to the existence of a pre-established line of social development. Accordingly, the technologies are fixed with the uses to which they are put and the meanings they take in that system, as if they were static. It is then that technologies seem to take a life of their own, as in Postman's interpretation, because they are disconnected from the dynamics of social life. This disconnection favors the view of technology as neutral and independent of social life, which is paradoxical given the implication established between technology and a particular social system.

I draw from activity theory and socio-cultural theory to address this determinism connected to dualistic thinking, which establishes separations between individual agency and social structures, between technology and human activity. Appropriating Newman and Holzman's (1993) terminology, I will refer to the conceptualization of technology within deterministic discourses as *tool-for-result*, because it abstracts the technology from the social processes of which it is an integral part. After this abstraction, the dialectic implication of technology with the other elements of an activity system is lost, such that the relationship between the technology and the outcome of the activity appears as linear. On the contrary, following Vygotsky, Newman and Holzman propose to think in terms of *tool-and-result*, meaning that the mediational tools (technology, language, method) and the purpose of the activity go hand-in-hand, in a dynamic, recursive process of constant interaction and mutual redefinition.

I argue that in teacher education it is important to engage with these discourses and address their implications. Identification with deterministic discourses closes down the

possibilities for participation in *powerful literacies*² because meanings are constructed as pre-determined, and efforts focus on “what works” without engaging in a critical examination of the purposes of education. Echoing policies that promote technological innovation as a synonym of socioeconomic progress, study participants in many cases assumed a vision of technology as a means to teaching-effectiveness. This entailed separating the means from the curricular ends, which were not significantly re-examined when incorporating digital technologies: tool-for-result. In other cases, participants expressed fear of digital texts because they sensed that they were displacing more traditional literacy. This reactionary position, equally deterministic, was associated with efforts to teach students how to ward off the assumed negative influence of digital texts by being “critical,” thus establishing a binary between sanctioned and disreputable realms of literacy.

Nevertheless, along with deterministic moments, there were instances of dialectical engagement with technology among the study participants. These were associated with the construction of a community of collaborative inquiry among pre-service teachers and their students, and with a meaningful integration of digital texts not as additions or separate objects of analysis, but as part of the inter-text of the English classroom. In these cases, pre-service teachers and their students were producing and sharing multiple kinds of texts, including essays, multimedia stories, videos, comic strips, online discussions, and podcasts, among others. The concept of critical media literacy, in dialectical teaching practices, did not separate analysis from

² I use the concept of powerful literacy following Gee (2001), as a term to signify the integration of a critical capacity for analysis of dominant discourses with a mastery of those discourses: not just critically analyzing but being able to critically participate in them in order to exert transformation.

productive ability, so students were taught to simultaneously produce multimedia and be critical about it. I contend that in teacher-education programs it is important to promote this concept of dialectical praxis or tool-and-result. Some of the main manifestations of tool-and-result approaches in my research data suggestively include the integration of cultural studies and critical theory with experimentation with digital technology, together with the creation of an inquiry community.

Chapter Two

The Contradictions of the “Knowledge Economy”: A Critical Policy Analysis

Even when our object of concern is a particular, local context of teacher education, it is still imperative to consider the larger social discourses on education that inform that space. Thus, my choice to study two teacher education programs is guided by a desire to understand the articulation between the local, the national, and the global: to gain insight into how wider policies on education are realized in those local contexts and, at the same time, discover what those specific programs can tell us about those broader policies.

In order to analyze the discourses on technology in education at a macro level, I decided to focus on two policy documents. One of them, at the national level, is the National Education Technology Plan (NETP) in the United States, titled *Toward a new golden age in American education: how the Internet, the law, and today’s students are revolutionizing expectations* (U.S. Department of Education, 2004). It consists of guidelines for the technological development of schools according to the *No Child Left Behind* (NCLB) legislation. The other document, *Innovation in the knowledge economy: implications for education and learning* (O.E.C.D., 2004) concerns educational guidelines designed by the OECD (Organization for Economic Cooperation and Development) for its member countries, which are mostly “developed” countries, including Europe, North America, Turkey, Japan, Korea, Australia, and New Zealand.

The NETP is concerned with increasing the use of technology in the schools of the United States in order to make the country more competitive in the global knowledge economy. It represents school students as a leading force of innovation because they are seen as more in tune with new technologies than adults. In this way, the document uses young people’s general

interest in technology as a justification for their own policies for educational reform. Technology is presented as a tool for more effectively designing and managing testing and tracking programs, including the implementation of online instruction. Ostensibly, this would facilitate better education by providing individualized instruction, as it would allow teachers and schools to process and readily access information for each student and their needs.

The OECD report consists of policy suggestions for its member states with regard to bringing the formal education sector to the same levels of “innovation” and “development” as other sectors of the knowledge economy. It is based on policy-driven studies carried out especially for the completion of the report, which was prepared by university professors of the member states as well as OECD functionaries. The document presents four key factors of innovation: science, the collaborative work of “users and doers,” modular structures that would allow for more flexible change, and information and communication technologies (ICTs). Across these three areas, it stresses the importance of promoting a public realm of knowledge, as it points out that knowledge production thrives in social networks. In order to achieve this, it proposes to ease legislation regarding the private property of knowledge, at the same time establishing mechanisms of validation and regulating access to protect the interests of the community. The importance of teachers’ tacit knowledge is emphasized, with specific suggestions for making this knowledge explicit and available to the professional community.

A critical analysis of the policies just summarized will address some of the contradictions in social discourses about technology, literacy, and education, contradictions that teachers have to deal with regularly in their professional practices and decisions. Critical policy analysts ask questions directed at the social relationships on which the policies are based (Edmondson, 2004). In this way, their analyses “illuminate inequalities and injustices, particularly because these

questions lead them to expose contradictions” (p. 18). Educational policies rest on profound contradictions because they are expressions of ideology. Furthermore, contradictions are a defining feature of activity systems, which make them unstable and unpredictable. For this reason, Engeström (1999) speaks of contradictions as enabling the transformation of activity systems. In this sense, attending to the contradictions in the policies is an important step towards actively participating in the direction of educational change, and it particularly enables us to direct the impact of the policy in the specific local contexts in which we work.

My argument, essentially, is that while the policies accuse school systems of being outdated, they promote a limiting concept of innovation. This concept is reduced to market values and emphasizes management, efficiency, and accountability. The values of creativity and flexibility promoted are subsumed under the market goal of competitiveness. It is important to address how these policies are played out in particular educational contexts because many of the values embraced in them, such as an active role for students, lifelong learning, inquiry, and collaboration, resonate strongly with critical literacy approaches while taking very different connotations. Specifically, the policy documents promote a deterministic vision of educational change that contradicts the progressive notions espoused. This deterministic ideology establishes technology as a vehicle for educational innovation, ascribing the technology a causative role in social change. Following the terminology used by Newman and Holzman (1993) in their Vygotskian approach, I will call this perspective *tool-for-result*. This denomination points to the dualism dominant in Western thought, and particularly to a separation between the technology and the activity in which it is involved. It refers to an abstraction of the technology from its conditions of existence.

As this chapter engages in the critique of the tool-for-result framework reflected in the policy documents, an alternative conception emerges, which Newman and Holzman call *tool-and-result*. Within a tool-and-result framework, the technology works dialectically within social activity: it is produced through social activity, it supports certain forms of activity and at the same time it is shaped by the purposes and process of the activity itself. Thus, technology does not cause social change, but rather, it is an integral part of dynamic social processes. The fact that stark contradictions can be identified from an analysis of the policy documents suggests that determination is not possible; on the contrary, deterministic discourses are attempts to fix social processes or to unidirectionally affect educational change.

The same distinction between tool-for-result and tool-and-result can be applied to policy analysis. Edmondson observes that most policy studies take a functionalist approach, aimed at discovering “what works” within the goals of already defined policies, while critical analysis questions the assumptions that drive particular policies, addressing the socio-political contexts in which they emerge and are applied. The functionalist approach can be considered tool-for-results, since it assumes that the goals and purposes of policy are already determined, and focuses on uncovering the best means (methods, technologies) towards those pre-defined goals. Those means or tools thus become reified, fixed, since the complexity of their implication in concrete practices is lost. In contrast, critical policy study, as tool-and-result, engages simultaneously with the purposes and tools of the policy, acknowledging how they are mutually defined. The following are some of the questions raised in critical policy study:

- Where has the policy come from? What are the social, political, and historical aspects of the policy? How are key aspects defined?
- Who are the policymakers? What are the values of the policymakers? Why was the policy initiated?
- What are the consequences of the policy?

- Who benefits from the policy? Who is left out? (Edmondson, 2004, p. 5)

In the remainder of this chapter, I will explore these questions as they apply to the NETP and the OECD document.

Innovation versus the “old grammar of schooling”

Schools are at a time of transition, when old and new forms coexist, often in conflict with each other. Lankshear and Knobel (2003), from a New Literacies framework, speak of an “old grammar of schooling” that survives beneath the surface of incorporating new technologies in schools. They argue that there is a gap between the forms of textuality with which children and young people engage daily and the academic discourse of the school, and that the schools need to become more relevant to students’ lives: “it does not follow from the fact that so-called new technologies are being used in literacy education that new literacies are being engaged with” (p. 29).

The two policy documents addressed here also argue that school systems are outdated, although the reasons why they prescribe educational reform differ from Lankshear and Knobel’s. These policies celebrate the direction of recent socio-economic development and argue that the formal education sector should be modeled after the economy in order to serve the needs of the economic system. They identify major qualitative changes in society and state that education is not yet living up to these changes. The OECD report states:

Most sectors and industries in the knowledge economy are currently experiencing a “Schumpeterian renaissance”: innovation is today the crucial source of effective competition, of economic development and the transformation of society. Does this renaissance extend to the education sector? The answer must be “not yet,” to the extent that efforts to implement change in the name of “educational improvement” have aimed mainly to raise the effectiveness of the system at the margin without trying to move the system into a new era. (O.E.C.D., 2004, p. 7)

The concept of “innovation” is thus linked to economic changes, and the values that emerge from the business world, such as efficiency and competition, are embraced for other realms of public life such as education and health care. From the perspective of the two policies, innovation in education would broadly consist of the use of technology to manage the production and distribution of knowledge, thus increasing effectiveness and competitiveness in the global market.

The view that the main purpose of education is to serve as a factory of human resources for economic development is not new: it can be traced back to the beginning of the twentieth century (Sehr, 1997). The values of scientific management for education (efficiency, standardization, accountability), according to which education is modeled after the industrial factory, have been leading forces in the American curriculum throughout the past century (Kliebard, 1995). Goldin (2001) examines how the United States has been a world leader in this respect, with its pioneering system of secondary public education linked to the requirements from industry of an increasingly skilled and flexible workforce. While maintaining significant continuities with past discourses on factory models of education, the new policies are imbued with a different rhetoric. In accordance with postfordism, instead of the assembly line, the model for the economy and for education is now innovation and creativity, and the production of “knowledge” more than the production of material goods (O.E.C.D., 2004; U.S. Department of Education, 2004).

Two of the defining values of the new economy are *knowledge* and *speed*: Gee, Hull, and Lankshear (1996) use the term *fast capitalism*, while Besley and Peters (2005), drawing from Ben Agger (1989), talk of *fast knowledge*. The association of knowledge with speed is analyzed

by Besley and Peters through the examination of the four principles that Ritzer (2000) identified with the McDonaldization of society: *efficiency, calculability, predictability, and control*. These principles can be recognized in recent transformations of educational systems. The “efficiency emphasis” is seen in multiple-choice, machine-graded exams, and in textbook manuals with sets of questions, increasingly digitalized, “aimed at streamlining the process, simplifying the product, and putting customers (students) to work” (p. 118). Calculability means the prioritization of quantity over quality, as in the standard amount of hours per course, the focus on grades rather than the quality of what is learned, and on the assessment of faculty according to the amount of publications. Predictability is related to scripted curricula and standardization. Control “of employees and customers, as well as the process and product” (p. 118) is aided by digital technologies of data management and by the processes of standardization and accountability.

In the NETP and the OECD document, the premise that education should be driven by economic changes relates to a deterministic view of social change, as it is assumed that the role of education is to adapt to objective historical progression. The cult of innovation is a relative of the ideology of progress inherent to the Enlightenment project, where “progress” (or “development”) is taken for granted as a desirable and pre-defined social goal. This fits with a teleological view of history in which social progress follows a unidirectional line along a pre-determined path. The role allocated to governments in this process is to devise ways to efficiently adjust to the challenge of “innovation” in order to make the best out of it. As such, it promotes an adaptive rather than pro-active approach to policy. While it seems common sense that schools should be in tune with societal changes, there is a considerable difference between adapting and responding. The verb “to respond” contains an element of openness and creativity

in the response, which is not pre-determined, while the verb “to adapt” relinquishes power to external conditionings.

This deterministic perspective risks depriving educational agents of the power to participate in decisions regarding what kinds of changes they want to make. Adopting the “mindsets” associated with new literacies (Lankshear & Knobel, 2003) or the new “outlook” associated with technological change (U.S. Department of Education, 2004) implies becoming “new kinds of people” (Gee, Hull & Lankshear, 1996). Educational institutions, as public spheres, are precisely the sites where people can interrogate, debate, and decide what kinds of people we want to become (Sehr, 1997). Consequently, it becomes crucial to apply critical policy analysis in education (Edmondson, 2004) in order to consider who gets to participate in the construction of these new mindsets and new outlook, and how their participation is ordered.

The shift to a new outlook in education predicated in these policy documents has been theorized by Deleuze as a passage from a *disciplinary society* (Foucault, 1995) to a *society of control* (Deleuze, 1992), a passage that is connected to the transition from a Fordist to a post-Fordist model of production. Deleuze conceptualizes this shift as a transition from *molding* to *modulation*. Molding implied that subjects needed to be shaped according to a rather rigid mold or structure; according to Foucault, these molds acted mainly on the human bodies to shape them and make them behave in certain ways within institutions of confinement, of which the prototype was the prisons. The molding (disciplinary) institutions assumed either a blank slate or a set of bad habits or erroneous tendencies that needed to be corrected. Learning followed a linear progression through consecutive stages in the system.

On the contrary, modulation requires subjects to participate at the same time in different areas of activity that do not necessarily follow natural stages of progression. There is an

interaction between the life, background, and initiative of each subject and the particular pedagogic situation or institution where they are *formed*: subjects already have a substance that takes different forms in different contexts. In modulation processes, the “mold” (if it can still be called this way) is flexible and takes different shapes with different subjects. Subjects participate in interconnected networks and they are not necessarily confined to a physical space, so that time becomes more flexible (Deleuze, 1992; Castells, 1996).

Rodríguez (2006) summarizes the transition to modulation as

- a) the passage from a “monopoly of contents” to a “crisis of universal knowledges,” so that knowledge becomes more responsive to context and more unstable, constantly evolving;
- b) the transition from an unquestioned authority of the teacher based on the legitimacy of the body of knowledge to transmit to the concept of *lifelong learning*, so that the teacher is also a learner, constantly responding to changing pedagogical situations;
- c) a move from a passive student that had to be disciplined and molded according to fixed principles to an active learner. This implies a higher degree of interactivity, so that the learning process can become more dialogic.

While the two policy documents coincide in pointing out that the crisis of modern educational systems has been triggered by socio-economic changes that make them obsolete, Rodríguez (2006) argues that the current crisis just makes the contradictions inherent to modern educational institutions more salient. In fact, Joseph Jacotot (Rancière, 2003) in 1818 and Friedrich Nietzsche half a century later identified these contradictions since the inception of

modern forms of schooling. Rodríguez argues that the heart of these contradictions is the inequality of the pedagogic triangle that consists of

- universal and pre-established knowledge, transmitted by
- an authoritative teacher to
- a passive student.

This triangle works in these systems as the unequal means to egalitarian ends. The foundational philosophy of modern educational institutions is predicated on the establishment of egalitarian principles for a democratic society in order to produce citizens for a relatively homogeneous society identified with a nation. This model of education can be characterized as tool-for-result, since the tool (method of intervention) is dissociated from the result (particular social formation) to the point that it can be based on opposing principles. Looking at modern educational systems from the same tool-for-result assumptions on which they were based obscures the complexity of the social processes involved, such as the enactment of a hidden curriculum.

Frank Smith (1998) explains how this “transmission model” often results in short term memorization but not significant learning, especially with regard to the goals delineated in the official curriculum. Likewise, one of the critiques that Nietzsche posed to modern education targeted the disconnect between the knowledge transmitted and the particular context of the student, so that learning meant the accumulation of knowledge constructed by others in the past. He saw this as “a profound hostility to life,” since education was about dead knowledge, abstracted from the life experiences of the people concerned (Rodríguez, 2006). The flaws of these systems only become more evident now that they are in crisis, as schools are undergoing changes that restructure social interaction and symbolic practices. In fact, it could be

hypothesized that those internal contradictions of modern institutions acted as a trigger for current transformations.

At first sight, the transition to modulation looks like a transcendence of the banking (Freire, 1970) or transmission (Smith, 1998) model of education, towards a more democratic and egalitarian approach. There are elements that point to the emergence of or potential for a tool-and-result perspective, such as the attention to the contextual, contingent, and even performative qualities of knowledge, or the postulation of the need to constantly reformulate knowledge according to new situations and to recognize the perspective of the students as well as the teachers. All these principles point to an acknowledgment of the dialectical relationship between what we know (result) and how we get to know it (method, tools), such that the relationship between teacher and students, for example, cannot be dissociated from the learning outcome. Nevertheless, the policy discourses under analysis promote deterministic arguments that contradict these tool-and-result insinuations.

Deleuze (1992) warns against idealizing the promises of modulation, and he theorizes the new modality not as better or worse but as a different form of power. His position can serve as a reminder that social processes are defined through the negotiation of power relationships. For example, lifelong learning is promoted as a way to transcend fossilized or stale knowledge. This can imply a democratization of pedagogic relationships, as teachers and authors are no longer seen as unquestionable sources of knowledge. Alternatively, it can also be a way of keeping teachers and students under control by never recognizing their professional expertise.

This tension between the promise of equality and collaboration and the establishment of elaborated mechanisms of control pervades the policy documents. For example, the NETP establishes an oxymoron in defining the young generation as *creative consumers*, which

constructs school students as simultaneously free and defined exclusively by market values. In this document, the students are valued as drivers of consumption as the stress is placed on the need to constantly renew technological devices in schools, as a pathway to the much desired innovation. The tool-for-result determinism is evident in this instance, as purchasing new technology is equated with educational transformation. One interviewed student is quoted as saying:

We would like to have one computer per student, possibly a wireless laptop. Software needs to be updated, as well as hardware. Infrastructure should be improved to accommodate these upgrades. Access is vital, with before and after school hours open for use. (p. 20)

In the search for a “new outlook,” the NETP takes the new generation (the *millennials*) as the point of reference for educational reform, arguing that since they are ahead of outdated schools and teachers, the educational system should be modeled after them. Since generally young people are equipped with better knowledge of new technologies, this legislation invests them with some kind of authority over adults and traditional institutions. While the young are thus conceptualized as “independent learners” with a powerful creative energy, paradoxically they are mainly defined as consumers, making reference to their purchasing power and their lead in telling parents what to buy.

The mandate to increase the use of technology in schools, which is one of the main policy guidelines outlined by the NETP, directly connects to market values. The race to keep up with the constant development of new technologies puts schools in a relationship of dependence on business providers of that technology. In addition, an excessive focus on acquiring the latest technological advances can detract resources from other aspects of pedagogical investment, such as curriculum development and teacher research. Because this legislation is framed in such

commercial terms, the young seem to be openly offered as virgin territory for the expansion of capital, as a source of profit for the market, thus as an object of exploitation. Students are simultaneously positioned as an authority with respect to educational reform, and as instruments for market expansion.

While the OECD document uses the metaphor of “creative destruction” for the processes of knowledge production that it promotes, the NETP embraces the closely related practice of consumerism, which works by “narrowing the gap separating the usefulness and desirability of possessions from their uselessness and rejection. [...] it has put appropriation, quickly followed by waste disposal, in the place of possessions and enjoyment that last” (Bauman, 2005, p. 85). The millennials, presented as autonomous critical thinkers in the National Education Technology Plan, are at the same time represented as driven by a consumer culture that shapes their experience of technology and of life itself. This is taken for granted as the only possible (and unanimously desired) path to follow by youth. The determinism of this assumption becomes evident when a high school student is quoted as saying “We have technology in our blood” (U.S. Department of Education, 2004, p. 10), especially because it resonates with discourses that naturalize social relationships. This naturalization of socio-historical conditions is a particular function of ideology. The placement of technology in the NETP as a goal in itself without considering the social implications or social purposes of the policy is a discursive mechanism analogous to the cult of innovation in the OECD report. In both cases, the separation of the tool (technology) from the social activity in which it operates serves to conceal the context in which the policy was designed.

Revisiting the public/private distinction

With respect to modern political systems, there is a re-signification of the concepts of *public* and *private* in knowledge society Discourse.³ While the private and public realms were once conceptualized as separate and fixed domains of life in modern Discourse (Collins & Blot, 2003; Habermas, 1991), the distinction between them has now become blurred (Gee, Hull, & Lankshear, 1996; Bauman, 2005). Businesses in fast capitalism differ from those in industrial capitalism in that their purposes are purported to be beyond profit, and they concern themselves with “values that traditionally have been centered in non-business institutions” (Gee, Hull, & Lankshear, 1996, p. 33). Gee, Hull, and Lankshear argue that “the new capitalism is fundamentally about privatization” (p. 35), meaning that all realms of life come to be ruled by the principles of market competition, which are extended to public institutions and to other communal and domestic spheres. Bauman (2005) refers to this phenomenon as the “marketization of life processes” (p. 88).

Gee, Hull, & Lankshear (1996) argue that in fast capitalism workers at all levels are required to identify with the core values of a company, with its “vision,” which requires a personal investment in the workplace. Since the overarching Discourse of fast capitalism considers workers’ ethical values and interpersonal relations as crucial for the success of a company, the workplace emerges as a pedagogical site, and at the same time theories of

³ I capitalize “Discourse” to refer to the Discourse of the knowledge society (also fast capitalism, or “the new work order”) following Gee’s (1990) distinction between “discourse” as generally language in use, and “Discourse” as a particular grammar or pattern of language use identified with particular social groups or institutions.

academic learning are adapting principles from business. Supported by the century-old assumption that one of the main functions of schooling is preparation for employment, corporations are now claiming a directive role in educational institutions. The principles of business are presented as the principles that should guide one's personal life as well. Gee, Hull, and Lankshear refer to Habermas' concept of the *lifeworld* as "that domain in which each of us is a (culturally specific) normal, unspecialized person" (p. 34), to attest that it is being colonized by the principles of fast capitalism.

The close interpenetration of businesses and education can be seen in the schooling model proposed by the NETP, which presents the HTH in San Diego as an example to follow:

High Tech High (HTH) in San Diego used a Bill and Melinda Gates Foundation grant and funding from the San Diego technology business community to start a charter school from scratch. Since its launch in September 2000, the school has been an innovation leader in using technology and grounding learning in the "real world." Student internships with area businesses are built into the schedule and students use technology to conduct biotechnology lab experiments, build robots and produce sophisticated school projects. [...] Under Principal and CEO Larry Rosenstock's leadership, technology and intellectual rigor are central to the educational experience at HTH – a learning experience in an environment which is open to the real world and fosters connections to the community. (p. 26)

In this case, the school literally becomes a business, as can be seen by the fact that the principal is a CEO, and funding for the school project came directly from corporations. There is a very close interaction between businesses and school activities, such that social relevancy and connections to the community are defined in business terms. At the same time, the privatized vision can be related to the fact that students are addressed mainly as segregated individuals throughout the NETP, such that technology is defined as a tool for individualization, and for making sure that each individual student can reach the educational standards.

The OECD report introduces a different discourse that speaks to the social nature of the construction of knowledge. It emphasizes the importance of creating a public space for the production and circulation of knowledge, arguing that extreme privatization would make these creative processes stagnant. Digital communication technologies are assigned a vital role:

Knowledge-based activities emerge when people, supported by information and communication technologies, interact in concerted efforts to co-produce (i.e. create and exchange) new knowledge. Typically, this involves three main elements: a significant number of a community's members combine to produce and reproduce new knowledge (diffuse sources of innovation); the community creates a "public" space for exchanging and circulating the knowledge; new information and communication technologies are intensively used to codify and transmit the new knowledge. (p. 20)

The use of quotation marks for the word *public* in the above passage points to a re-signification of the term and invites further examination of the concept in the OECD. There is a contradiction in that even though the report advocates for capitalizing on practitioners' knowledge, and it is focused on primary and secondary education, there are no representatives from these sectors participating in the report. This contradiction points to the limited conception of public participation that the report promotes.

The ambiguous meaning of *public* in the OECD report can be connected to the rhetoric of fast capitalism. Gee, Hull, and Lankshear (1996) warn about how concepts shift meaning in the context of the "new work order." For example, while fast capitalist texts speak of "empowering" workers by trusting them with responsibility and control over their work, which implies identifying with the values and interests of the company, this empowerment does not encompass participation in decisions over their working conditions or the goals and organization of the company (pp. 34-35). Since educational institutions are undertaking the structures of business,

the conception of *teacher empowerment* and *teacher participation* is likely to be characterized by analogous contradictions.

The OECD report argues that teachers' involvement in the production of professional knowledge in the context of a professional community is a vital component of educational change. It makes the point that although teachers' work is knowledge-intensive, teachers often do not engage in the kind of collaboration described in the quote above. Based on a study by Hargreaves, the report states that while teachers might produce important knowledge in their individual practices, they rarely come together as a professional community to exchange and codify this tacit knowledge. In fact, Hargreaves (1999), who participated in the OECD report, is critical of recent policies that discourage knowledge production by teachers, and assume that best practices can be established and handed down in a top-down fashion, ignoring the need for constant re-elaboration and the importance of tacit professional knowledge. The NETP and NCLB (*No Child Left Behind Act*) are examples of policies that promote the top-down application of "best practices." In this sense, they are clearly tool-for-result, because it is assumed that the tool (best practices) can have fixed qualities and outcomes independently of the activity in which it is involved.

In contrast, the idea put forth in the OECD report appears to conceive of knowledge as inextricably tied to the situations in which it is functional. At first sight, it resonates with a vision of public democracy in which participation by the agents involved in the construction of their own living and working conditions is a crucial aspect (Sehr, 1997). Nevertheless, while the OECD report speaks of capitalizing on teachers' tacit knowledge, making the implicit explicit and more available to the wider community, it does not address the teachers as researchers and intellectuals. Rather, it speaks of making their practical knowledge available to educational

researchers still in a hierarchical fashion, so that there is still a split between researchers and practitioners.

In reality, teacher research can be an important element of teacher agency and a more democratic way of knowledge production and distribution. Kincheloe (1995) speaks of “postmodern action research” as crucial to the education of teachers as critical agents. This framework moves towards a dialectic tool-and-result, as the methods of creating and applying knowledge are an integral part of the professional activity of teachers: it is as basic as acknowledging that teaching and deciding how to teach are part of the same activity. If teachers develop as critical researchers, they can engage in practices to transform reproductive institutional structures that impose a top-down curriculum and render them technicians that need to follow the advice of detached educational “experts.” Because most teacher education programs are based on a scientific management perspective, teachers are denied the intellectual tools for collectively defining, evaluating, and transforming their own pedagogical practices. In the managerial context of the OECD and Hargreaves’ article, acknowledging the importance of teachers’ tacit knowledge does not equal an intention to empower the teachers as researchers.

The model for teacher participation in the creation of educational knowledge that the OECD report and Hargreaves (1999) promote is adopted from the organization and management that businesses are taking within the knowledge economy. Ostensibly, this kind of organization implies replacing old hierarchies with “flat” networks, so that instead of knowledge being produced by university researchers and then distributed to teachers, university researchers work together with teachers in schools, and teachers contribute to research knowledge as well. Besley and Peters (2005) contend that

Human capital, or “competencies,” is the key component of value in the knowledge-based economy, and one of the principal aims of knowledge management is to “extract” it from people’s heads and to lock it into systems or processes as soon as possible where it has a higher inherent value and cannot “walk out the door.” (p. 114)

The discourse of the OECD report clearly articulates the intention to appropriate teachers’ tacit knowledge and codify it into an information management system. This approach casts some questions about the extent to which teachers have control over the knowledge they produce or can make decisions about how to shape their practices. It is still tool-for-result, since knowledge is still extracted (and dissociated) from the activity in which it is produced and transformed into a reified construct.

It is important to question how access to public spaces will be regulated, since the language with which the establishment of these networks is explained in the OECD document, as in the example of “mapping” (p. 124), reveals that on top of “flat hierarchies” there will be a managerial class with regulatory power. As Gee (2002) points out, the flattening of hierarchies refers to the increasing irrelevance of middle managers in the new capitalism, rather than to a new kind of egalitarianism. Hargreaves (1999) makes it clear that despite flat hierarchies there is a management system in place that orchestrates and regulates teachers’ collaboration. There is no mention of collaborative projects for negotiated collective goals within the school community, or of how these goals are deliberated and decided upon, but rather of how individuals can benefit from each other's knowledge in the workplace. This implies a concept of privatized public life, according to a neoliberal ideology where society is a sum of individuals rather than an interdependent whole (Sehr, 1997; Thatcher, 1987).

Even under the pretention of promoting public life, the atomization of society reflected in the OECD document can be disempowering, as it discourages the examination of social systems

of activity and engagement in reflective social practices. Engeström (1999) makes the insightful argument that creative social transformation “requires reflective analysis of the existing activity structure –one must learn to know and understand what one wants to transcend. And it requires reflective appropriation of existing culturally advanced models and tools that offer ways out of the internal contradictions” (p. 33). Engeström’s model of transformation is tool-and-result, because it argues for the integration of analysis and reflective practices, such that transformative knowledge is produced through critical participation in social activity.

In the OECD document, the concept of mapping illustrates how networking is used to establish control mechanisms and competition rather than for constructing a public space where teachers work together:

A knowledge audit is most easily conducted in a collaborative school culture that encourages frequent and high levels of professional talk and sharing among teachers. Such schools will pioneer methods of mapping the nature and extent of their professional knowledge and ignorance. For example, a staff survey could be based on questions such as: Which colleague(s) has helped you improve your teaching –in what ways and what aspects of teaching? What do you think you know or do that others might find useful or interesting? What aspects of your job do you think you’re best at? The results can be used to provide a Yellow Pages guide which tells you who to contact if you need help and advice, or just a colleague to talk about a particular issue. In this way each teacher’s cognitive map of the organization [...] is enriched. (p. 124)

This idea of mapping purports to create a strong support system so that teachers are not isolated in their work and can share and improve their professional development. However, it does not promote a public space for knowledge beyond helping individuals help each other in their personal professional trajectories. Consequently, the kind of activity that involves reflexivity with respect to the contradictions in the teachers’ activity systems is unlikely, since teachers are still focused almost exclusively on achieving success in their individual classrooms according to pre-established standards of effectiveness. The “Yellow Pages guide” permeates a concept of

marketing oneself that would likely promote an ethics of competition paralleling the logic of the market, at odds with the ethics of care and responsibility that Sehr (1997) argues is a vital component of a public democracy. The document contains a tension between creating a context for mutual help and sharing concomitant with public values, and an individualistic conception of professionalism. Robertson (2005) notes that within a socio-economic system driven by competition, the espoused values of “trust and cooperation” called forth by the OECD sound hollow.

This privatized conception of the public sphere becomes more evident when the OECD document proposes to ease legislation regarding the private property of knowledge in order to open up possibilities for innovation. It is a paradox that the purpose of making knowledge more public is posed in terms of innovation in the abstract, disconnected from any consideration of the social relevance of knowledge systems or the impact of these policies for particular social actors. It is apparent that in this case public sharing of knowledge is preferred because it is more profitable in some respects than private property restrictions. There is a subtitle in the document that openly confirms this: “The private benefits of participating in collective action” (p. 50). The public realm of knowledge is defined as a space for business investment, with the cost-benefits of sharing carefully measured.

The priority placed on the private profit derived from the proposed publicity of knowledge would logically imply the need to exercise control over those public spaces to make sure that investments are protected. Although the OECD document does not display an overt language of social control as the NETP does with its focus on testing and accountability, it expresses concern about establishing regulatory mechanisms for new forms of knowledge. It raises the issue of how to legitimate the knowledge circulating in networks (e.g. the Internet)

where mechanisms of validation are not yet in place. While the print media, by its history, already has many embedded control mechanisms, there is concern about the lack thereof in digital exchanges: “Clearly, new methods need to be devised to ‘certify’ the knowledge circulating on the Internet within a context where inputs are no longer subject to control” (p. 33).

The need for setting regulations to the shared nature of digital networks is also framed in terms of community values:

the maintenance of human organizations in which completely codified knowledge resides poses a variety of socially and politically delicate challenges, involving the establishment of procedural authority to decide contested cognitive questions and stabilize the knowledge held by the community, as well as to recruit new members and inculcate in them the cooperative mores that suppress destructive opportunistic behaviors (p. 35).

Throughout the document, there is the concern about how to create community and a public space for knowledge while keeping these spaces under control. The “publicity” of knowledge is desired for the benefits it would bring about, but it is also feared as a space that could go out of control if it becomes too public. In this respect, the formalization of networks of knowledge sharing among teachers, as produced through “mapping,” would facilitate the establishment of regulatory mechanisms of teachers’ professionalism by the institutional managers.

The privatized conception of the public in the OECD report is concomitant with the silence with respect to the socio-political implications of the policies proposed. As already observed, there is no socially-defined purpose, but instead the abstracted value of innovation is the main goal espoused in the OECD report. The celebration of the “Schumpeterian renaissance” points to the ideological underpinnings of the policy, rooted in the concept of “creative destruction” as the engine of capitalist development. The theorist of capitalist development as a series of revolutions explains it thus:

The opening up of new markets, foreign or domestic, and the organizational development from the craft shop and factory to such concerns as US Steel illustrate the same process of industrial mutation –if I may use that biological term – that incessantly revolutionizes the economic structure from within, incessantly destroying the old one, incessantly creating a new one. This process of Creative Destruction is the essential fact about capitalism. (Schumpeter, 1975, pp. 82-83)

The analogy between social processes and biological evolution once again points to a deterministic vision of social change that precludes the possibility of social agency. While both Schumpeter and Engeström speak of transformations generated from within social systems, there is a major difference. Schumpeter speaks of “mutation” as something that happens beyond human initiative, purposes, or control. If accepting this paradigm, which the OECD document embraces, the only chance to claim some form of agency is to observe the direction of those changes (such as new technologies, or new forms of interaction and organization) and take advantage of them as they are. This is tool-for-result. In contrast, Engeström, even though he speaks of the unforeseen changes and the difficulty to predict the outcome of activity systems, emphasizes the importance of purposeful activity, and the possibility to direct those transformations through reflective engagements. Understanding how an activity system functions enables subjects to work with internal contradictions to influence the development of social activity.

On the contrary, the concept of “creative destruction” as described by Schumpeter refers to a process that reproduces itself almost mechanically: it does not involve resolving contradictions through reflective practices. Reflective practices point to historicity, as distinguished from biological evolution. In contrast, the mandate to constantly innovate and discard the “old” or traditional forms represents an outlook exclusively towards the future, intentionally erasing not only the past but even the present, which rapidly becomes obsolete

(Bauman, 2005). This process relates to a poor memory: it is significant that there is no mention of historical memory or cultural identities in the OECD document, neither of cognitive memory. Instead, there is a preoccupation about memory only with regard to merely technical considerations of data management, such as digital codes and software becoming obsolete and thus the necessity to constantly renew the archives. The limited conception of memory presented in these policies expresses a will to erase history, to which Castells (1996) refers when he speaks of the a-historical culture of cosmopolitan elites in the “network society.”

According to Bauman (2005), in late capitalist societies the constant destruction of old forms in order to make place for new ones has extended from the field of economic production to all other realms of life, in what he calls “the ubiquitous and obtrusive ‘marketization’ of life processes” (p. 88). This is precisely what the OECD promotes by erecting business as the model for all other social institutions, and assuming that new necessarily means better.

In contrast to the objectively presented strive for innovation and progress in the OECD, which intends to put some limits to the workings of free markets, the National Education Technology Plan reflects a more direct alignment with the values of market competition and individualism as the main drive for educational policy:

Over the next decade, the United States will face ever increasing competition in the global economy. [...] It is the responsibility of this nation’s educational enterprise –including policymakers –to help secure our economic future by ensuring that our young people are adequately prepared to meet these challenges.
(p. 6)

In this statement, even educational services are defined as an “enterprise,” with a connotation that they belong to the market realm and are thus a private matter. While the OECD report provides general guidelines for member countries, so that it presents an abstracted idea of a new form of social networking, in the NETP the concept of innovation is nationally contextualized:

“But change is in the air. Clearly, we must innovate for our country to succeed in this time of rapidly increasing global competition.” (p. 9). National success is presented as dependent on innovation, and innovation is related to the dynamics of the (global) market. Consequently, the concept of the national state (thus public education) is utterly privatized. In contrast with the OECD document, which argued for the importance of the public dimension of education, the concepts of community or the public appear only marginally in the NETP, referring to the importance of the connections between schools and the community in terms of business relevance.

The emphasis on social interaction and professional exchange in the OECD report is countered by the focus of the NETP on control and accountability. The NETP links technology to educational change, in the form of online testing and online instruction “tailored to individual needs,” which thus conceptualized would seem to isolate students rather than strengthen interaction and social skills. Technology provides the tools for better “tracking progress and identifying needs”: “New student data management systems will greatly facilitate the collection and use of test, demographic and other data for more effectively designing and managing instructional programs.” (p. 7). The values of competition and control are posed as the main drives of educational reform, in contrast to the more liberal oriented OECD report with its focus on innovation as a neutral value and on opening up public spaces and building knowledge in social networks.

Beyond the difference between the OECD and the NETP in terms of emphasis on the public and private dimensions of knowledge, both policy documents can be considered expressions of the Discourse of “the new work order” (1996) and the process of privatization that it implies. This Discourse appropriates the language of political engagement and social justice so

that such terms as “community,” “empowerment,” and “participation” become privatized concepts:

The beginning of changing the rules can be, as well, the refusal to take for granted the meanings of words in the new capitalism –to begin to see that ‘global competition’ can sometimes mean global exploitation, that ‘worker empowerment’ and ‘flat hierarchies’ can sometimes mean high-touch and high-tech control, that ‘freedom’ has many meanings in different contexts and that people are not free if ‘empowered’ in a system whose effects they cannot ward off, that ‘decentralization’ and ‘distributed control’ can sometimes hide the sources of exploitation, control, and power, as well as the workings of history. (p. 150)

The ambivalence of this Discourse with respect to the concept of the “public” is expressed in salient contradictions that become evident when situated practices are in tension with proclaimed values, as Gee, Hull, and Lankshear (1996) demonstrate through their research in a Silicon Valley factory and in a Central American cooperative.

The concept of *accountability*, related to the Discourse of fast capitalism, is prevalent in the NETP, in alignment with the policies advanced in NCLB, which hold schools and teachers “accountable” while they have little control over the curriculum or the social contexts in which they work. Accountability in educational policy places students, teachers, and other educational actors in a situation analogous to the factory employees referenced in *The New Work Order* (Gee, Hull & Lankshear, 1996), whose new “empowerment” made them “accountable” for flaws in the production mechanism that were beyond their control. There is a similar tension within the OECD document, which speaks of public sharing among teachers and other educational workers in a context of competition that stimulates individualistic concerns and individual measures of success. Besides, while teachers’ knowledge is considered a valuable resource, teachers are not granted participation in educational management and decision-making.

The ambivalence found in the Discourse of the knowledge economy with respect to the meaning of *public* can be explained as a re-signification of the term, as new socio-economic processes make the modern dichotomy between public and private more unstable and practically subsume the public into the private. In fact, the concept of public was already ambivalent in modern Discourse. This can be seen in Habermas' model for the public sphere, which was composed of "private" individuals. The idea that there is a private area of life that should be protected from the public or from the state was related to the separation of Church and State, so that religion could become a private issue; to the consideration of economics and the market as a private matter, so that property rights had to be kept autonomous from the State as well; and to the separation of the domestic sphere from the public sphere and the State (Benhabib, 1992).

Modern Discourse established separations, and Habermas (1991) argues that the separation of the private and the public that came about with the Enlightenment project had positive implications for democratic political life, as it enabled the development of the *public sphere*. He also argues that the public sphere, and with it democratic life, degenerated and shrunk in late capitalism with the advent of mass media consumer society. Although feminists question the modern dichotomy between public and private realms, Fraser (1992) points out that the emergence and formulation of a public sphere distinct from the State Apparatus and from private spaces is an important condition for democracy. Benhabib (1992) points to the advantages of the idea of individuality and privacy in the possibilities to recreate and transform social roles, which used to be more fixed before the modern era as the force of tradition was heavier. However, these feminists question the universalizing assumptions of the modern public sphere theorized by Habermas. Based on the dichotomous thinking of modern rationality, the

modern public sphere was the realm of reason, as opposed to emotion, where individual differences, interests, and inequality had to be bracketed to make space for deliberation regarding the common social good (Habermas, 1991). Fraser (1992) argues that bracketing difference and inequality does not erase them, and thus discursive processes will favor the vocabulary and communicative manners of the dominant groups.

The basic contradiction within the idea of the modern public sphere is analogous to the contradiction inherent in the disciplinary pedagogical relationship: behind its veneer of egalitarianism hides a host of systemic inequalities. The separation between the public and the private spheres within a patriarchal social organization meant that ideas of justice and egalitarianism applied in the male-exclusive public sphere but not in the domestic, feminized spaces of the household (Bebhabib, 1992; Fraser, 1992). As Fraser points out, the public sphere that developed with the Enlightenment was gender, class, and ethnically exclusive. In this sense, it was homogeneous, and it is remarkable that precisely one of the reasons why Habermas pronounces its decline is because it was expanded to participation of more sectors of the population, and became more multiple and divided.

Nevertheless, Habermas' pronouncement was insightful in pointing out the overwhelming process of privatization in late capitalist consumer society. If limiting dichotomies are to be contested, it is important to consider the direction of such contestation. An analysis of knowledge society Discourse has recognized the blurring of the modern separation of public and private in an ambivalent movement towards privatization. The question arises of the implications of this process for the meaning of democracy, and how a valorization of the public can develop. Laclau makes the point that liberalism distinguished between public and private spheres, with the assumption that there could be equality in the public sphere while the private sphere could be left

unequal. Therefore, he argues that if “you assert the principle of equality in all its dimensions, you are erasing the distinction between a public sphere and a private sphere” (Worsham & Olson, 1999, pp. 143-144). This erasure could go in the direction of opening up the public dimension of social life. The question raised by analyzing contemporary processes of privatization is whether it could also move in the direction of closing down the public dimension of society and making social issues private.

Feminism offers a framework for a revalorization of the public. Sehr (1997) proposes to expand the realm of the public so that private situations can be seen in their social dimension, as produced by certain institutional configurations of power. The purpose of this “publicization” is not to restrict individual freedom but to “protect and strengthen” it (p. 70). In this way, the modern dichotomy is challenged and transcended. In the same vein, when public spaces such as schools are pushed towards privatized ways of operation, it is also important to reclaim them as sites of public deliberation and to examine critically the institutional configurations of power that make it possible to enforce those policies. From a feminist standpoint, Benhabib (1992) and Fraser (1992) agree that Habermas’ concept of the public sphere is important to consider for democratic politics, although it should undergo important transformations. Benhabib stresses the importance of challenging modern, masculinist binaries and feminizing public discourse. Fraser focuses on the democratic implications of the diversification of the bourgeois public sphere into multiple publics. She contends that issues of what should be considered, debated, and decided upon within the public sphere should be open to deliberation, as those distinctions are socio-cultural and not universal, and ultimately have to do more with the enactment of power relationships than with any *a priori* truths.

Creating a public culture in education would mean to open a space within the schools and teacher education programs for debate and analysis of the implication of new policies and to consider (and experiment with) possible ways to respond. In the face of policies that not only ignore but also obscure the contexts in which they emerge and function, it is important to be attentive to the socio-political implications of new practices promoted through those policies. In line with the process of privatization of public education, some pedagogical practices from business are being promoted for schools. For example, Lankshear and Knobel (2003) make a good argument for the advantages of incorporating such business-related literacy practices as “scenario planning” in school settings; nevertheless, it is imperative to take them up critically, in terms of exploring how these practices work contextually and what ideologies are promoted. When engaging with those practices, it is productive to ask those questions raised in critical policy analysis, regarding why those policies are in place, where they come from, what their implications are for all those involved, and what are some possible alternatives.

The logics of time and space: flexibility and control, fragmentation and fluidity

Another abstract concept that is promoted throughout knowledge society Discourse is *flexibility*, which is a defining quality of the processes of modulation that Deleuze described. Flexibility is equated with freedom from the limiting structures of disciplinary systems, and new technologies play a crucial role in transcending these time/space limitations. While flexibility, helped by digital technologies, provides new kinds of freedom, it simultaneously implies new forms of control. As Laclau contends (Worsham & Olson, 1999, pp. 147-148), freeing up some dimensions of life necessarily implies the exercise of power and the establishment of limitations in other dimensions. In policy documents, the flexibility facilitated by digital technologies is

associated with more effective forms of control, dissociated from fixed time/space locations. The NETP stresses the use of technology for data management and accountability, while throughout the OECD there are references to the use of information networks to monitor who has access to what information, when.

In the NETP, flexibility and control are married through the concept of accountability and its implementation through digital communication technologies that contribute to making institutional structures more flexible. Precisely one of the apparent paradoxes within the NETP stands between the ideals of innovation, creativity, and flexibility on the one hand, and the insistence on standards and accountability as the means to achieve the desired transformation. This is ironic because standardization tends to reproduce the rigid bureaucratic structures claimed to prevent innovation in the first place, so that the policy introduces important tensions in the educational systems where it is applied.

In the OECD document, the flexibility associated with new technologies is presented as a solution to the problem of the fragmentation of knowledge due to increasing specialization. This is another example of how the social implications of an issue are ignored in these policies, as fragmentation is seen as a problem as far as it affects the effectiveness of the system:

There is a big difference between the existence of knowledge in one place or other and its availability to the right people at the right place at the right time. It amounts to a matter of knowing how to integrate and organize fragmented, scattered and thinly-spread knowledge. (p. 35).

Fragmentation is presented as a problem of management: as an instance where control mechanisms are argued for. The report poses new communication technologies as contributing to a potential solution, making it possible to organize, transport, and access relevant information at low costs. At the same time, these technologies would serve as regulatory tools since “the right

people” would have the power to access a wealth of information concerning other people or general social issues.

The concern with who will have access to the information is ambiguous since the document speaks in an impersonal language that avoids specifying who are “the right people” that will have power over these technologies and the knowledge that they facilitate. The report seems to support the need for the fragmentation of knowledge and its distribution to specialized agents. In some sections of the document it is suggested that access to some knowledge networks should depend on belonging to certain communities of practice, such as in the context of communication among teachers. These communities would enact restrictions as to who can be admitted with the purpose of protecting their ownership over this knowledge. Therefore, the publicity of these public spaces would be restricted according to concerns over property, which would also contribute to fragmentation in access to “codified” knowledge.

The problem of fragmentation is also addressed in the NETP, as a concern that relevant information in educational institutions is not integrated and accessible where it is needed. As in the OECD, it is presented as a problem of management: “On average, there is little aggregation of student data in today’s school systems. Information is siloed, redundant, and difficult to share.” (p. 25). The report presents the example of schools that use technology to “[improve] achievement through Student Data Management” (p. 25), which consists mainly of individualized reports of each student available to teachers, supervisors, and administrators, so that they can access the relevant information when needed and thus provide differentiated instruction and improve achievement. There is no discussion of who designs and manages the information system and decides what is the relevant information and how the assessments are

applied. These technologies act as Bentham's Panopticon (Foucault, 1995), in the sense that they serve to render the exercise of power impersonal.

By proposing intelligent ways to deal with fragmentation, the policy reports fail to question the process of fragmentation itself, since its necessity is taken for granted. The history and further implications of fragmentation are not considered because the documents do not ask how fragmentation has come to be, or how it affects human cognition and social interaction. These reports assume that the best solution to fragmentation is to bring together little pieces of well organized information whenever it is deemed necessary, and there is no consideration of the possibility that alternatives to this approach might exist. An alternative that seems obvious but is not even contemplated in the document would be to create more integrated forms of knowledge. According to Paulo Freire (2000), narrow specialization in advanced technological societies is a form of alienation of workers from the products and significance of their work, thus limiting their capacity for critical thinking and political engagement:

By requiring a man to behave mechanically, mass production domesticates him. By separating his activity from the total project, requiring no total critical attitude toward production, it dehumanizes him. By excessively narrowing a man's specialization, it constricts his horizons, making of him a passive, fearful, naïve being. And therein lies the chief contradiction of mass production: while amplifying man's sphere of participation it simultaneously distorts this amplification by reducing man's critical capacity through exaggerated specialization. (p. 34)

The restricted horizons resulting from such fragmentation would favor the illusion of disconnected individuality and obscure social interdependence, reproducing a society of atomized individuals.

The processes of social fragmentation undergo important transformations in the transition from "disciplinary structures" to "societies of control." These transformations relate to the

passage from forms of social regulation based on confinement in time and space, to social control exercised through flexible systems of tracking and data management. In modern educational institutions there is fragmentation in the compartmentalization of knowledge in disconnected school subjects, and in the division of the school-day in time periods marked by the bell and impermeable to each other, in the division of the lifetime of an individual in time periods according to the confinement institutions through which they transit, one after the other, as in a natural progression. Confinement of bodies in physical space has been a necessary condition for this form of social organization of knowledge.

By contrast, in the *network society* (Castells, 1996) everything seems to be more fluid and independent from physical space. Within the logic and functioning of fast capitalism, “speed annihilates distance” (Besley & Peters, 2005, p. 112). School students gravitate between these two different time-space logics. The common example is that the time-space structure of the classroom, organized around spatial confinement and the division in 50 minute time periods, is disrupted when students engage in text-messaging through their cell phones, or use i-pods to engage with multi-media. In this case the students are engaging in two simultaneous spaces, each with very different time frames. The same can be said of the incorporation of computers into school classrooms. There is often an attempt to use computers according to the “old grammar of schooling” (Knobel & Lankshear, 2003), but students might relate to computers according to a different mindset. While teachers explain the school assignment or expect the students to engage in it, the students might covertly engage in instant messaging, video games or web browsing. The frequent concern about an “attention deficit” and short attention spans points to a disjuncture between the disciplinary logic of the school and the logic of interaction to which the students relate in the time-space of flows.

This disjuncture is not a phenomenon exclusively tied to presumably outdated school systems. Castells (1996) observes that the apparent fluidity of the network society hides a profound segmentation between social practices still tied to specific places and social practices situated in networks that he calls “the space of flows.” While practices in the space of flows are not restricted by physical contiguity, they are still supported by a spatial infrastructure, one which allows for simultaneity and coordination in time-space dimensions. Communication technologies effectively connect key localities around the world that adopt specialized functions, and this applies broadly to the flow of capital and the organization of areas of production, including criminal networks. The cosmopolitan elites of the network society are mobile, unbounded by the limitations of specific places. They create an international, a-historical culture, which can be represented by chain hotels that look the same around the world, and a standard sanitized restaurant menu. They also construct their specific localities, such as gated residential areas, separated from their geographical context and inaccessible to the majority of the people, and these places grow increasingly homogeneous and interconnected around the world. These spatial arrangements constitute a mechanism of domination, by which the elites subtract themselves from local and national societies, out of reach from the majority of people who are still vitally connected, and limited to, the specificity of particular places.

These forms of spatial structuring are tied to particular time frames, as time and space dimensions are interconnected aspects of social organization (Castells, 1996). While in modern disciplinary institutions time is linear and progressive, in the a-historical space of flows time is, at least in intention and appearance, annihilated. Castells argues that in contemporary societies the dominant temporality is “timeless time,” since the space of flows produces instantaneity and discontinuity in time sequences. One example of this is in how the timing of messages sent

through the Internet can be manipulated, as with “Gmail custom time,” a feature offered by Google, which allows users to set their new messages to a time in the past, so that they can appear as sent a week, a month, or even a year before they were actually sent. If “timeless time” is purported to be the dominant temporality, it does not follow that everybody experiences it equally, since most of the world population is bound to specific places, regimented by linear, disciplined time and biological time. Flexible time, which can mean more freedom of decision for the cosmopolitan elite, implies labor insecurity for a huge number of people participating in the informal economy.

In this context of segmentation, there are differentiated ways to participate in the timeless space of flows. The question in education is what kind of participation is enabled and encouraged, and how patterns of participation are distributed and accessed differentially by students from different backgrounds in different locations. As Castells points out, since every shared cultural reference is compressed in a corporate-run communications network, the technological gap marks the exclusion from dominant cultural practices of those who do not have access to the digital network, or who have unequal forms of access.

Another instance where flexibility and control come together is in the value of “lifelong learning.” In the context of the impermanence of “liquid life,” Bauman (2005) analyzes how this concept, within the European Union, is related to the required flexibility to attune to the changing requirements of the market. He draws from Bourdieu’s concept of “manufactured uncertainty” as a strategy of domination, which applies to the projects outlined in the NETP and in the OECD document for schools (and thus teachers and students) to exercise “accommodation to ceaseless change, rather than an effort to control it” (p. 131). Teachers, students, and schools, are required to accommodate to taken-for-granted social change, as opposed to the rather fixed

and structured bodies of knowledge and the transmission model associated with modern educational systems. “Timeless time,” the fact that there is not an endpoint for the acquisition of knowledge, implies that it is much more difficult to claim professional expertise, and thus much more dependence on a changing market. At the same time, professional expertise is not pre-defined, which could mean in some contexts more openness to attempt transformations, even though this would imply a struggle for validation.

This conflation of flexibility and control, the implication of fragmentation with fluidity, with their inherent contradictions, resonate with the claims for “free and flexible markets” that hide the regulations that protect capital. This is made possible by an abstraction from historical and contextual considerations in the policy formulations (tool-for-result). Robertson (2005) observes that OECD policies, as well as those from the World Bank, “favour a high value-added economy while, on the other hand, assume that everyone within the society will have access to high value-added jobs” (p. 166). The same can be said of the NETP, in which after observations regarding unequal achievement rates between different social groups, it is stated that “We must not choose who succeeds. We must ensure that all students are expected to learn in schools.” (p. 15). After such an assertion, the policy proceeds without further comment on the causes of these inequalities and how they will be addressed. These contradictions point to the importance of addressing how these concepts (innovation, flexibility, privatized collaboration) play out in particular local contexts in order to engage with their implications and address them proactively. My research study in two related English Education programs illustrates some ways in which the tool-for-result discourses work in teacher-education and classroom practices. I also identified emerging tool-and-result discourses-practices, which represent the opening of transformative possibilities for language and literacy education.

Chapter Three

Technology and literacy practices: causation or dialectic?

In policy discourses that promote technological innovation as a drive for educational change there is a parallel assumption that technologies lead social change. The NETP (U.S. Department of Education, 2004) states that “The technology that has so dramatically changed the world outside our schools is now changing the learning and teaching environment within them.” (p. 6). A similar deterministic assumption provides the basis for reactionary takes on technology, which argue that involvement with new technologies would lower the literacy and cognitive skills of the young (Anderson, 2002; Bordelois, 2003; Postman, 1993). According to this perspective, new audiences are being shaped into passive consumers of texts and commodities. From a different standpoint, Kress (2003) offers a more nuanced vision, speaking of new technologies as providing affordances for active engagement, and he appeals to our capacity as a society to take these up critically.

Instead of taking either a celebratory or a pessimistic stance towards new literacy technologies, it is more productive to explore the tensions emerging with new practices and institutional change. As mentioned in Chapter Two, there are tensions and continuities between old and new discourses; for example, Lankshear and Knobel’s (2003) observation about the incorporation of new technologies according to the “old grammar of schooling” points to these tensions as these technologies are dissociated from new kinds of practices and used according to an old mindset. These tensions are linked to struggles for control over new technologies and practices; thus change can be seen as a threat to established authority. It is important to explore what is at stake in these struggles over technology and literacy in order to apprehend the social

implications of the incorporation of digital texts in English classrooms and devise alternative approaches. Contesting deterministic discourses is crucial because once the values and implications of policies and practices are not seen as the consequence of technology, their ideological construction is more evident. This in turn opens up the field for constructing alternative engagements with technologies and texts and addressing what critical literacy can look like.

A historical perspective will provide a means to situate those struggles and get beyond deterministic discourses. Deleuze (1992) stresses the importance of a historical understanding of technology: “Types of machines are easily matched with each type of society--not that machines are determining, but because they express those social forms capable of generating them and using them.” Kress (2003) makes a similar argument. While focusing his study on the materiality of signs and analyzing how the “affordances of mode and facilities of media” (p. 5) facilitate the development of particular literacy practices, he acknowledges that technologies do not lead social changes, but rather that “technologies become significant when social and cultural conditions allow them to become significant” (p. 18). In order to problematize the interconnection between the materiality of signs (literacy technologies) and literacy practices, it is important to compare new tendencies with the ways that literacy has been defined and practiced in modern disciplinary systems. In addition, it will be useful to consider another historical moment when social changes were linked to evolutions in technology and literacy, the early modern period with the advent of the printing press.

Kress (2003) compares the *culture of the book* with literacy in *the new media age*, which can be roughly identified with disciplinary systems (Foucault, 1995) and societies of control (Deleuze, 1992). While the culture of the book was based on the “mode of writing” and “medium

of print,” new literacies rely increasingly on the “mode of image” and “medium of screen” (Kress, 2003, p. 9). This difference has an important set of implications: while writing follows the temporal logic of speech, image is based on the logic of space. The print technology related to the linear organization of books in paragraphs and chapters, and thus to a set reading path for narratives and the presentation of bodies of knowledge. Texts were fixed on the page and the distance established between writer and reader supported a strong mechanism of authority. On the other hand, the “screen,” with the digital code, welcomes multimodal texts (writing, audio, image, video, etc.) and thus there is a possibility to choose the mode that best fits the purposes, as well as to combine different modes in one text. On the screen, there is not a set reading path; on the contrary, the reading path can be designed by the reader. There is also more proximity between writers and readers, and those roles are often interchangeable; thus authority is weakened. The primacy of the image means that while the reader can design the reader path, other possibilities of imagination that were open with the primacy of writing (such as visualizing or filling in the meaning of the words) are more closed.

One of the defining features that Kress ascribes to literacy in the new media age is “interactivity,” which refers both to the possibilities of communication among producers of texts, and the possibilities of interaction with texts embodied in the notion of “hypertextuality” (Kress, 2003, p. 5). He postulates that multimedia technology provides affordances for negotiating meaning among multiple readers and writers. With new technologies, he argues, readers are materially doing things with texts, manipulating them according to their purposes, in a performance-oriented activity through which they actually become producers, authoring and sharing texts. He compares this potential of multimedia textuality with the culture of the book as conceived by modern rationality: with a strong mechanism of authority, reading is seen as a

solitary activity in which the reader follows a reading path set by the writer. In this conception, the readers can exercise imagination in giving meaning to the words of the text, but they engage in an inward activity, not an interactive one.

Contrary to this modern notion of print literacy that Kress takes as a point of comparison, Brayman Hackel (2005) documents in the English early modern period a great fluidity between manuscript and print culture, between production and reception, between public and private literate spaces. Publishers, for example, would leave spaces in the margins for the readers to make their own annotations, and some would encourage this practice in the preface to the reader. The publicity of reading is reflected in evidence that books circulated in the households and passed through multiple readers, and so did commonplace books (a sort of readers' notebooks). While some private spaces had been established for reading (such as the private closet), there is also evidence that these spaces were not secluded but shared by other members of the household. Literacy was highly vocalized and publicly shared, and reading aloud was a common practice. By analyzing exemplars of commonplace books, where readers transcribed fragments and wrote summaries and comments, Brayman Hackel demonstrates how they adapted the texts to fit their own needs and inserted themselves into the stories.

The early modern period signified an expansion of reading and writing to multiple spaces and to a diverse public, with a growing literate population. Far from the image of the solitary, distanced, objectively abstracted reader, these readers were involved in constant dialogue with the text and with other readers, and often with the writers and publishers as well. This burgeoning of textual activity was stimulated by the growing availability and circulation of texts, which is a situation that parallels the intensification of information and communication exchanges with the advent of digital networks. The commonalities that can be identified between

the English early modern period and the present “new media age” can be related to the fact that both are periods of historical change and technological innovation. In both cases, there is a proliferation of literacy practices and of public involvement with these practices. At the same time, in both cases there are important power struggles over the ownership and control of these literacy practices.

In the case of the English early modern period, Brayman Hackel observes that some intellectuals openly expressed fear of the spread of texts, which they saw as a moral danger for the population: they feared the ignorance of new audiences performing “incorrect” reading practices, and the lowering of the quality with the increased quantity of published texts (p. 26). This fear led to attempts to regulate the circulation of texts, after wider access could not be prevented: Brayman Hackel observes that the policing function reappeared within the texts, in instructions to the readers on how to read correctly. Moreover, she demonstrates how audiences were differentiated through social regulatory processes, so that while higher-class men were encouraged to assume a critical and responsive role to literature, women were being shaped as passive and subject to a strong mechanism of authority. There were also attempts to prescribe different kinds of texts for different audiences: while men should closely read humanistic and classical works, women should focus on devotional religious texts and domestic manuals. Women and the working class, when they had access to literacy, were socialized into a “reading-only literacy” (p. 200). This shows that the fluidity of production and reception, the reciprocity between writers and publishers and readers, was welcome in some cases but not in others, and the processes of textual interaction were strongly conditioned by social politics and ideology.

In the era of digital networks, there is an analogous tension between a proliferation of literacy practices and social regulation. On the one hand, access to the technology is an issue,

and the overabundance of information coexists with “black holes” of exclusion (Castells, 1998). In 2003, the secretary of the World Summit on the Information Society announced that 97 % of Africans didn’t have access to ICTs (Information and Communication Technologies), and 67% of Internet users were located in Europe and the United States (García Canclini, 2004, p. 181). On the other hand, there are growing concerns among policymakers and some sectors of the population about the difficulty to control the availability of texts of all sorts in a decentralized network (OECD, 2004); and there are considerable efforts directed at controlling the flow of information. These efforts include security scripts, programs to restrict Internet access of children and young adults at home and at school, and to monitor the circulation of texts within institutional servers, and efforts to regulate the sharing of copyright texts, of music and video files, in a drive to protect the economic interests of corporations. Tailoring commercial websites to individual users, whose Internet activity and consuming patterns can be tracked and classified, can also be considered a regulatory mechanism, since the information gathered from them is used to shape their consuming practices.

The historical analogy that has been established suggests some questions for further exploration of current struggles over literacy: What mechanisms of censorship are taking place in relation to new literacies? Can we identify markers in the texts that attempt to close down interpretation in the manner of early modern prefaces and marginalia? How are different audiences regulated into engaging with different kinds of texts or in different forms of literacy? The latter question is particularly relevant in education: as women and lower classes were regulated into a reading-only literacy, restricted to certain kinds of texts, in early modern England, it is important to ask how different social groups are differentially socialized into the literacies of the new media age, in and out of schools.

At present, one way of creating social differentiation through literacy is the standards movement and *back to basics* education. While claiming the objective of equality, it is concomitant with a tracking system that generally separates students according to social class divisions (Tsiakalos, 2002). Standardized assessments favor the success of students that come to school with a particular “cultural capital” (Bourdieu, 1991) or with a “primary discourse” more compatible with the “secondary discourse” of the school (Gee, 2001). This means that students and schools “in need of improvement” have to comply with a basic education consisting of drilling and rote memorization according to a banking model. On the contrary, students and schools with higher achievement rates are more likely to receive an education towards acquiring the “key qualifications” for the requirements of the knowledge society: “creativity, theoretical thought, autonomy, planning and analysis, great willingness for teamwork and exchange of information, flexibility and independent problem solving” (Tsiakalos, 2002, p. 27). These objectives seem to be in tune with critical pedagogy and a transcendence of the banking model, however, “the society of knowledge and the correspondent educational system that it produces does not include everyone” (Tsiakalos, 2002, p. 28). Tracking and differentiation, as the NETP makes clear, can be made more effective with the use of the latest technologies of data management. Thus, the latest digital technologies can facilitate a broad spectrum of practices, from scripted literacy and transmission forms of education to forms of literacy closer to the project of critical pedagogy.

Even though Kress demonstrates a connection between the materiality of the signs and their associated socio-cognitive literacy involvements, attention to how literacy practices are negotiated and struggled over suggests that when he refers to the characteristics of print literacy he is focusing as well on historically shaped social practices. The evolution of literacy practices

after the early modern period, away from the interactivity described by Brayman Hackel for the English context, was marked by the emergence of modern nation states and the ideas of the Enlightenment. The modern nation states with their national school systems have worked as disciplinary mechanisms to fix hegemonic literacy practices according to modern rationality. Within this political framework, literacy had a homogenizing and social disciplining purpose (Collins & Blot, 2003; Foucault, 1995). Collins and Blot (2003) point out the paradox that the movement away from communal living facilitated the identification with larger collectivities such as the “nation,” and they observe that “private reading” contributed to this shift, for example, newspaper reading was shaping modern consciousness (p. 71).

This historical perspective provides evidence that the abstracted, decontextualized solitary reader of modern rationality is a fiction, since the culture of the book occurs within a specific historical context as a social practice, and it is neither universal nor a-social. From a socio-cultural perspective, any act of reading or meaning construction, even when done in solitude, is social, since it involves the symbolic mediation tools (languages, sign systems, genres) associated with a particular culture and developed over history (Lee & Smagorinsky, 2000, p.2). Brayman Hackel’s analysis hints at different possible forms of literacy that could have developed from the advent of print. In this way, her analysis contributes to the demystification of the “culture of the book,” a reified set of practices that have been formed after the normalizing forces of modern rationality. Nowadays, “the book” tends to be associated with these apparently fossilized ways of reading, which are commonly attributed to its material qualities. However, Brayman Hackel’s analysis strongly suggests that there was no restriction of the print medium or the written mode that marked a necessary path of development towards closed readings or a strong authority of the text or writer.

The historical analysis just undertaken suggests that there is a dialectics between the affordances of different literacy technologies and the historically situated social practices in which they emerge and develop. In fact, while Kress focuses on the “materiality” of semiotic resources, on how the “potential and limitations” of different mediums and modes of communication favor different meanings and ways of interaction, he also contends that socio-historical processes in turn shape literacy technologies. He analyzes the forms of imagination developed in different historical periods: in the modern period, with relatively stable systems of knowledge, imagination was more introspective and reflective; in “the new media age,” it is increasingly oriented to productivity and relevance to the immediate needs. While he celebrates the new focus on situated practices, he also argues for a revalorization of “reflective action” and introspection as well, and in that sense he suggests that those practices that are being displaced should be included in the literacy curriculum, not as the only possible ones, but for the affordances that they provide: different forms of imagination (p. 172).

The immediacy of new literacy practices that Kress points out has a double edge. On the one hand, as he emphasizes, it can be conducive to practices that embrace situatedness and relevancy, particularly for youth who have been traditionally alienated from the alleged abstractness of modern schooled literacy, focused on universal, fixed systems of knowledge. The performative aspect of digital literacies, which emphasize manipulation of signs and active involvement, can be more engaging of young people’s identities than distanced, abstracted forms commonly associated with schooled print literacy. Another advantage that Kress relates to new forms of textuality is the development of an enhanced awareness of the materiality of signs. He argues that because new media facilitates “choice of mode,” people begin to ask themselves

about the possibilities offered by different modes, questions that would not arise when modes were quite fixed to particular media.

On the other hand, some cognitive implications that have been associated with the immediacy of new literacies are usually ascribed negative impact. These include a transformation in structures of attention and multi-tasking, and in connection to these, lack of introspection. There are numerous channels of communication competing for people's attention, from IM, phones and text messaging, to email and Internet networking sites, together with an overabundance of available information on the web, and especially an overflow of advertisements and marketing strategies that become more personalized. Amongst an overabundance of information, the most valuable resource becomes not information, but attention, thus the sought-after value in the "information society" is attention (Simon, 1971, referenced in Lankshear & Knobel, 2003). This is associated with the cognitive qualities of shorter attention spans and multi-tasking. Lankshear and Knobel argue that "How schools respond to this will [...] become a significant issue, and one which, if taken seriously, will require schools to rethink their current mindsets on attention." (p. 110).

Despite Kress' observation that literacies associated with digital technologies move away from introspection and critical reflection, there is research that points to the capabilities of these technologies to enable critical and reflective practices. Myers, Hammett, and McKillop (J. Myers, Hammett, R., & McKillop, A. M., 2000) provide evidence that engagement with multimedia technology can facilitate the development of critical literacy. In their study, the possibility of juxtaposing multiple texts through hypertext stimulates an awareness of and engagement with intertextuality, and a transcendence of transmission models of literacy. They do not attribute technology a causative role in literacy practices, but they argue that the technology

has the potential to enable critical engagements with texts when the social context is favorable. In fact, the same hypertext and multimedia technologies can be used in school to perpetrate the transmission model of literacy, as Lankshear and Knobel (2003) have observed when saying that new technologies are used in schools according to “the old grammar of schooling.” All this is evidence that technology on its own does not promote or hinder critical literacy. On the contrary, it is the teachers and the students participating in a particular activity system that make use of (and transform) the material capabilities of technological tools. Thus, in teacher education programs, it is important to look at how practices are constructed in social activity, and how social relationships and institutional structures frame the activity and define the purposes.

Towards a cultural understanding of literacy in English Education

According to socio-cultural theory (Lantolf & Thorne, 2006), technologies, as mediation tools, are developed in historical processes, and thus they are intrinsically implied in the social practices that they mediate. The material qualities of a given technology cannot be separated from the social activities that they support. Languages and other semiotic systems are symbolic tools: they provide a frame with which to make sense and act on the world, and they are internalized as tools for thought and communication. Literacy technologies provide material support for semiotic systems and are intrinsically connected to the meaning making practices of a society. As vital components of a culture, languages and literacy technologies evolve together with the culture of which they are a part.

Technologies do not determine, and they are not determined. Myers (1994) states that “Meaning does not reside in a technology or artifact, but in the community which gives that artifact and technology symbolic life.” (J. Myers, 1994, p. 84). He proposes a communal,

dialectic ideology of literacy, in which meaning does not reside in the single author or the single reader, nor is it fixed in the text. Rather, meaning is constructed socially, collaboratively, it is contested, and it finds a space in the “intertext,” the net of symbolic utterances of a culture.

In contrast to this dialectic ideology of literacy, Myers argues that Western societies have historically embraced an individualistic ideology of literacy that dichotomizes the individual and the social, which has been realized in two main forms. On the one hand, he identifies an objectivist ideology related to printed text, where there is stability and permanence, and knowledge and truth are fixed in the written word. Authors are those who produce the meanings that others seek to find in texts, and experts are those invested with the correct interpretive knowledge. This ideology corresponds to Kress’ “culture of the book,” and to modern educational systems within disciplinary societies (Foucault, 1995), which are considered to be in crisis but are still standing. On the other hand, he finds an emerging subjectivist ideology in connection to electronic texts, in which meaning is more unstable and flexible, so that individual readers can assign meaning. In this case, since individuals are not seen as cultural subjects, and texts are not seen in their inter-textuality, meaning is as relative as individual whims.

The Western individualistic ideology of literacy has been conceptualized by Street as the “autonomous model of literacy” (Street, 1995). Under this conception, literacy is defined as a universal set of skills for encoding and decoding the written signs of a language. Within this framework, literacy consists of a set of cognitive skills that situate those who possess them intellectually over those who do not. Moreover, this model is based on a narrow definition of literacy according to a Western-academic construction, an “essay-text form of literacy” that passes as universal but is culture-specific. This “autonomous model of literacy,” according to Street, is dominant in UNESCO and other agencies that conduct “mass literacy campaigns.” This

kind of literacy is associated with development and social progress, in a Western-oriented, dichotomist conception that creates a big divide between the “literate” and the “illiterate,” or else a uni-directional gradation line from less to more “literate.” Street calls for a rejection of this quantitative model, and for adopting instead an “ideological model,” a qualitative, more complex conception of literacy not as measurable skills but as socially situated practices, shaped by particular needs and uses of different communities.

This situated model proposed by Street, analogous to Myers’ call for a dialectic conception of literacy, can be conceptualized in terms of multiple discourses related to particular social groups and institutions where individuals participate (J. P. Gee, 2001). Gee describes a discourses as an “identity kits”: ways of speaking, thinking, and interacting that mark belonging to a particular community (p. 21). Individuals can participate in many discourses as they participate in multiple social groups and institutions, from their family or closest community, which Gee calls “primary discourse,” to “secondary discourses” such as school, a social club, or a profession. Discourses are ideological, and they are related to and confronted with other discourses enacting the power structure of a society. For example, the primary discourse of the white middle class in the United States is closer to the secondary discourse of the schools than the primary discourses of other social classes. This creates conditions of unequal access to education and socially valued knowledge.

Street conceptualizes these unequal conditions in terms of “dominant literacies”: socially valued discourses, connected to the dominant groups, which, according to Bourdieu (1991), hold higher “cultural capital.” He also speaks of “colonial literacies,” those imposed under conditions of colonialism. The “autonomous model of literacy” has supported dominant and colonial forms of literacy by representing them as universal and necessary for development. The “literacy myth”

associated with this model contends that literacy leads to higher levels of intellectual development. However, there is research evidence that demonstrates that those features traditionally ascribed to knowledge of the written word, such as critical consciousness and metalinguistic awareness, are not a direct consequence of literacy per se, but depend on many other factors, such as schooling, multi-lingualism, or even certain features of oral speech (Gee, 1990).

The “literacy myth” maintains that literacy leads to employment and success at the personal level, and to development at the social level. Street contests these assumptions by arguing that unemployment or poorly paid jobs are not the consequence of “illiteracy” but of other structural factors such as class differences and racism, and that “illiteracy” is usually a symptom and not a cause of these phenomena. Besides, Street also provides evidence that societies classified as “illiterate” usually already possess local literacies that are ignored by literacy campaigns. The “literacy” transmitted in most literacy campaigns is de-contextualized, and Street provides examples in which it does not provide students with the intellectual tools they will need to live in their contemporary societies.

Historically, the “autonomous model of literacy” has been associated with the project of the Enlightenment and transmission models of education. In contrast, the Discourse of post-fordism or “fast capitalism” (Gee, Hull & Lankshear, 1996) stresses flexibility and adaptation to change, and the importance of practical, contextual applications of knowledge in dealing with problem-solving, instead of fixed universal approaches to knowledge. However, the extent to which local knowledges and cultures are acknowledged or valued in that Discourse is questionable, as corporate culture is producing a global set of principles which can be applied to

different local contexts, transforming in the process the local contexts into globalized spaces (Castells, 1996).

This means that while new literacies associated with new technologies present the promise of accompanying more situated and relevant forms of education, the ways in which flexibility and adaptability are concretized might actually still be alien to local needs. In this respect, it is important to look at the conditions of production and distribution of knowledge and cultural texts. As a few transnational, de-territorialized enterprises increasingly manage the creation and distribution of cultural goods around the world, cultural diversity depends on them to a greater extent, and less on nation states and social movements (García Canclini, 2004, p. 184). While these corporations successfully distribute cultural texts produced in the “First World,” especially in the English-speaking part of the northern hemisphere, to the rest of the world, there is scarce representation in the global communications system of languages other than English, and of cultures other than the English speaking, mostly U.S. based cultural industry.

This situation results in the dominance of music sung in English, and of Hollywood productions in audiovisual products offered around the world, at the expense of local and of internationally diverse cultural productions (García Canclini, 2004, pp. 190-191). Communication over the Internet is also predominantly done in English, and a vast proportion of Internet users are English-speaking. The same can be said of the production of scientific and academic knowledge, as English has become the dominant language in international conferences and publications, both in the sciences and in the humanities. The prevailing mono-lingualism not only means the exclusion of scholars who conduct their studies in other languages or who do not speak English from a globalized academic community, but it also extends to the exclusion of

multiple discursive styles of reasoning and argumentation, and thus the exclusion of multiple, culturally specific ways of knowing.

Following Bourdieu's theory (1991), it can be said that a few culturally specific ways of knowing are assigned exclusive cultural capital in the world market of ideas over multiple others. García Canclini (2004) points out that studies done in the United States about Latin America are published and presented in English, so that they are disconnected from research and publications being done in Latin America. To this has to be added that there is an inequality of resources for research in Latin American Studies conducted in the U.S. as compared to those conducted in Latin America. All this implies that inequalities in the conditions of production and circulation of knowledge are an important consideration when speaking of democratic multiculturalism and the globalization and universalization of knowledge.

Considering the situation just described, it is evident that the "autonomous model of literacy" still applies, since there are dominant ways of textual production and interpretation that are generalized and assumed to be equally applicable across contexts, and which define access, inclusion, and exclusion. This is associated with the fact that there is still a colonial relationship between parts of the world differentially affected by globalization. In this respect, García Canclini (2004) argues that it is relevant to attend to the difference between the concepts of *information society* and *knowledge society*. The concept of information society assumes that wider access to information through digital communication technologies will automatically have a democratizing effect by de-centering participation and decision-making. In assuming that information is objective, neutral, and universal, it keeps reproducing important aspects of the paradigm of the Enlightenment (García Canclini, pp. 188-189).

While equal access to networks of international exchange is a condition for a democratization of knowledge, an equally important condition is that the terms of participation in these networks be inclusive of diverse local cultures. This is all the more so since local cultures are increasingly shaped by participation and interaction in informational networks and mass-mediated circuits of exchange, and literacy practices are enacted to a greater extent through digital communication technologies. In this context, exclusion is not only exclusion from access to the network, but also exclusion of one's local language and culture from the network.

Recent educational policies often respond to the "autonomous model of literacy." In the United States the standards movement, instantiated in the focus on high stakes testing in *No Child Left Behind*, expresses the belief that all children and youth across the country need the same homogeneous curriculum, realized as universal and value-free knowledge (information). Paradoxically, the supposedly "equalizing" application of high stakes testing results in tracking, since students coming from different backgrounds or "primary discourses" relate differentially to the discourse of the school, and this is interpreted as either deficit or success in a linear conception of literacy. This ensures that students whose "primary discourses" are further away from the school discourse receive a *back to basics* education that stresses drilling and segmentation of knowledge in meaningless bits, while those whose "primary discourses" resonate with the "secondary discourse" of the school, receive a more integrated and valued knowledge. The strength of the English Only movement in the United States and the lack of provision for multicultural considerations in *No Child Left Behind* are further evidence of a monolingual and mono-cultural approach to the education of a diverse population, which fails to account for and address social inequalities.

Educational policies in “Third World” countries respond to the “autonomous model” through a neo-colonialist conception that is based on the concept of “development.” The ideology of development sustains a set of international relationships in which “under-developed” countries are to understand their position in terms of a unidirectional line of progress in which they have fallen behind (Zoppi, 2000). This concept masks the unequal power relations existing at the international level, and is much more “desirable” than other possible terms, such as “accumulation” or “expansion” (Lins Ribeiro, 1991; referenced in Zoppi, 2000). In order to reach the desired stage of “development,” they would need to follow the steps of leading “developed” countries. This idea is problematic because, as Hardt and Negri (2000) explain, “underdeveloped” countries are not exactly in a previous stage of development that “developed” countries already outgrew, but they are integrated into a world economy on which they depend as much as “developed” countries do .

The ideology of development translates into neoliberal educational reforms that apply models adopted from “First World” countries, without consideration for the particular contexts where the reforms are conducted. In “developing” countries such as Argentina, there is a dialectic established between those “external agents” who “provide” resources (loans) and policy guidelines, and the “locals” who are underdeveloped and receptors of help. Drawing from Lins Ribeiro, Zoppi points to the contradictions inherent in the application of grand-scale, ambitious projects that do not take into account the historical particularities of different social environments. This leads to two parallel kinds of processes, those which have been planned (coercive), and those unplanned, linked to concrete local realities and the reactions to the imposed reforms by the people involved. These dynamics create a vicious cycle, as they stimulate a general perception by the planners that people are not behaving as they should and

are not contributing to the progress of the reform, and thus that there is a need for a higher level of control of these behaviors.

The implantation of an *information society* model of education, with the exclusions that it implies, shares important similarities with the colonial model analyzed by Street, who makes the point that

transfer of literacy from a dominant group to those who previously had little experience of reading and writing involves more than simply the passing on of some technical, surface skills. [...] the impact of the culture and of the politico-economic structures of those bringing it is likely to be more significant than the technical skills. The shifts in meaning associated with such transfers are located at deep, epistemological levels, raising questions about what is truth, what is knowledge, and what are appropriate sources of authority. (p. 15)

Street speaks of the negative impact of the stigma of illiteracy and of the depreciation of oral cultures, posed as inferior to the literate, and argues that this stigmatization has more to do with “a game over resources.” This game over resources also applies to the need to be familiar with specific technical and discursive skills in the knowledge society in order to have access to jobs and social spaces. Acquiring these technical and discursive skills implies acquiring new discourses, with important ideological implications which affect individuals’ identities. For this reason, it is crucial to engage with informational Discourse in teacher education, not only to critically analyze it but also to participate in its development and transformation. In this respect, the ideological conception of literacy for which Street advocates is a useful framework, as it attends to the power relations taking place in literacy practices, and to the social consequences of different forms of literacy. Instead of mass literacy campaigns, he calls for “rooting campaign work in local cultures and local definitions of need” (p. 15).

Street critiques Freire’s philosophy as Western-oriented, in that it presents literacy as the one way to critical awareness. It is important to consider that Freire rooted his pedagogic practice

in local knowledge, and criticized scholastic discourse as fragmentary and de-contextualized. However, Street guards against considering indigenous populations as needing to have their consciousness raised, or as literacy being the medium par excellence for this consciousness raising. He makes reference to research examples in which local people were conscious of the uses of the written word as a form to exert authority over them, and of colonized groups constructing an active “translation” of Western literacies: “Frequently [...] people absorb literacy practices into their own oral conventions, rather than simply mimic what has been brought.” (p. 20). This an important consideration in literacy education because “lack of achievement” in some students can be related to an understanding of the ideological underpinnings of schooled literacy, and everyday engagements with literacy among the student population, including digital practices, are often overlooked if they differ from the discourse of the school.

The autonomous model of literacy, in connection to the transmission model based on explication and repetition, focuses on one particular way of knowing that Gee (2001) calls “learning,” as opposed to “acquisition.” “Learning” is about explication, theorization, analysis, being able to talk about the issues and develop meta-knowledge, or what Newman & Holzman (1993) call “aboutness.” “Acquisition” is roughly learning by doing, for example, learning to write by engaging in the activity of writing. Some cultures value acquisition over learning; others privilege learning. Both forms of development are important and provide different forms of power. The difference between acquisition and learning is a useful distinction when thinking about the relationship between literacy, education, and digital technologies. Formal school systems, especially disciplinary systems following the autonomous model, rely heavily on learning to the detriment of acquisition. On the contrary, knowledge society Discourse, with the focus on experiential learning, active learning, and practical applications, leans more towards

acquisition. When Kress speaks of the lack of introspection that he argues characterizes literacy in the new media age, he alludes to this distinction, to a movement from learning to acquisition.

Discussions about how *critical thinking* and *critical literacy* are or are not facilitated by new technologies can be conceptualized with reference to Gee's distinction. To begin with, it is necessary to return the technology to the whole activity system where it functions, instead of falling in the trap of asking whether or not the technology produces certain practices. Acquisition and learning refer to activities that are necessarily socio-culturally situated. Drawing from research evidence, I will contend that critical literacy education in the new media age requires to dialectically integrate acquisition and learning by combining analysis and productive engagement with multiple kinds of texts. This praxis requirement applies to school practices as well as teacher-education programs.

Teacher-student agency: individual and/or social

Knowledge society Discourse in educational policies contains significant tensions between a language of sociality, collaboration, and interactivity, and an individualistic conception of cognition and of social life. The role of interaction and collaboration in teachers' professional development is often stressed in educational policies that respond to the Discourse of the knowledge society, but this is done within an individualistic framework that stresses individual success and competition, so that social interaction is conceived predominantly as a realm for individuals to pursue their separate personal goals. According to the neoliberal ideology behind the Discourse of the knowledge society, society is a sum of the individuals that compose it, or rather, society does not exist, only individuals and their families (Thatcher, 1987).

Thus agency would be defined as the investment of each autonomous individual on pursuing personal goals.

From a different perspective, agency can be seen as a distributed feature of social life, acknowledging how the purposes of human activity are defined and pursued socially. Activity theory offers a paradigm to look at agency in a collective sense, as it develops through social interaction. Engeström and Miettinen (1999) explain that activity theory stems from Vygotsky's socio-cultural psychological theory, which focuses on processes of internalization of social processes and symbolic mediation in psychological development. Activity theory pays close attention to social relationships "distinguishing between collective activity and individual action" (p. 4). It is based on Marx's "concept of activity that overcomes and transcends the dualism between the individual subject and objective societal circumstances" (p. 3), between materialism and idealism, as expressed in *Theses on Feuerbach*. Following Marx, activity theory argues that "neither mechanical materialism nor idealism will do. Mechanical materialism eliminates human agency, and idealism puts it in the head or soul of the individual." According to Marx, "sensuous human activity, practice" is both subjective and objective (Marx and Engels, 1968, quoted by Engeström & Miettinen, p. 3).

Through the concept of "revolutionary practice" change can be understood beyond individual psychological change, in the interconnectedness of social agents, "potentially embedded in any mundane everyday practice" (Engeström & Miettinen, p. 3). The concept of activity systems, in which a community engages in a collaborative activity with common purposes, is a useful one in order to analyze collective agency and the role of individuals within it. This framework provides for the possibility of productive social transformation, and disrupts determinist visions of educational reproduction of power structures, because the outcome of

activity systems, although it can sometimes be anticipated or projected, cannot be predicted or controlled. Lantolf and Thorne (2006) state that the concept of activity “describes transformational action,” purposeful action directed at changing the subjects’ material conditions. They contend that “[i]t is through activity that new forms of reality are created, including the transformation of the self” (p. 215). *Reality* and *context* are not separate from the activity, but it is through the activity that context is developed. Human activity is historical and mediation tools evolve through the historical transformations of a culture.

Within such framework, instead of autonomous individuals with inner motivated professional goals, teachers can be conceived as subjects who develop their professional identities in communities of practice or “activity systems,” where they engage in interaction within a school community composed of other teachers, students, supervisors, parents, administrators. It is important to take into account how activity systems operate in relation to wider social and institutional frameworks where particular distributions of power operate, as well as the power relationships enacted within a specific community. In their professional development, teachers construct their practices by re-signifying diverse societal discourses about teaching and about social life and cognition according to their situated experiences. According to Foucault, the possibilities for agency are circumscribed in each social context by historical *a priori*, assumptions about life and nature that delimit the “conditions of possibility” for that society (Haugaard, 2002, p. 185). In my research study, I ask how different discourses about education and about individual and collective agency relate to the possibilities that teachers envision and enact in their practices. In other words, I consider how these discourses contribute to configuring their conditions of possibility, and how teachers work with those discourses in order to create beyond what is given.

C. Wright Mills (1967) defines agency in terms of “sociological imagination”: an understanding of “the larger historical scene in terms of its meaning for the inner life and the external career of a variety of individuals” (p. 5). This awareness of how personal (and professional) situations and worldview are framed within a wider social system could open the space for teachers to envision how their practices could be different, and other possible social realities could be imagined: “By such means the personal uneasiness of individuals is focused upon explicit troubles and the indifference of publics is transformed into involvement with public issues” (p. 5). This social awareness described by Mills can be related to Sehr’s (1997) definition of public democracy, which requires consciousness of the interconnectedness of individuals, of how subjectivity is developed through human interaction.

In a public democratic framework, society is conceived as a system of relationships in which an individual person cannot be understood isolated from her social context. The well-being of each member of society affects the wellbeing of the whole, so that a public democracy requires an ethic of care and responsibility:

Care, which is based on empathy for others, provides the moral and humanitarian impetus for people to work together to help all members of society, including those most in need, develop their full potential. That is, it provides an ethical motive for people to work toward public goals, instead of purely individualistic or private goals. A sense of responsibility calls on people to take up the burden of participating in public life and working for the public good. It also serves as a check on individualistic tendencies toward socially irresponsible behavior that may benefit a particular individual or group at the expense of the larger society. (p. 67)

Sehr identifies a tradition of public democracy in the history of the United States, starting from Jefferson’s ideas, through Dewey and C. Wright Mills, to feminist counter-publics and intellectuals. He distinguishes these visions of public democracy from “privatized democracy,” which has dominated American political life and is based on liberal, utilitarian, and pluralist

doctrines that conceive of society as a sum of individuals who relate to each other in order to rationally pursue their self-interest (usually related to the acquisition of property).

Sehr (1997) studied two secondary schools that through their curriculum and institutional organization had the potential to promote public democratic values, and analyzed in what ways they were (or were not) successful in creating a public democratic institutional culture. Some of the characteristics that he found to promote public democratic values were organizational structures that encouraged closer relationships between students, teachers, and administrators, opportunities for teachers and students to participate in institutional decision-making, an inquiry curriculum that developed students as researchers, an interdisciplinary curriculum that avoided the partition of the school-day in disconnected forty minute periods and school-work in discrete, separate subjects, collaboration among teachers, and a high level of professional autonomy. All these conditions would work to avoid the kind of fragmentation that according to Freire (2000) would promote a society of atomized individuals.⁴

However, while institutional structures can be designed with a social purpose, the outcomes are never predictable; furthermore, institutions will always enforce a set of values and exclude others. Sehr (1997) identifies this tension:

While public democratic education calls for student voice and participation in some aspects of school decision-making, teachers also naturally want to *guide* students toward responsible, successful adulthood and citizenship. This sometimes means teaching young people to conform to certain adult expectations that may run counter to students' attempts to find and express their youthful voices. (p. 178)

⁴ See chapter 2, "Fragmentation and fluidity."

He gives an example in which students resisted a school rule by resorting to “individual, private resistance”, and thus “an ideology of privatized democracy was reinforced.” (p. 178). The same could be said with respect to the way teachers are given voice within the public school system that at the same time always exercises some kind of regulation on them.

Regardless of their degree of democratic organization, institutions always impose a set of signifiers at the expense of others. De Certeau (1984) provides a framework for conceptualizing the struggle between institutional power and alternative ways of being with his distinction between “strategies” and “tactics”. This distinction starts from the acknowledgment that to study popular culture or consumer culture means that “[w]e are concerned with battles or games between the strong and the weak, and with the “actions” that remain possible for the latter” (p. 34). From this perspective, consumption and popular culture in the age of massification are not dismissed as passive or devoid of agency, i.e. as masses being determined by the dominant culture; rather, the focus has changed in order to ask what those with less power do to construct themselves through every day practices. Even though there is always a certain configuration of power operating, this configuration is not fixed, nor does it determine all aspects of social life. As de Certeau acknowledges, the cultural terrain is always dynamic and defined through a power struggle. In the case of technology, while it can be designed and institutionally implemented with certain uses and purposes in mind, which establish regulations and promote certain social behaviors, the design cannot determine the ways in which those technologies will be used in everyday practices.

De Certeau (1984) conceptualizes the operations of those with power as “strategies,” while the mode of action of the weak he calls “tactics”:

I call a strategy the calculation (or manipulation) of power relationships that becomes possible as soon as a subject with will and power (a business, an army, a city, a scientific institution) can be isolated. It postulates a place that can be delimited as its own and serve as the base from which relations with an exteriority composed of targets or threats (customers or competitors, enemies, the country surrounding the city, objectives and objects of research, etc.) can be managed. (pp. 35-36)

[...] a tactic is a calculated action determined by the absence of a proper locus. No delimitation of an exteriority, then, provides it with the condition necessary for autonomy. The space of a tactic is the space of the other. Thus it must play on and with a terrain imposed on it and organized by the law of a foreign power. It does not have the means to keep to itself, at a distance, in a position of withdrawal, foresight, and self-collection: it is a maneuver “within the enemy’s field of vision” [...] and within enemy territory. It does not, therefore, have the option of planning general strategy and viewing the adversary as a whole within a district, visible, and objectifiable space. It operates in isolated actions, blow by blow. It takes advantage of “opportunities” and depends on them, being without any base where it could stockpile its winnings, build up its own position, and plan raids. What it wins it cannot keep. This nowhere gives a tactic mobility, to be sure, but a mobility that must accept the chance offerings of the moment, and seize on the wing the possibilities that offer themselves at any given moment. It must vigilantly make use of the cracks that particular conjunctions open in the surveillance of the proprietary powers. It poaches in them. It creates surprises in them. It can be where it is least expected. It is a guileful ruse. (pp. 36-37)

This conception moves beyond a dichotomy between determinism and outright resistance to the power structure. It points to social structure as a site of constant struggle, of struggles that are not always visible at first sight, which take place in day to day practices and which keep the social system changing.

Since tactics cannot be consolidated, for they would then become strategies, the question would not be to identify a way in which institutions should be modeled for public life but to what degree they are favorable to the emergence and development of a public culture. Giroux (2003) speaks of the importance of public spaces and public time, different from privatized spaces and emergency time, for the emergence of a democratic culture. He distinguishes between public

spaces, which can exist even within institutions of no public access, and public spheres, which are public institutions but do not necessarily have an organization conducive to public life.

Another way to think about desirable forms of educational systems would be through the concept of porosity, postulating that education needs to be porous: a set of malleable signifiers that can allow for creative agency. In this respect, Laclau speaks of the importance of questioning for a non-dogmatic education. When making this point during an interview with Worsham and Olson (1999), he states that total inclusion or total openness are not possible, that “questions operate in the sense of narrowing the field of the answer” (p. 138). He argues that postulating a continuum with different levels of closure in the question/answer spectrum

is important for democratic theory because questions can close a certain field, but they can also constitute a community which poses itself a set of problems while at the same time maintaining relatively open the fields of the answers. A community in which there is no community of questions is not a community at all. (Worsham & Olson, 1999, p. 138)

Laclau makes an analogous argument when speaking about power and freedom. In order for freedom to exist, there has to be an exercise of power. Complete freedom does not exist:

You can only free some things by unfreeing some others, and in this sense power and hegemony are constitutive of social relations. At some point, for instance, you want to free women from oppression, but freeing women from oppression will mean establishing relations of power over people who oppose this process of freedom. The whole argument is against the idea of a reconciled society from which all antagonism and power relations would have been eliminated. (Worsham & Olson, 1999, p. 148)

This argument reinstates Foucault’s theory that power is not only repressive but also productive: it produces resistance, anger, reaction, rebellion, drive to change, and also knowledge, pleasure, things, discourse (Foucault, 1980). According to Laclau, hegemony consists of a process of contestation among groups, rather than a direct imposition from a dominant group. The meaning

of terms such as “democracy” is defined through hegemonic struggles; thus, “democracy” can be considered a “floating signifier” that can be temporarily fixed as an outcome of hegemonic processes (Worsham & Olson, 1999, pp. 129-130).

In teacher education, it is of vital importance to work towards a cultural, ideological conception of literacy in order to prevent universalizing tendencies that impose a deterministic stance and reduce the ability to question. The incorporation of digital texts into the school curricula, and thus in teacher education programs, can be done with an understanding of how technologies are dialectically implied in social activities and their meaning is not predetermined. This understanding is more likely to occur when critical analysis and practical engagements are mutually implied, combining acquisition and learning. This will be demonstrated through the analysis of my research data in Chapters Five and Six.

Chapter Four

Methodology

Research purposes and questions

In this study, I explore the literacy practices linked to different literacy technologies, and the meanings that literacy technologies hold for pre-service English teachers in two parallel teacher education programs. I examine how different discourses of literacy education intersect in these programs and contribute to their particular uses of technology, and how the developing teachers' subject positions are constructed through these literacy engagements. This approach is based on the premise, from activity theory, that "consciousness is understood to be located in and emergent of the practices of everyday life, including the cultural and material structuring of environments and the manner of our participation in them" (Lantolf & Thorne, 2006, p. 210).

The main research questions that guide the study ask: *how do pre-service English teachers in these two programs engage with literacy technologies, and how are these engagements implicated in the development of their professional identity?* In relation to the central question, I explore:

- What technologies are used in each program, and for what purposes?
- How do the participants experience these technologies? How do these experiences relate to individual literacy histories, to the possibilities created within those programs, and to wider social discourses?
- What kinds of social interaction do the pre-service teachers establish through the use of these technologies?

Forms of data and data sources

Since I am analyzing the discursive construction of subjectivity⁵, I gather the pre-service teachers' descriptions of their experiences with technology in and out of the program, as well as narratives of their educational histories. I also collect interactions in which they participate through digital media, as well as the semiotic representations and constructions of themselves and their work that they produce in different media through their participation in the programs.

The sources of my data consist of verbal accounts solicited from the pre-service teachers, pre-service teachers' online interactions as well as written and multi-modal material such as lesson and unit plans, journals and notes, i-movies and websites they produce. A list of the data material collected is provided in the Appendix. I also examine program documents such as the PDS Guidebook and website, the methods course block syllabi, and policy documents that regulate literacy and educational technology, such as NCLB and NETP.

Sampling

The main unit of analysis in this study is the English pre-service teachers attending the university where I conducted my research. There are two sub-units of analysis: the group of pre-service teachers in the PDS (Professional Development Schools) program, and the group of pre-service teachers taking the nine-credit Secondary English Education block. I did not conduct a

⁵ By "discursive construction of subjectivity" I mean the constitution of the subjects through participation in multiple social discourses practiced by the communities where they belong, such as a nation, a social class, gender, ethnicity, a club, a family, a profession. I adopt Gee's (2001) concept of discourses as "identity kits," and I also take up Vygotsky's theory of development as internalization of cultural-historical symbolic mediation tools (Lantolf & Thorne, 2006).

comparison of the two groups, although I refer to the specific characteristics of each program when analyzing the data. Smaller units of analysis comprise each individual case that I examined in depth. The selection of the participants depended to a great extent on the pre-service teachers' willingness to participate in the study, as participation was voluntary.

I included nine pre-service teachers from the on-campus literacy block, four from the fall semester and five from the spring semester, out of the pool of twelve and twenty students that enrolled in the course each semester. I included seven PDS interns out of the total pool of fifteen. In addition to these sixteen in-depth participants, I collected more extensive material from the wider groups, such as whole group online interactions and seminar discussions.

Site selection and modes of observation

The research was conducted within the Secondary English Education program at a large research university in the eastern United States, and in the secondary English PDS (Professional Development Schools) program of collaboration between the university and the school district. The school district is located in a town built around the main campus of the university with which it collaborates, and it is considered one of the highest achieving districts in the state. I had access to both pre-service teacher education programs as a direct participant, being instructor and university consultant. As an involved researcher, I analyze my participation in the program and address my purposes, assumptions, and subjective involvements.

Secondary block

The secondary block on campus is a nine-credit course which the English Education students take before their two consecutive practicum semesters. At the time of the study, the block was taught by 6 instructors, each of them responsible for one *module*. I was one of the instructors of the course. As a team, we approached teaching as inquiry and designed our syllabi accordingly. Each instructor designed their own syllabus based on our areas of expertise, and at the same time we collaborated in order to create coherence and interconnections between our modules, the course culminating with an integrating unit plan. While in this course pre-service teachers were still not provided with practical experiences in schools, we strived to establish practical connections by reading teacher-research and simulating teaching situations. Throughout the block, we acquainted the students with social, literary, and pedagogical theories, from critical theory and critical pedagogy (Giroux, 2001; Freire, 2000) to critical media literacy (Semali, 2000). We discussed the implications of these theories for secondary education and the English secondary classroom, yet it was often a challenge to make the theory-practice connections given that the students were not in touch with actual classroom contexts at the time.

In my module, I was teaching adolescent literature, and I asked the students to read about a range of literary and cultural theories and their applications to secondary English classrooms (Appleman, 2000; Carey-Webb, 2001; Nealon and Giroux, 2003). In class, we discussed and analyzed literary works, and the students developed activities and lessons to teach those works, considering what theoretical lens they were assuming in their analyses and teaching their students to use. In the fall semester, we read the novels *Witness* (Hesse, 2001), *Feed* (Anderson, 2002), and *Through the arc of the rainforest* (Yamashita, 1990), and in the spring semester we read *Feed* (Anderson, 2002), *Roll of thunder, hear my cry* (Taylor, 2004), *And the earth did not*

devour him (Rivera), and *Speak* (Anderson, 1999). We focused on reader response theory, Marxist/ post-Marxist theories, feminist/ gender theories, post-structuralism/ deconstruction, and cultural studies, emphasizing social positioning and the importance of being self-reflective of the epistemological perspective that we adopt when teaching to read. I included the novel *Feed* among the readings as part of my focus on technology, with the aim to stimulate critical discussions about the connections between technology, agency, and power. The students were asked to reflect on the implications of new technologies and new literacies for youth cultures and for the teaching of English. I audio-taped and analyzed classroom discussions, and I also included the students' online discussion of these issues in my data.

As part of the module assignments, the students communicated online with university students in Spain to discuss short stories, considering cultural interpretations and educational implications. They also held online literary circles among classmates. These online forums and literary circles are part of my data. Another set of data that I analyze is the production of a multi-genre/multi-media paper. This was an inquiry project in which the students represented a pedagogical issue that they perceived as challenging, exploring their educational experiences and personal literacy histories and analyzing how these informed their teacher identities and might guide their future teaching. I also considered the students' production of an i-movie, which was a project of critical media literacy that the block students conducted with two different block instructors.

With in-depth participants, I conducted two interviews, one at the beginning of the course and one at the end. In these interviews, I asked them about their personal literacy histories, especially in relation to technology. I also asked them about their experiences with the online forums, writing the multi-genre papers and i-movies, and their reader responses to *Feed* and

classroom discussions about the novel. While all of the students in the course participated in the forums which constitute part of my data, only a smaller sample of volunteers was interviewed. Some students contributed to the data with their multi-genre papers, i-movies, and audio-taped group discussions, but did not volunteer to be interviewed. This means that I have a more extensive data set of class artifacts and interactions, and a more focused in-depth set of interview data. I also have journal notes of class interactions that were not audio-recorded.

PDS group

The PDS group was completing a yearlong internship. Each pre-service teacher (intern) was assigned one or more mentors to establish collaborative relationships, and spent the year working together in the mentors' classrooms. The whole group of interns, mentors, and program directors from the school and university faculty met regularly for seminars where projects and challenges were addressed with the purpose of developing pedagogic knowledge, strategies, and theories. The interns also held regular meetings with university consultants (graduate students) to problem-solve and establish theory-practice connections. The interns were required to fulfill a series of assignments aimed at their development as teacher-researchers: a journal of their experiences and reflections, participation in online discussion boards, a reading log, a short documentary movie (i-movie) presenting a pedagogical issue, a competency binder (teaching portfolio), and an inquiry project that they present in an essay and a presentation at the end-of-the-year Inquiry Conference.

There was not a required set of readings, but a list of recommended texts that were available at the PDS library and online. Interns were guided towards specific readings according to their inquiries, and they also conducted their own research. The texts available included socio-

cultural theories of learning and discourse (Gee, 2001; Scribner, 1984), critical pedagogy (Lankshear, 1997; Frye, 1997), and cultural studies (Hall, 1997; Semali, 2000). However, these theories were not taught explicitly. Rather, they informed the program approach and the direction of group discussions (program director, personal communication).

The PDS program is based on a philosophy of inquiry (PDS Guidebook, 2006-2007). According to this framework, knowledge is generated from practices, and theories are constructed responding to the pedagogical needs of the practitioners. Each pre-service teacher (intern) follows their own inquiry path based on their particular experiences and contexts of practice. At the same time they work collaboratively with their mentor teacher in order to respond to students' needs and learn from each other dialogically. These interns interact with supervisors and university consultants as well as other interns in order to address their inquiries. The inquiry basis of the program also seeks a collaborative relationship between interns and school students. I participated in this program as a university consultant, meeting weekly with interns to talk about their teaching experiences and inquiries, providing support and advice based on my academic (theoretical and experiential) background.

The PDS participants were encouraged to use multimodal technologies in a variety of ways. For example, they were asked to produce a video documentary "analyzing data collected from classroom work to present an important idea about literacy and pedagogy" (PDS Guidebook, p. 9). They also participated in online discussions and used online discussion boards with their students. They were provided with one laptop that they could use for their internship work, which they connected to the district wireless network in order to use the Internet. They could also present their professional portfolio electronically.

My data collection with this group consisted of gathering artifacts created by the participants in my study where they used different forms of technology or engaged their students with using technology. I collected the video documentaries that they produced in the form of i-movies, their e-portfolios, their posts in electronic discussions, lesson plans where they outlined their projected use of literacy technologies with their students, and inquiry papers. I conducted interviews with four of the seven participants, where I asked them to speak of their personal histories of literacy education and of their experiences in the PDS program, as well as their experiences with using technology in and out of educational contexts. I particularly focused on their use of technology within the PDS program: when and why they used it, and what their teaching experiences using technology were like. I also included in my data set an audio-taped seminar discussion about technology, where the whole group of fifteen PDS interns, their school and university coordinators, and I as a researcher and consultant participated. Additionally, I audio-recorded some of their Inquiry Conference presentations delivered at the end of the term, and I took notes of consultant meetings that were not audio-recorded.

Interviews

I interviewed each participant twice during the period of data collection. The interviews followed a semi-structured organization following Carspecken's model (1996, pp. 157-158). The aim of the interview protocol, especially in the first stages of interviewing, was to obtain descriptions of experiences or narrations of events, not conscious reflections or abstract concepts or opinions. The rationale behind this approach was that descriptions and narrations would help me get at the participants' implicit theories that drive their actions, which are often different from those explicitly articulated (Carspecken, 1996, p. 156). I pursued the following kinds of

information: experiential descriptions of particular situations related to the use of technology in the secondary block or PDS program, and narratives of their teaching and learning histories in connection to technology and literacy. In the second interview, I introduced questions requiring the participants to reflect on the descriptions of their experiences, adopting the approach of the “hermeneutic interview” (Van Manen, 1997). In some instances of these later interviews, I introduced a more reciprocal format in which I also shared my reflections with the participants and asked them for feedback (Carspecken, 1996, p. 155).

Data Analysis

Using the constant comparative method (Glaser, 1999), I coded my data looking for common themes, and patterns of convergence and divergence. I followed two paths of interpretation and analysis:

- I used data from all participants to identify recurrent themes across the programs.
- I identified three main cases for in-depth study (Stake, 1995), based on how each of these cases was representative of different forms of engagement with tool-for-result and tool-and-result discourses.

Regarding particular data sets, I analyzed the online interactions among the on-campus secondary block students and of these students with students in Spain in terms of how cultural differences were constructed, and how the participants constructed themselves as subjects and as teachers. I attended to how interpretations were negotiated and created dialogically. I also looked into how they incorporated and made sense of the theories that we were studying in class and how they connected them to their personal/social histories of literacy education. I inquired into the affordances that the online forums provided for interaction that might be different from other

mediums, and what particular pedagogical possibilities these forums enabled. At the same time, I gathered descriptions of the pre-service teachers' experiences with these forums and with online interactions in general, and analyzed how these informed their pedagogical practices.

Another data set where I could explore the construction of professional identity through discursive activity was multi-modal productions (artifacts) in which the participants engaged. Creating an i-movie, and in the case of the LLED Block participants, writing a multigenre/multimedia paper, provided the pre-service English teachers the possibility to recreate situations that illustrated their exploration of the pedagogical issue of their choice. By authoring different textual genres, including texts in different media, they recreated the diverse social contexts where the characters in their stories (mainly the participants, their students, and their teachers) participated and negotiated their identities. In this way, they appropriated the semiotic resources available to them and transformed them for their situated purposes, according to Kress' theory of *design*. In this instance, I explored the imbrications of technology, power, and (critical) literacy from the perspective of participants' authorship. I analyzed how they learned to work with different kinds of texts, including multi-media, and how this connected to their teaching philosophies and teacher identities.

My position as a researcher

Speaking of Marx and Vygotsky, Holzman & Newman (1993) state that “However rich the content of their discoveries, the value of their work lies in their method –in which results of method and method itself are inseparable” (p. 17). The research process has led me to question my own method, asking myself the question: is it *tool-for-result* or *tool-and-result*? I framed this question as a question regarding the way my research could change the interviewee as much as it

was a learning process for me, and how desirable or undesirable this was. Is it so important to avoid influencing the participants, would it contaminate the results? Is it even possible not to influence the participants? Isn't it desirable for my research to be a learning experience for them as well?

After my college courses in qualitative research, I approached my data collection and interview process with the idea that I had to bracket my own biases and as much as possible avoid influencing my participants into saying what I was expecting to hear. Although I adopted Carspecken's approach to ethnographic interviews, moving from more detachment and open-ended questions in the initial interview to more specific and involved questions in the later interviews, I was still concerned with being as open-ended as possible, letting the themes emerge from the data. I consider it important to follow this focus on eliciting and listening instead of asking questions that would narrow and limit the response. Nevertheless, a more dialogic approach could also be a way to produce relevant meanings and interpretations of the participants' experiences, and I am considering the exploration of this possibility for future research.

Limitations of the study

Although I studied the experiences of the pre-service teachers across the two programs, I did not seek to make generalizations about the effects of these programs on pre-service teachers. Rather, my intention has been to describe a specific cultural process: the development of pre-service literacy teachers' subjectivities in relation to particular uses of technology. I do not claim to render a holistic description of the secondary English PDS program because of my limited scope –I just focus on the interns, but not on the mentors, supervisors, consultants, director, or

secondary school students. Neither do I claim to provide an exhaustive description or analysis of the secondary English program on campus, since I just consider the block segment and focus on my module and other technology aspects.

My institutional relationship to the participants as instructor/ consultant provided me ease of access to the participants' experiences and a degree of trust from the beginning due to familiarity. In order to prevent pressures related to my position in a relative position of power within the institution and ease possible discomfort, I made it clear that participation in the study was strictly voluntary and there was no connection to the grades in the course or internship. While my position as a consultant did not entail grading the interns in any way, so that it was more of a horizontal relationship, my role as an instructor entailed some asymmetrical power over the students. For this reason, I was especially careful to ensure that they felt at ease and comfortable talking about their experiences and views, by validating their perspectives, positively commenting on them and showing my interest, and by reassuring them that they would not be grading on them. I also paid special attention to providing the online forum as a space for them to share their interpretations and positions on the topics of discussion rather than as a teacher-oriented assignment, as is usual when a strong pressure is placed on grades. The same holds for the multi-genre/ multimodal paper, which I presented as a creative project of personal/professional inquiry, providing openness and guidance instead of rigid structures.

Chapter Five

Keeping up with technology: three case studies

Throughout the discourses addressed in this study, including policy, academic writings, and the interview data from my research study, there is an overarching concern with innovation, which appears as a crucial value and measure of educational quality. It also appears as a mandate: in a context of global competition, innovation is crucial in order not to fall behind. In my data analysis, I ask how innovation is instantiated in particular educational contexts, and what it means for those involved.

As the policy analysis in Chapter Two demonstrates, discourses about technology contain important contradictions. The policies claim that innovation is necessary and that old ways of schooling have to be transcended. Nevertheless, the same policies institute practices that go against innovative forces, such as standardized testing, which promote a compartmentalization of school subjects, scripted learning, and de-contextualized knowledge that reproduces the “old grammar of schooling.” In the contexts of practice approached in my research study, there appear important attempts at innovation from teachers, pre-service teachers, and school administration, in tension with discourses and structures within the same institutions. Attempts at innovation encounter important resistance from other teachers and students, and from school regulations.

The three cases analyzed in this chapter represent different ways in which English Education students can take up the value of innovation. In the first case, Ian equated innovation with newness, as in modernism, as a drive for experimentation and the transcendence of old forms. He placed a strong focus on aesthetics and particularly on the visual element, which connects with the primacy of the image as a defining condition for new literacy practices and

new subjectivities (Kress, 2003). Ian was very aware of the implications of different forms of communication and expression using new and old media, which supports Kress' (2003) argument that choice of medium and mode make for a heightened awareness of the affordances that each form provides to its users. Ian's approach risked appearing superficial, as he focused almost exclusively on the appeal to the audience's senses of different forms of texts, and he favored texts that looked neat, stylish, and catchy. This was a tendency that Ruth, the third case presented, and other PDS interns criticized in some teachers.

In the second case, Ryan approached technology as a tool to make teaching more effective: he operated under an effectiveness model of education. He considered that the goals and content of instruction were the same whether he applied a particular technology or not, and technology often functioned as a "hook" to get students involved. There is a commonality between Ian and Ryan, in that both of them identified a strong potential in new technologies for involving the students with texts, a potential that more traditional texts were found to be lacking.

Ruth, the third case presented, considered technology an integral part of her classroom, and conceived of it as interconnected with cultural practices and the meanings of texts. Being able to read new media critically and to create texts in different media was for her a way of providing students the tools to pro-actively participate in their society. Technology was not just a way to teach more effectively, but a way to make the literacy experience relevant and take students' experiences into account. Ruth's innovations encountered resistance from some students and teachers who identified with definitions of academic English closer to the 'culture of the book,' and she perceived standardized tests as promoting rigid conceptions of reading and writing that ran counter to her attempts at innovation.

Ian: “It’s all about design”

Ian was one of my students in the Language and Literacy Block. He was the most enthusiastic student when it came to incorporating new technologies in his assignments, and he was the first one to volunteer for my study, attracted by my focus on technology. He was a highly motivated and dynamic student, always eager to try new projects and new approaches, especially with regards to practical applications to teaching. For instance, out of his own initiative, he arranged with a regional school to implement a lesson from his group unit plan because he considered it important to see how his plan would work out in a specific context.

As much as he was motivated to acquire practical knowledge, he confessed during his interviews that he did not have a grasp of the theories that we had studied in class, especially because they were not connected to an immediate context. He defined himself as a “practical learner” and as a “visual learner”:

I’m a practical learner, I need to find a reason and understanding in solid, but then there’s people like Mark who is all about this theory stuff, well I just [...] don’t learn that way, it’s not how I learn, I need to like touch it (Interview, 12/12/2006)

Ian considered himself well versed on digital technologies, and his relationship to technology enacted his “practical” and “visual” orientations. In fact, he expressed his preference for “communications” over “English”: “I’m doing this major for the communications part of it, not that I don’t like the English part but the communications part is really what I want to see” (Interview, 11/21/2006). It became apparent in his talk that he wanted to transcend the traditional aspects of the English subject (and education in general).

There was a paradox in that, although he had learned what he knew about multimedia technologies through the educational system (school and college courses, participation in school activities such as an executive committee), he spoke of the educational system as outdated. He

identified a gap between technological development and the educational system, which he explained through a series of concepts that were salient when he criticized the design of some educational websites such as *piccle*, *Angel*, and the College of Education website:

I think the way it looks, it's more of a website that would have been created five years ago, rather than today, when I look at websites today I see flash, I see really nice setups and really interactive graphics, colors, [...] I just see basic design I see basic colors, I don't see anything like when the website comes in it doesn't jump out at me, it's just there [...] when I think about developing a website like that, I'm always thinking about ways to be different, but I feel like [...] *piccle*, it's old, it needs to [...] change, the same thing with the entire College of Education website, I think it's terrible, [...] it needs to be changed, it needs to be updated [...] it's not pleasing to the eye (Interview 1, 11/21/2006)

One of the first ideas that stand out from his comment here is the concept of “innovation,” omnipresent in the Discourse of knowledge society: new technologies and new kinds of texts rapidly evolving and soon becoming outdated by the emergence of new forms. A digital text such as a website looking “five years old” was unthinkable for Ian, as he assumed that texts needed to be constantly updated. Ian conceived of texts as dynamic and changing, not fixed. When composing a digital text, he thought of being different, of coming up with something new, and he considered that the worst qualifiers for a text were “old” and “outdated.”

Accompanying the idea of innovation was the dominance of the visual aspect over other dimensions of the text: “interactive graphics, colors,” “pleasing to the eye.” The visual appeal appeared as one of the most important criteria for judging a digital text. A third concept expressed in the quoted passage is interactivity: texts had to be catchy and attract and engage the readers in different ways, as with “interactive graphics,” or the concept that a website should “jump at you,” not be “just there;” according to Ian, the text needed to come to the reader and not the reader to the text. Finally, although not mentioned in the quoted passage, another aspect of Ian's literacy that repeatedly emerged in the interviews was multi-tasking: he tended to engage

with more than one text or more than one activity at the same time. This was associated with the rapid pace and dynamism of his engagements, with shorter attention spans, with the requirements from texts to be engaging, catchy, and with provisions for fast accessibility.

The way Ian defined himself in opposition to traditional school literacy can be linked to the distinction that Kress (2003) establishes between the *culture of the book* and the literacy of the *new media age*. Ian identified with a notion of text that was dynamic, interactive, multiple and constantly transforming, in accordance with the “fluidity” of the digital age, as opposed to the relatively fixed narratives or bodies of knowledge, connected to strong mechanisms of authority characteristic of modern rationality. His case resonates with policy discourses that speak of schools as outdated and resistant to change, as static and stuck in old ways, and emphasize the need to transform the educational system to respond to the demands of the knowledge society (O.E.C.D., 2004; U.S. Department of Education, 2004).

Ian expressed that schools and universities – the educational system in general – were disengaging for the young generation and thus were becoming less relevant. He observed that the young generation is “lazy” and disengaged with schools:

I think one thing that is bad with the forum is that [...] I feel that my students would react in the same way as I do similarly, is that I go and I do it just to do it, I'm not getting anything out of it, so what I do is, is go and I post on someone's reply, just to post, I don't read everyone else's, and I only read enough to actually do the activity, so I think that's one of the problems, and I think it's something that we as the generation that we're in have been raised with, like in school, kids are lazy, you just do what you need to get by and be successful, so I wish I could, I wish I could figure out another means of communicating [...] that would be more interactive I guess (Interview, 11/21/2006)

Here, Ian spoke of a salient aspect of modern educational systems, which has become more visible and problematic once this system was in crisis or in a transition to something different. Even if Ian's position was concomitant with contemporary transformations, this kind of critique

of education has existed since the early times of the project of the Enlightenment (Rancière, 2003; Rodríguez, 2006). Frank Smith (1998) explains how the *transmission model* of education results in a form of learning that is irrelevant and easily forgettable, so that students respond like Ian, his peers and his envisioned students: doing what is required in order to succeed in the system without being really involved with the learning process.

Ian's comments about "old" websites and about disengaging online class discussions can be related to Lankshear and Knobel's (2003) identification of an "old grammar of schooling" that persists even with the incorporation of new technologies, when these technologies are used according to old concepts instead of taking up evolving forms of literacy. However, establishing a gap between school literacy and out-of-school practices overlooks the fact that many of the engagements with technology are learned, as was Ian's case, through the schooling system. As I pointed out earlier, Ian criticized schools for being technologically outdated, while at the same time he expressed that he had gained his technological expertise at school. Ian had taken courses on technology since high school, and had participated in extra-curricular activities and school-related jobs involving technology. This contradiction in Ian's case demonstrates that schools are crossed by new discourses and new literacies while at the same time still shaped to a great extent by modernist disciplinary structures.

Innovation: the value of entertainment and the impermanence of interest

Echoing an idea that appears throughout contemporary discourses, in policies as well as in theoretical works, Ian was highly invested in the concept of innovation, of transcending old forms. *Outdated* was a word that he used often for static forms, to point out what needs to be changed to conform to the new times. Ian observed that education had become "boring": arguing

his generation was bored of the same stuff over and over (like *Angel* type discussion boards), and thus that there was a constant need to update the system (Interview, 11/21/2006).

In his experiences with online discussion forums for our class, while he initially expected it to be more “school busy work,” he found some engaging moments. These moments were associated with immediacy and newness, with variety, with moving away from repetitive schoolwork. For instance, the personal level of connection established with a Spanish student in the intercultural forum made the experience more immediate and engaging than more detached or “objective” literary discussions. In addition, there was an element of newness in discussing a literary work with people outside the class and from a different country. He explained that communicating with people in the class had become uninteresting because they spent so much time together in class, and not only could they discuss the readings face to face, making the forum redundant, but they were also no longer interested in what they had to say to each other. On the contrary, communicating with someone outside of the class, and from a different country, gave the activity a whole new interesting dimension.

Ian was only engaged with the forum when people responded to his posts, and he preferred it when people questioned him or challenged his views because he thought that this kept the conversation moving, as opposed to reaffirmation or agreement. This can all be related to a preference for conditions of immediacy, personal connection, dynamism and newness, in all aspects of the experience, including the people with whom he interacted, the topics discussed, and the way in which they were discussed. Ian was attuned to the mandate in contemporary societies to constantly remake one’s identity and conditions of existence, including material possessions as well as personal relationships, since everything and everybody becomes disposable, expiring fast and requiring constant renewal (Bauman, 2005). In Ian’s talk, constant

renewal was tied to the need to keep oneself and one's audiences entertained, in a context where interest was hard to maintain.

The ability of texts to attract and keep the readers' attention was their most important quality, which Ian emphasized throughout our conversation. This premise was tied to a primacy of the visual aspect of literacy, and to the idea that texts should be interactive. He believed that above all else texts (websites, interfaces, works of literature) had to be engaging, catchy, and dynamic, and he considered it a priority for a website to be "aesthetically pleasing": "if it's not aesthetically pleasing to you, then everyone's [going to] kind of like shun away from it" (Interview, 11/21/2006). These preferences confirm Ian's self-definition as a "visual learner" and a "practical learner." He thought that visuals made texts more immediate and more relevant.

The visual element of texts had the double, interrelated function of attracting and keeping attention and facilitating comprehension. In forum conversations, Ian was much more engaged if he could see the picture of the person with whom he was talking (Interview, 11/21/2006). Being able to see the pictures of the characters in a book like *Witness* (Hesse, 2001) aided his comprehension of the story (Interview, 11/21/2006). However, such visual feature was taking away the responsibility of imagining the characters for himself: it made reading easier since the imaginative work was done already. Kress (2003) makes the observation that visual imagination is a feature of the culture of the book, while designing the reading path is the creative element of the new media age.

Another visual element that Ian favored was simultaneity, because it would make a website and its contents more easily available, and thus easier to comprehend. He praised those websites and forums that were designed to visualize the question and all the responses at once, on a wall, instead of making the user click on each response (Interview, 11/21/2006). Kress

(2003) connects *simultaneity* to the spatial logic of the image, as opposed to the time logic of speech.

Ian's preference relates to the idea that the text has to make the reader want to read: in contrast to the "culture of the book" where the reader searched for the (pre-constructed, fixed) meaning contained in texts, in Ian's "new media age" the signs need to "call" or "attract" the reader and make themselves accessible. This makes the concept of "active learning" problematic, since the readers are interpellated almost exclusively by the aesthetic and entertainment aspect of the texts, and thus texts appeal to the readers' senses over their intellects, to emotions over reason. From the exclusive focus on reason in modern institutions, the new media age seems to have moved to the opposite end of the spectrum, and the question is how to reconcile these two aspects of textual involvement in education.

One reason why texts need to be catchy and work hard on attracting the reader in the "new media age" is that there is a huge amount of competition for the reader's attention. The appeal to readers' sensations and emotions relates to their position as consumers of texts, since literacy and education have been reached by the "marketization of life processes" that Bauman (2005) speaks about. Since information is overabundant and multiple sources compete for the readers' attention, attention is precisely scarce within what has been termed an "attention economy" (Goldhaber, referenced in Lankshear and Knobel, 2003). Readers thus find their attention scattered among many information channels; they do not linger on one particular text

for a long time, but engage with multiple texts or with multiple activities at the same time, which is termed “multitasking.”⁶

Ian practiced multitasking: he explained that he often preferred instant messenger over having conversations over the phone because he could engage in other activities at the same time (Interview, 11/21/2006). He stated this preference even when he acknowledged that the quality of the communication decreased with instant messaging as compared to a phone conversation. This modality of multi-tasking is connected to his preference for shorter texts over long books, since he was used to shorter attention spans and to engaging in multiple activities at the same time, instead of concentrating on one sole text for a long period of time. The way Ian defined himself as a visual learner, needing some kind of visual and interactive stimulation in order to become engaged, together with a tendency to focus on many texts or activities at the same time (multitasking), translated into disengagement with some kinds of more traditional texts. He explained that he preferred one of the short stories that they had to read in the course for the intercultural forum over the other, among other reasons because it was shorter and so he could grasp it better and read it a couple of times. The ability to keep his attention on a text was of course not only related to length, but quite obviously to interest and style as well. Ian read the novel *Feed* twice, which is long in comparison to the chapter from *The Woman Warrior* (Kingston, 1989) on which he could not focus and which he found difficult to grasp. The novel *Feed* (2002), besides being on a topic of interest to him (technology), is written in a style of immediacy and is fast-paced (Interview, 12/12/2006).

⁶ I am using a broad notion of text, referring to texts in multiple media and modes, and to interaction enacted through multiple lines of communication with which someone can be engaged at the same time.

The competition for attention, the primacy of the new, of constantly changing to attract and keep the readers' interest, applied to Ian's literacy practices both as a reader and as a writer. Reading and writing were closely interconnected for Ian, especially because the kind of literacy practices with which he was most engaged were interactive. As much as texts had to be aesthetically appealing in order to be worthy of his attention, in the same way Ian strove to make himself interesting and appealing in order to be worthy of others' attention. He was most interested in forum exchanges where there was a personal connection, where he was given the attention of others. In fact, he was only interested in online discussions where people directly responded to his posts and engaged with what he had said (Interview, 11/21/2006). This resonates with Goldhaber's concept of attention economics (Lankshear & Knobel, 2003), in which he argues that personal fulfillment is increasingly dependent on getting other people's attention, for which it is necessary to create an original and appealing self-image.

Interactivity: focus on immediacy and personal connection

Ian identified the difference between lecture and discussion-based, interactive classrooms as one that could be connected to the distinction between old and new literacies. He stated that the dynamics in any class were molded in a certain way from the beginning of the semester or year and then they were very difficult to change. He also observed that the class had gotten used to an interactive style and when a new instructor came with a lecture orientation, the class did not respond well to that: "we're not connecting with it" (Interview, 12/12/2006). Ian associated the disconnection that he and his peers experienced with lecture classes with being used to interactivity in the particular block of courses that they were taking together. But beyond the particular context of the class, the disconnection coincided with a general shift towards a new

kind of pedagogical relationship in accordance with social changes, based on a shift in structures of authority and on the concept of an active learner (Rodríguez, 2006). The fact that these college students and pre-service teachers had gotten used to “interactive” pedagogical relationships was an instance when educational practices were connected to out-of-school literacies.

Ian’s preference for interactive forms of communication did not exclusively refer to the classroom format (lecture, discussion-based, group work), but it extended to the kinds of texts and activities involved. For him, “more interactive” meant more immediate, and he thought that these features were linked to the materiality of the signs (Kress, 2003): to the medium and mode of communication. In the case of an international online forum, for example, Ian suggested placing web-cameras in both classrooms (in the U.S. and in Spain) and having students talk to each other synchronously, in small groups, instead of writing in discussion threads asynchronously. He saw this as a way to replace time-deferred communication done in writing with more “face-to-face” orality (Interview, 11/21/2006).

Ian thought that writing was de-contextualized, impersonal, and inhibited personal connections. He pointed out that in writing he missed the possibility to communicate feeling, and so he preferred to share papers with classmates face to face than respond to each others’ papers online:

you don’t have any feelings a lot of times in the way you write, so there were certain things I would have liked to emphasize specifically like through my paper that I didn’t get to do (Interview, 12/12/2006)

I probably didn’t read everyone’s paper as deep as I should have, whereas if I had been in a group and they would have been able to emphasize the parts that they were more specifically enthusiastic about, [...] like for example in mine I have one [...] called “when scientists write [...] poetry” [...] that was something I would have wanted to talk about more and explain rather than just in the reflection [role] of it. (Interview, 12/12/2006)

It is remarkable that in the case of his own paper, he felt the necessity to communicate face-to-face, assuming that the paper that he had written did not adequately or fully communicate what he had intended.

The deficiency that he perceived in the writing mode could be overcome by multi-media communication technologies. However, online communication restricted to the writing mode, such as online writing forums or instant messenger, was also found lacking. In instant messenger, he missed the immediacy or connection to context that could be facilitated through face-to-face or phone conversations, although he found it useful:

I like instant messenger, I use that heavily, but I do know that it's the most ineffective means of communication that there is, just because you can't see who the person on the other side, so you don't know if it's truly them, you don't know if what they're saying is sarcastic or if they truly mean it, so that makes me eerie about using it (Interview, 11/21/2006)

I studied Internet, the instant messenger, and I know from training employees at work that 93 % of our message is conveyed in like our body movements and our tone, so 7 % 's only our message (Interview, 11/21/2006)

It is ironic that although Ian prefers immediacy and personal connection in communications, and he argues for the deficiency of instant messenger in this respect, he still chooses to use it over phone conversations because he can be involved in other activities while using it. Although he values immediacy and personal connection, he is not willing, or able, to engage in more involved exchanges or give his interlocutors undivided attention.

The way Ian could speak about the forms of interaction and involvement possible with each form of expression and communication reflected an acute awareness of the materiality of signs, of what Kress (2003) called "affordances of mode." This kind of awareness is what Kress has identified as characteristic of the new media age given the variety of modes available and the flexibility in their use.

Ryan: “Technology makes learning more effective”

Ryan had been a computer-engineering major, and thus he was very open to incorporating digital technologies into his English and Journalism classrooms during his PDS internship. One of the most salient technology activities that he conducted was to have his English 10 students create an i-movie to represent rhetorical figures that they were learning. He also had them write digital short stories with a multi-media aspect, where they had to incorporate an image or a song to illuminate some aspect of the story. He was keen on using Power-point presentations in his classes. Besides, he taught his students ways to evaluate online research sources because he was aware that his students got most of their information from the world-wide web and did not consult book sources unless required.

He believed that literacy is changing and that it is important that the English classroom respond to these changes. Like many of his PDS colleagues, he was aware that students were surrounded by an overwhelming multiplicity of media messages composed in different modes (multi-media) and that they increasingly used the world-wide-web for interaction and as a source of information. Thus, he considered it important to incorporate new media in the classroom, which he assigned two main functions, following a pattern identified among the PDS participants: one of these functions was to motivate students by establishing connections with their out-of-school lives (as a “hook”), the other one, as with the Internet research project, was to help them become critical readers and users of the media with which they interacted daily.

Tool-for-result or tool-and-result?

One of the prevailing themes in Ryan's talk is that technology appears as an addition or something external to learning, independent from the learning objectives. When explaining the role that he assigned to technology and media in his classroom, he commented that it serves "to make things easier" (Interview, 6/14/2007). In this way, the Power-point presentations are useful "to put things on a projector so you don't have to write them down for every class" (Interview, 6/14/2007). He thought that sometimes technology could be more effective than more traditional learning methods in order to achieve the same curriculum goals, although it might be more time-consuming. For example, he found that the i-movie had been more effective for students to remember the rhetorical terms, even though it had taken much longer than it would have taken to teach the terms without the technology.

When he explained how his view of technology in his classroom had changed, he commented that

at first I just wanted to use it for the sake of using it, now I really want to be a purpose for using it, whether it's gonna get them more engaged or be more effective, with the i-movie it took them a little longer but at the same time they learned the concepts better (Interview, 6/14/2007)

This quote implies that incorporating new technologies is not about gaining a new understanding or producing meanings in a certain way, or even producing new meanings. Rather, it is just an alternative way towards the same learning goal. When speaking of communication through digital media, Ryan defined it as "just new ways to communicate maybe old ideas that might normally be portrayed in writing" (Interview, 3/22/2007). This view resonates with the common phrases of "teaching WITH technology" or "technology to enhance learning," which would mean that the content or goal for learning is the same whether you use a certain tool or not, the

difference is that the students just learn it in an alternative way, by other means that could be more effective. From this perspective, technology can make students learn more effectively or better, but it is a matter of degree, not a qualitative change. Following a Vygotskian framework, Holzman & Newman (1996) would call this perspective tool-for-result, as opposed to the concept of tool-and-result that Vygotsky advocated, which views the tool as inseparable from the quality, purposes, and product of an activity.

There were some instances in the interviews with Ryan where the tool-for-result approach became less distinct and a more complex understanding emerged. For instance, he reflected on the qualitatively different way of learning with the technology when the students were using different sign-systems (visual, kinetic, performative, musical), which facilitated the development of the concepts:

[...] just to learn them [the concepts] in a different way than they normally would. Cause some of the things they had learned before, but they might not remember what they are, whereas with this I think it gives them something more visual and more of like a hands on project to do when using technology. So I think with the technology is helpful explaining concepts in new ways. (Interview, 3/22/2007)

they were actually acting out the words themselves, the definitions, they were showing them rather than just telling the definitions, so I thought that helped them learn the words better. (Interview, 3/22/2007)

during the short story unit that I recently did they had to do a piece of creative writing and I think that came through a little in their descriptive paragraphs that they were using different language, they were using figurative language, ehm, they were using words that repeated certain sounds, so I think that it came through a little, I don't know if it was particularly because of the i-movie, or, but... (Interview, 3/22/2007)

it seems that there was a connection, a lot of students were using the different kinds of words that we went over in the i-movie (Interview, 3/22/2007)

In these passages, he acknowledged that the product of the activity, when the digital technologies were involved, was different, since the concepts were internalized in a more profound way and

could be applied more broadly, in more varied uses and forms of expression. Nevertheless, he still spoke of technology as a means for learning the same concepts that they would learn without the technology, and seemed to assume that these concepts were fixed and pre-defined.

Another instance in which the tool-and-result perspective attempted to emerge in the interviews with Ryan was when he was implicitly speaking of transmediation, the translation of a message or meaning from one sign system to another. The concept of transmediation (Berghoff, 2000) exploits the potential of multiple sign-systems, and the meaning produced by transforming messages. Ryan recognized that the i-movie activity and the digital short story writing activity involved “higher level thinking skills” in moving through different sign systems while establishing practical involvements with a concept. He spoke of how the use of the technology in this particular way was intrinsically connected to the cognitive processes involved and the learning outcome:

I think some of the skills transfer over, I think the ability to express yourself in writing is gonna be similar to what they did, the ability to express themselves through [kinetic] performance art, eh so in a way it was still the same skills they were using, it was just definitely in a more visual way that they were applying them, rather than just writing the words down they had to sort of use higher level thinking skills eh even maybe than writing because first they had to think of the words in writing terms like how would I write this down, and then they had to think about a concept, like a real life concept to apply to the i-movie, so in a way they were still applying literacy because they still had to go through that level where they were familiar with the terms in the form of writing and then applying it to a more visual situation. (Interview, 3/22/2007)

I think they would be able to apply the same concept to their writing except it would stick in their thought longer, they would be able to remember it because they could say “I did this i-movie” and “this is how I showed this word” and now maybe they remember it a little better because they showed it in that particular way rather than just writing it down so in a way even though while they are creating their i-movies had to think about it in writing terms first and then apply it to the i-movie, I think the reverse could sort of happen and they remember what they did for the i-movie and could apply that to writing later on (Interview, 3/22/2007)

While he asserted that they were the same skills applied to different contexts, he spoke of the benefits of translating from one form of expression to another, and how that could lead to a deeper understanding of the concepts.

The tool-and-result awareness was most developed when he spoke of the creation of his own i-movie, of how the decisions that he made were tied, to use Kress' terms, to the "affordances of the mode and the facilities of the medium." Ryan verbalized how his message was affected by the technology that he used, which placed possibilities and restrictions on what he could say and how, so that tool and result were part of the same process:

I think if I had to write just an individual paper on anything going in the classroom, it would have been more specialized, it might have focused on individual students more than on students as a whole, I think having that footage where I could see all the students working together sort of sparked an idea, whereas with a paper I might be more specific and focus on maybe just the individuals in the classroom rather than them as a whole group, so I think [...] using technology can affect the way you make decisions (Interview, 3/22/2007)

Ryan was reflective on how the short movie form played a role in his decisions regarding focus and approach, and intervened even in the development of the ideas expressed. In this instance, the dialectic process of tool-and-result was consciously embraced, which provided him with a more powerful form of literacy.

Ryan expressed how the technology also placed limitations on his production process:

one way in which it limited me actually was [...] the time frame, because I think with the paper you have a lot more room to be able to explain things, whereas in the video [...] we were actually limit- they gave us a time limit on the video it had to be within around five minutes, it couldn't really be over that, so in a way that limited the explanations [...] whereas in a paper I think you're only focusing on the writing and the description and you don't have to worry about the footage, so you can describe things for as long as you want to and you don't have to move on to another thing really fast, with the video there were a lot of things to cover and I feel like I spent enough time on each thing but [...] there is definitely a lot more

that I could have elaborated on for each part of the video but it had to be concise and tied in all together (Interview, 3/22/2007)

In this case, the dialectic quality of the tool-for-result process can be observed in that the affordances of the tool were also conditioned by the framing of the activity within an activity system. While i-movies are a short form, valued for their conciseness and speed, the five-minute limit was a further restriction imposed by the assignment that Ryan had to fulfill for his internship. Besides, it was not doing a video per se but the structure of the text-form, the i-movie, which especially emphasized conciseness. The combination between the materiality of the technology and the nature of the assignment valued speed and efficiency, two defining values of fast capitalism. Covering everything without dwelling too long on any particular aspect was a requirement of this particular instance of literacy which can be related to the dynamics of the “attention economy”: attention moves fast from one thing to another as in multi-tasking.

The dynamics of tool-and-result imply an interaction between the tool, the subject, and the object of the activity. As much as the tool and the definition of the task conditioned his approach to the production of the i-movie, Ryan also shaped the tool in creative ways in order to make it render his own message, as with the fast movement to show how a classroom space and dynamics could change to become more interactive:

I think that [fast movement] was one aspect of the i-movie where the technology really helped cause it showed that movement of the classroom really quickly and even better than a regular description would (Interview, 3/22/2007)

In this instance Ryan spoke with an awareness of his experience of doing the i-movie, as a reflection on his own practice. His awareness of the affordances of mode and medium invested him with power to own the tool and develop his own voice.

However, Ryan did not establish many connections between this reflection on his practice as a producer of texts and the way he thought about teaching the technology. In regards to teaching, he spoke of transferring skills from producing multimedia to writing, but there was no reflection of how producing in these two modes was different, or of how an awareness of these differences might help writers/producers become more conscious of their choices and their contexts.

What counts as literacy? “Basic skills” and “communication”

When defining literacy and the goals of the English classroom the tensions between the different values that Ryan assigned to digital practices emerged. He alternatively presented two visions of literacy, either consisting of reading and writing as “basic” abilities, or more broadly conceived as “communication.” In the first instance, he argued that the focus of the English classroom should be on

the basic skills of reading and writing, because I think those skills help to build upon other ones; [...] the role of the English teacher is to help build those skills, [...] teachers first need to focus on these basic skills and then help the students use the technology so they can communicate (Interview, 6/14/2007)

In this statement, while he included technology in the curriculum, he relegated digital practices to a second place: only when reading and writing were mastered should they be incorporated as an add-on. According to this reasoning, there is a natural progression of skills, and only when the basic ones are achieved should we proceed to the next ones, so that mastering different forms of communication would be a question of progressing through a continuum. This resonates with the behaviorist framework and with disciplinary school systems, and compartmentalizes learning, preventing the integration and interaction of different sign systems. It produces a cleavage with

the contexts of literacy that students encounter outside of school, where they interact simultaneously with a variety of textual forms. This reasoning is not exactly a reflection of what Ryan did in the classroom, where a more integrative approach permeated.

It is remarkable that while Ryan established a separation between writing and “technology,” he nevertheless spoke of the importance of writing digitally. He spoke of the advantages of writing on a computer using a word processor, and of the generalized practice among students of reading and researching from Internet sources. Thus, the distinction between digital practices and writing was ambiguous throughout his interview and seminar conversations. When he spoke in favor of putting writing first with respect to technology he seemed to refer to composing multi-media/multi-modal texts as opposed to writing (digitally or not): “usually technology I see more as the visual aspect of learning” (Interview, 12/6/2007). This particular definition can be associated with what Kress (2003) calls “the culture of the image,” which is the predominance of the visual in the “new media age.” When Ryan put “writing” first he was holding on to the older practices of the *culture of the book*, or at least he was trying to preserve an aspect of it that felt threatened.

There was a blend of reaction –holding on to old values – and an embrace of new literacy practices throughout Ryan’s conversation. While at times he spoke exclusively of writing as the main purpose of the English classroom (in terms of productive ability), at other moments he acknowledged the importance of learning to produce texts in other media as other forms of communication are becoming so relevant in the contemporary world. He defined literacy as “basically the skills to be able to communicate [...] maybe using i-movie as a way of communication, being able to have those skills to use that software I think that would be a form

of literacy” (Interview, 6/14/2007). He expressed a historical awareness of how the concept of literacy is changing:

I think the idea of literacy is really changing and in a more broader context where it fits a lot more things rather than just reading and writing and it’s becoming more about communication and being able to extract ideas from what someone is saying or to [develop] ideas yourself (Interview, 6/14/2007)

Ryan distinguished between digital practices that are more widespread and user-friendly (instant messenger), and digital practices that are more sophisticated and require more resources or more complex skills. He pointed to the importance of promoting a productive ability (producing an i-movie, parallel to writing) with these more complex technologies, and implied that this was a function of the English classroom.

Despite the split that he sometimes established between writing and technology, Ryan often integrated reading, writing, and digital technologies in holistic ways. In the digital short stories assignment, he expressed a tool-and-result conception of literacy and technology, and different modalities of expression were meaningfully integrated. He asked his students to construct a multi-media story where all the different modes were integrated as a whole: there had to be written text, and there had to be an image or sound component. The function of the image or sound component was different from the function of illustrations in the culture of the book (Kress, 2003) as add-ons, appendixes, or visual repetitions of some aspect of a story. In a multi-media, more visually oriented culture, images are an integral part of meaning; they complement the text, and they are to be read (and used) as such. Ryan considered it important to teach this productively as he reflected on how his students responded to the assignment:

I think those pictures and media that focused more on theme and more abstract ideas rather than details in the story, they didn’t focus on concrete things like setting, but focused more on the interpretation of the story, helped a lot more, whereas the ones like the McDonald’s arches only provided details that were

understood to begin with so it didn't really add them anything (Interview, 3/22/2007)

He spoke of images as a way to convey a different aspect or perspective of meaning that was not conveyed through the words in the story. This was a way of acknowledging that the sign system that mediated meaning-making affected the kind of meaning that was produced, so that words and images, and sounds, could provide different dimensions to the text.

By finding different purposes for different modes of expression, as he did in the digital story assignment, Ryan was enacting another characteristic that Kress identifies with the *new media age*: because there are a variety of modes readily available, each mode is ultimately used for what it does best, and people tend to become more aware of the different affordances of the different modes. Ryan demonstrated this awareness when he spoke of the making of his own i-movie and when he spoke of the digital story assignment.

Ruth: "Schools hold me back"

Her cultural studies/ media literacy approach to teaching English

Ruth had a communications background and she was very comfortable with digital and multimedia technologies, which were a vital component of her teaching, not just an add-on or a complement to the traditional curriculum. She emphasized that a media-literacy and cultural studies approach would facilitate the connections between the students' out-of-school lives and the school curriculum, teaching students to be active, critical participants in their societies. This entailed a productive engagement with multiple kinds of texts and technologies: her students not only read and analyzed media texts, but they produced i-movies, podcasts, and websites. She

wanted to develop with her students an expanded notion of literacy that would integrate alphabetic reading and writing with other kinds of texts (multi-media), thus establishing intertextualities between the multiple texts with which the students interacted daily and the literary texts that have traditionally inhabited the English classroom.

She did not hold a romantic idealization of technology. On the contrary, she was aware of the instantiation of power structures through technology. It was precisely for this reason that she considered that being comfortable with socially valued technologies would empower her students to participate in socially relevant forms of textuality. Central to her teaching was an engagement with those technologies based on a critical literacy standpoint. The critical literacy that she embraced consisted of a dialectic implication between participating in social discourses, including those related to digital texts (which implied mastering the technologies), and critically analyzing them.

Digital technologies allowed Ruth to move beyond traditional academic boundaries. They provided ways

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

One of the assignments that she and her mentor had the students do was *flocabulary* raps: they had to create raps that used the vocabulary words and if possible incorporate the definitions,

and then they were either performing those raps in front of the class (in her 10th grade section), or recording them in their i-pods and sharing them with their peers (in her 9th grade section where they were not so comfortable performing them). Since the students had memorized only the words that they had included in their own raps, she reflected that in the future she would have the students get podcasts of all of the raps that the class produced, so that they could listen to them at their own times and refer to them to learn the words. In this assignment the students were creating their own “textbooks,” which would become more obvious once they became stored and distributed. In this kind of activity, students teach themselves and each other; they are not just expected to absorb knowledge that has already been pre-packaged for them.

As part of the PDS assignments that Ruth had to fulfill, she created a four minute i-movie about the flocabulary rap assignment and the integration of hip hop in the classroom. The i-movie was composed of music (popular raps and her students’ raps), videos (popular video clips and videos of her students’ performances), still pictures, and written text where she developed her ideas. She used a hip-hop music background and presented quotes in written form from Frank Smith’s *The book of learning and forgetting* to make the point that vocabulary words are naturally learned in context, when they are tied to cultural ways of belonging to communities. She also used written text within the i-movie to voice her own argument that integrating hip hop in the classroom was a way to make these connections to students’ cultural ties, so that in learning the vocabulary, for example, terms would be more meaningfully or significantly learned, not just as short-term memorization. She wrote: “Hip hop has the ability to open a dialogue with students. Are YOU ready to listen?”; “It’s time to use hip hop as a supplemental text”; “By pairing a canonical text with a cultural text we can bridge the gap between student and text” and “Take it one step further, have the students write a rap that explores the text’s themes.”

The claims that she made can be conceptualized in terms of *tool-and-result*, since the process-and-product of the learning experience changes with the tool: they learn to use vocabulary in context, not just to memorize words.

The video-recorded performance of two of her students, included in the i-movie, exemplifies how the assignment invested her students dramatically as they expressed their texts with their whole bodies, and as their audience also showed physical signs of involvement and enjoyment. The images, audio, and subtitles from hip-hop artists effectively connect with the cultural contexts to which Ruth and her students related in this assignment. The hip-hop lyrics “I against I” provide an engaging example of a complex use of language, rich in connotations and poetic devices, linking to the video-recorded performance where students used poetic devices in their vocabulary. This integration of multiple modes (audio, video, images, written text) which are used purposefully in the multimedia text of the i-movie exemplify the kind of literacy that Ruth sought her students to develop. This integration was complemented with an awareness of the affordances of mode and medium (Kress, 2003), which she articulated during individual interviews. Part of her teaching objectives was for her students to reach this kind of awareness so that they would be able to choose medium, mode, and genre of expression in relation to their audience and communicative purposes.

In her i-movie, Ruth said “It’s time to use hip hop as a supplemental text [...] By pairing a canonical text with a cultural text we can bridge the gap between student and text”. She made it clear that she did not advocate the replacement of traditional literary texts with new media texts, but rather to expand the curriculum and identify intertextualities, so that the students could establish connections and make sense of literary texts from their experiences. In fact, she also reflected on the need to include non-canonical literary texts that do not traditionally populate the

English classroom, thus challenging established notions of what counts as American literature and culture. By broadening common notions of text and literacy, Ruth was seeking to transcend a narrow conception of the subject English.

In the individual interviews, Ruth expanded on the concept of “supplemental text” that she had introduced in her i-movie. She explained that connecting the literary text to other texts could help students build on its meaning and become more active readers. In teaching students to establish those connections, technology would become a research tool, so that students would learn to raise questions about the text and to look for answers about those cultural references that they identified. For example, when reading “How to tell a true war story”, which is a chapter from *The things they carried* by Ken O’Brien, Ruth brought to class the song “Lemon tree” that was referenced in the text (Interview, 6/12/2007). Since the students did not know the song, which did not belong to the students’ cultural-historical frame of reference, it wasn’t until Ruth played it in class that they could identify how the inclusion of the song was creating a certain tone in the story, and she could ask questions such as “why would the author juxtapose this song with this image?”

Using technological tools to bring supplemental texts to bear on the literary text, Ruth was seeking to promote more significant, critical readings. She argued that visual culture promotes superficial, unquestioning or un-inquiring reading, and paradoxically she proposed to use the same technological tools associated with this “visual age” to promote more actively engaged readings:

we’re such a visual age these days that I just feel that sometimes my students miss a lot of what’s going on in the text because they read it at face value and then they don’t take it to the next step to research so by including the technology in the classroom [...] and showing them resources to find information and make connections, [...].. by bringing that song in and saying ok they talk about this and

they make a big deal about this song, it sounds a little funny because it's called lemon tree but you don't know what it sounds like so go find it, so that's kind of showing them the tools to be able to research and find answers, it promotes the idea of lifelong learning, and then a text isn't simply written words, it can transcend meaning to them [...] and it can really be a tool to research, so they don't just disregard it as a few words somebody wrote, eh how can we make it more meaningful for the students? (Interview, 6/12/2007)

In this passage, she is in tune with the Discourse of the knowledge society, which states that the goals of education are primarily “lifelong learning”: not a transmission of contents to be memorized, as in the modern era, but a set of skills, tools, or ways of doing that would form independent learners that can take ownership of their continuing education. This attunement is manifested throughout her discourse, which constitutes a consistent critique of modern educational values. At the same time that she embraces some of the espoused values of the Discourse of the knowledge society, she points to their inherent contradictions, and to the contradictions in current policies which present themselves as innovative.

Another instance in which she taught students how to use technology as a tool for learning, in this case for writing and for improving their writing, was when she guided her lower level English class through the writing process. These students had a lot of things to say but they did not know how to put them in writing; they were intimidated by the writing process and felt (or had been taught) that they were not good at English. Ruth would write down on her laptop all the ideas that they brainstormed about a particular topic and then show them what she had written for them to work from there. On other occasions she would have one of the students take the notes, or she would have them free-write (Interview, 6/12/2007).

The most developed instance of integration of technology in her teaching was a cultural studies/ media literacy unit that she developed with her mentor. For this unit the students read *The Great Gatsby* and studied the construction of American culture in the novel and in texts from

their own historical contexts such as Super Bowl advertisements. In her inquiry paper, Ruth made the point that the study of literature needs to be integrated with the study and production of other text forms that conform the students' symbolic world, and she found support for her argument within the cultural studies approach to English (Carey-Webb, 2001). The unit was structured around three moments (three consecutive assignments), which she connected to Bruner & Tally's enumeration of three forms of engagement with technology towards supporting democratic learning: "(1) as tools for student research; (2) as tools for student production; and (3) as tools for public conversation" (Inquiry paper draft, p. 11). For the first part of the unit, the students had to develop a web chronicle for the historical period of *The Great Gatsby*, and for this purpose they had to conduct research, mostly Internet research. For the second part, the students engaged in online discussion boards while they were reading the novel and responding to Super Bowl commercials in class (the students also submitted written responses to the readings). As the culmination of the unit, they had to create individual i-movies responding to the question "What defines me as an American?"

In all of these assignments, Ruth could use technology to transcend academic boundaries. Internet discussion boards constituted a different time/space frame that took classroom conversations beyond the confined forty seven minute periods of the school bell schedule. In that alternative time/space, her students found new ways to formulate and discuss their own ideas and find a sense of audience. Through the i-movie she also transcended the separation of what is academic from the students' lived experiences, marrying questions of personal investment and identity with critical thinking. Her idea of sharing floccabulary raps through podcasting is also a way in which students create their own texts (or "textbooks") from which to study the vocabulary, thus becoming authors and finding an audience in fellow students. All of these

assignments manifested a social orientation towards teaching and learning, where technology was used to increase the interaction among students and facilitate the discussion of their work, creating a collaborative environment. Evidence of this can be seen in the i-movie assignment, where, although it was individual, she established a system through which students with technological expertise shared their know-how with others.

Transcending the compartmentalization of school subjects

In her cultural studies and media literacy approach, Ruth incorporated texts (both in interpretive and in productive instances) that have not been traditionally part of the English curriculum. This implied a struggle for legitimization of her practices. She had to validate her curriculum with her mentor teachers and with her students as well. She emphasized the importance of providing a rationale for what she was doing, which particularly needed to be explicit given that she was introducing innovations in the curriculum.

She encountered resistance from some of her students, especially those who were most successful with traditional academic assignments such as the five paragraph essay. She attributed this resistance to the “compartmentalization” between school subjects and between academic and non-academic spheres:

if you come into my classroom and we're reading a text, and you learned in history class about the civil war and we happened to be reading it, I don't want it to be, well this is what we learned in history and this is what we learned in English or, if we're reading a science fiction this is what we learned in science, and you never connect them, I think it's ok to kind of have these different subjects, but I think learning starts to occur when you come into my classroom and you have all this knowledge that you can share with us (Interview, 6/12/2007)

She observed that since the students had been trained into this disconnect, they were not establishing some connections that would help them situate the texts that they read in schools

within the web of intertextuality in which they lived their daily lives. For example, while they were reading *Lord of the Flies*, and struggling with it, they also watched an episode of *The Simpsons* which was re-enacting/referencing *Lord of the Flies* and they did not realize it.

The resistance was most intense when the students were asked to produce texts in the new media as opposed to writing, as in the i-movie assignment. She reflected that standardized tests were an important factor in making students identify essay writing as almost the exclusive form of writing legitimate in the English classroom. In her own words:

And with this i-movie project in particular it was with an advanced level so then I also go back and wonder if the reason why these students are so comfortable and confident in the written component is because of that they are used to standardized tests, they're given 45 minutes to do a writing piece, and that's their English component, you know what I'm saying? (Interview, 6/12/2007)

One of the questions is, a struggle that I had is to say ok why are they resisting this, I know that they are involved in media and technology outside of the classroom, so why are they really struggling, and PSSAs are going on around this time, and I start thinking what are, what is determining their English career, what is determining what is English, eh, and in order to you know, go to college, and even the GRE, everything is objective or a written sample, [...] there's no other way to communicate (Interview, 6/12/2007)

If standardized tests with their 45 minute writing component are increasingly defining what is English as a subject, then the compartmentalization of schooling, the split between what is academic and what is not, is being strongly promoted by the same policies that blame *outdated* educational systems for that disconnect.

Ruth dealt with student resistance by providing students with a rationale for her curriculum, explaining them the concept of “critical media literacy”. Although she emphasized this rationale consistently with her students, communicating the purposes and significance of her technology assignments, she reflected in the interviews that in the future she would integrate new media and critical media analysis more thoroughly throughout the school year, not just for a

particular unit. In this way, it would be a continuous and integrated presence, not an isolated segment of the curriculum.

In addition to student resistance, Ruth pointed out that another factor that restricted her possibilities to incorporate technology during her internship was that she had to negotiate her lesson planning with her mentors. As she was looking for a job, she was conscious that she would encounter further institutional constraints during her career because her approach to English teaching and technology challenged traditional discourses of schooling and the limited conception of texts and literacy promoted by standardized tests. This awareness explains why collaboration with other teachers and a supportive professional community were high priorities for her, since she envisioned that her work would only make full sense if it were validated in her institution and if there were continuity across subjects and grade levels.

Transcending the compartmentalization of school time

Ruth rebelled against the restrictions of compartmentalized schooling that separated the time and space allotted to her subject from the rest of the students' lives. She resented the fact that all class reflection and interaction was restricted to those forty-seven minutes of the bell period, and critical reflections started emerging just before the bell rang. She thought that school (disciplinary) time established separations: forty-seven minutes of class discussions, individual responses to display knowledge that only the teacher would read and grade, with no outlet for ideas to feed on each other, to circulate:

[...] we might get to a very in-depth idea by the end of class, but we don't start there [...] We usually start with clarifying questions [...] So to get to that point of critically thinking it's usually by the end of the period, then the bell stops, so how can we keep it going? And [...] I'm even considering [...] in the future using discussion boards in place of responses, so yes my students write responses but

the responses that I'm grading right now I see as being [...] a summary, what happens in the book? But we already know what happens in the book, so let's pose questions to one another, what's a good idea? I've just seen a level of critical thinking that I've not seen in a quickly written response, so yes it might only be a paragraph long, but they took a while to formulate that idea and that paragraph, and then they can come back and respond again and again, and it's this conversation (Interview, 3/27/2007)

The timeless time of the Internet flows (Castells, 1996) allowed Ruth and her students to continue their critical conversations beyond the classroom restrictions of confined time and space.

On Internet discussion boards, the students could reflect on their own individual time frames while still having an audience and an exchange, so that they could establish a productive dialogue with others. Ruth emphasized that discussion boards did not constitute big loads of homework, but allowed students to take their time to think and formulate their ideas, while still engaging in conversation with each other. In this sense, they provided the extended time frame of response papers combined with the element of dialogue from class discussions:

it was very difficult to have a conversation within 47 minutes completely, I say okay now go and have a fun life we've talked about race, the end, we've talked about gender, that's all we have to say, and there's never really the end, so by saying okay we started this conversation, continue the conversation, it gave them an outlet to say, okay, well I came away from the class feeling this way, it gave them a chance to start thinking about the ideas and then still having the outlet to have the conversation [...] it seemed that they were critically thinking at that point, it didn't seem like okay you have 47 minutes to touch on something, it gave them the time, the ability to, at their own pace, it lengthened the class. [...] it's not necessarily lots of homework if they're doing discussion boards, cause yes they have to read and yes you might wanna go there every day and, but it's also creating it in a time frame that is accessible to them, [...] it also gives them the time to sit and formulate ideas and thoughts and then continue the conversation with one another, whereas I think in my classroom they leave and they don't continue the same conversation, you know, instead, technology lets them continue (Interview, 3/27/2007)

The discussion board modality provided the means to develop critical ideas by engaging in collaboration and critical reflection while allowing the students flexibility with respect to their individual schedules. Ruth thought that the time to reflect about the ideas involved, in combination with the dialogic exchange, were facilitators of critical thinking.

The time-factor was also an element that Ruth identified as an influence in the quality of the interaction between the students in online discussions. One of the differences that Ruth identified between in-class discussions and online discussions was in the way students addressed each other. In class, students could be more confrontational, more aggressive in stating and defending their arguments, while online the students showed more openness to consider different points of view, in a more dialogic way:

I noticed on the discussion boards [...] that students were more willing to pose questions [...] to one another, where in my class I had to definitely monitor if another student says “no you’re wrong,” I literally would have to take a moment and say no noone’s wrong, let’s look at the argument, and many times I kind of have to back the students up. And on the discussion board I didn’t notice that at all, where people were attacking, or people, or students were blaming or saying one person or another was wrong, they really posed questions to one another, and that was a difference in how they approached. [...] I’m giving them a survey about the technology we’ve used in this unit [...] one of the questions that I hope to ask them is [...] how they felt about the discussion, because again it wasn’t that instant attacking, it was almost like they thought about what their post would be before they, you know what I mean, *when you say something it’s automatic, it’s quick, but on the discussion board it almost seems like they waited and formulated questions instead of you know passing a judgment* if somebody is right or wrong. So I thought that was interesting, that’s part of my question to them is in the survey would be to ask them how they felt about the online discussion board versus class discussions, and also the time and I’m going to ask them you know what time did they spend actually thinking, not to say that they spent two minutes or ten and one’s better than the other, but to see if they actually, instead of that instant response, took the time to actually think about the ideas and come back, so kind of ask them you know how many times they visited, even if they didn’t post every time I’d like to know how many times they were frequenting the site. (Interview, 3/27/2007, my emphasis)

Well, sometimes they were still disagreeing but they were more posing questions like oh, I you know didn't think of it that way, here is another, you know, why do you think this, of, you know it was more a kind of questioning for their own knowledge, not necessarily a shutting down other ideas but kind of open ended questions (Interview, 3/27/2007)

Keeping critical conversations within a respectful inquiry community was an issue that I encountered with respect to online and class discussions among the pre-service teachers from the course on campus. It was a challenge to reach a level where students could disagree without arguing. Ian, the first case presented in this chapter, observed that he was more motivated to participate in the online forum when people were challenging his points, but he also expressed that he felt threatened and shut off by classmates attacking his work during a class presentation (Interview, 12/12/2006). The kind of reflective interactivity that Ruth's students achieved through online discussions is an important step for critical literacy that deserves to be researched further.

Problematizing the academic: challenging the dichotomies of modern rationality

Ruth consistently strived to transcend old forms of schooling that she identified as de-contextualized and busy-work. In textual activities involving digital and multimedia technologies she encountered levels of student engagement and critical thinking that she did not find among the same students in traditional academic assignments such as written paper responses to the readings, essays, and class discussions. This contrast in terms of the quality of student engagement between traditional assignments and innovative assignments, together with her struggle with student resistance to assignments involving technology, made her reflect on the definition of "academic." She started to question the dichotomies implied in the modernist concept of academic work, based on the separation between school and out of school life. This

learned separation was what triggered students' questioning of the legitimacy of digital engagements in the English classroom. The innovative digital engagements that Ruth promoted facilitated a transcendence of those dichotomies such as *aesthetic/academic*, *personal investment/objectivity*, *analytic/creative work*, and precisely because they were challenging accepted separations, some students resisted them.

The fact that the delimitation of what counted as academic had become salient in Ruth's experience made her engage in setting those boundaries. On analyzing student writing, she distinguished between "pastime reading" and "academic reading," and she related those two forms of reading with students' written responses and with their posts in online discussion boards, respectively:

we'll open up responses and we say you know if you have a critical question ask the critical question but what do you see going on in this passage, you can write about a topic that interests you, we open it up to the students but what I see my students do is falling back into the mode of summary, this is what happened, x, y, z, because they feel that they have to complete a certain amount of pages, it's not, it's not my goal, my goal is to have them thinking before a discussion, so they're *critically reading, instead of reading as if it were pastime reading, you know, because there is a difference when it's academic reading, and I find with the discussion boards, I feel that I'm getting more of that critical reading or academic thought as opposed to in their responses [...]* I don't know if it's mindset, I don't know if it's how we went about their responses, [...] even in the discussion boards I began [...] it wasn't 'answer this question', it was 'here's the idea we started in class, what do you think?' very open (Interview, 3/27/2007; my emphasis)

Ruth identified the reader responses in the online discussions as more academic than those submitted on paper. She distinguished between academic reading, which involved critical thinking, and past-time reading, which did not. She thought that students were engaging in academic reading when involved in online discussions but not when writing individual paper responses. One of the reasons for this observed difference, which Ruth did not contemplate,

could be that the students were at different stages of their relationship to the text: an initial reaction versus a more socialized response. According to socio-cultural theory (Lantolf & Thorne, 2006; Lee & Smagorinsky, 2000), learning occurs in social interaction, and meaning making is triggered through involvement in social activity. In the situation addressed by Ruth in the quote above, an initial individual reading was then re-signified through class and online discussions. The paper response was requested before the reading in social interaction had taken place.

The differences that Ruth identified between her students' written responses and their online discussions could be connected not only to the technologies used but also to the timing of the assignment: the written responses were requested as a previous step to class discussion of the reading, while the online discussions followed class discussions. There could have been different results if the individual written responses had also been prompted as a re-elaboration of ideas emerging from class discussion. From a *tool-and-result* framework, it is not the technology as a separate factor but the dialectic dynamics of the whole activity what determines the product. The way the technology will function in a particular activity is defined through the activity itself, it is both tool *and* result (Newman & Holzman, 1993). The combination of the affordances of the online forum as mediation tool, the framing of the particular activity, and the students' engagement from their particular subject positions, is what rendered a pattern of response different from the one in written individual responses.

Ruth and her mentor had created two different assignments in which the students were asked to critically comment on the readings. One was the written individual responses, which were framed as a more traditional kind of academic assignment: the students would respond to the readings in written form and in an essay-style format, and submit this before the class

discussion of the reading. The audience for these responses would be the teacher, who would evaluate and provide feedback on the appropriateness, relevancy and creativity of the response. The other assignment was to participate in online discussion boards, which were framed as conversation or exchange of ideas. It was to be done after the class discussions of the readings were initiated, and the students could follow up on those ideas. The audience was beyond the teachers as it extended to the whole group of peers, and the students could expect to get responses to what they posted and respond to others as well, developing their ideas in interaction. The digital technologies facilitated the interactive quality of the assignment, but part of the difference was in the way that each assignment was framed.

Ruth's distinction between academic and pastime reading seems to reproduce the compartmentalization of academic and non-academic spaces, which is precisely what she was struggling against. While to a certain extent it is necessary to acknowledge that the institutional framework of the school gives rise to particular textual genres, and defines the conditions of enunciation, it is important to be aware of how those conditions are established and their meaning is constructed. The distinction between academic and pastime reading suggests that critical reading is not compatible with the enjoyment of reading. On the contrary, the kind of critical thinking that Ruth identified with academic reading, and which she found in online discussion boards, seems more compatible with pastime reading than the summary-narrowing kind of reading that the students did when writing those scripted typed responses that she ironically related to pastime reading.

The kind of summary-responses that the students were writing did not come out of pastime reading, otherwise, they would have been much more enjoyable for the teacher who read them. On the contrary, those responses responded to a stale conception of academic reading that

often prevents the students from making meaning out of what they read, because they learn that meaning is pre-established and beyond their reach. Critical reading can produce pleasure; scripted reading has a strong potential to kill it. The question that Ruth's analysis of her students' responses raises is how we want to define "academic": in a continuum with students' lives and reading interests, or in contrast with them.

The delimitation of what counted as "academic" was an element of contention in her students' resistance to assignments that involved a significant component of digital technologies. One of Ruth's struggles was to legitimize digital texts as part of the English curriculum; it was a struggle over the definition of "English" as a subject. One particular student who struggled with the i-movie assignment was having trouble with ambiguity, with not having a right or wrong answer. Instead of being about objective facts, the assignment required personal involvement as it was asking students to reflect on their identities within their national American culture:

I don't know if it's because he feels overwhelmed because it's an abstract idea, but this is also an idea that we've been working on for the past two months, where the discussion boards have helped inform kind of some of their ideas where they've been discussing with other students and our in class discussions, everything has kind of been building up to this point, so it's not just a new idea thrown at them, this American identity, so I think he's been struggling one with the assignment, because there's not a right answer, it's what is, how do you fit in to American culture, what is your American identity, and so I think he's having difficulty with that being abstract and not having a concrete 'this is the answer,' which we've stressed all year and he's been struggling with, not having a concrete answer (Interview, 3/27/2007)

Ruth conceived of critical thinking as developing the ability to question and challenge assumptions, instead of taking things at face value. According to her approach, critical thinking involved students in taking charge of producing their own ideas, which implied dealing with ambiguity and open-ended assignments, as opposed to scripted guidance from the teacher that communicated "repeat what I say." She found that students who were used to knowing exactly

what was expected of them and were excelling at the conventions of academic discourse had trouble when they were faced with uncertainty and with the responsibility of creating something new.

Ambiguity is a necessary component of a learning environment that acknowledges the social construction of knowledge and that learning is a lifelong endeavor. If operating under this premise, the role of teachers is to equip students with the tools to become independent learners, to achieve self-regulation instead of being externally regulated by the teacher's guidance and by pre-packaged knowledge. Ruth was aware that busy work occurred when the students felt alienated from the task; they did not trust their capacity to produce or articulate their ideas, and instead they filled out the page repeating what they thought that the teacher was expecting to hear. The predominance of pre-defined contents that the teacher is supposed to transmit and explain in modern school systems (Rancière, 2003), which Deleuze (2002) identifies as the monopoly of contents in the "molding" process, is likely to lead to busy work. This happens precisely because the students are not encouraged to express their views but to absorb knowledge that has already been produced. When the students' ideas are validated, the traditional authority structures are altered in the classroom. The teacher and the textbook are no longer the unquestionable source of truth, but students create their own texts and teach each other. While this implies newfound freedoms, it also entails new responsibilities and a level of engagement that can be challenging, especially to students already comfortable with more scripted forms of academia.

This reconfigured authority picture is a pattern identified with respect to new literacies (Kress, 2003) and conceptualized in post-structuralist theories of reading, where the reader participates in the production of meaning as much as the author of the text, within the historical

specificity of particular cultural formations. Nealon & Searls Giroux (2003) state that “[t]he opening up of multiple meanings challenged both the sovereignty of the author as well as that of the professional “expert” –another mechanism for managing the proliferation of discourse, for authorizing who can speak to what issues” (pp. 18-19). While the possibilities of authorship tend to be extended to a wider public, authority appears to be weakened, at least in the modern sense. New literacy technologies such as the Internet, which offer means of publication to wider audiences without the stricter editorial mechanisms of modern times, are often argued to contribute to this tendency, although the extent to which this becomes more democratic is arguable. In the case of Ruth’s students, the opportunity to author their opinions with respect to classroom discussion topics in an online discussion forum helped them become more vocal.

The development of students’ own voices was precisely a defining quality of the presence of critical thinking in the alternative assignments that Ruth created, which would not occur when they were engaging in busy work. In the discussion boards, Ruth realized that students were building off of each others’ ideas, and providing citations in the form of hypertext that other students could consult to support their arguments:

And it’s not only the writing part, [...] here’s the writing part and here’s the support for it, so here’s maybe an example, or a video, or here’s another link, so you can find more information, so it’s kind of creating this web of information, web of knowledge if you will, for the students, [...] with the discussion boards (Interview, 3/27/2007)

This was an instance where Ruth’s assignments provided the conditions for students to take initiative for their own learning. She was creating an environment of collaboration: with the flocabulary raps, students were creating their own study resources, and with the i-movies they were teaching each other how to use the technology. This is precisely what the French teacher

Joseph Jacotot discovered two centuries ago, that students can teach themselves if they are given the chance, without the necessity of the teacher's explanations (Rancière, 2003).

Ruth observed that she found plagiarism in paper responses but not in discussion boards, or in the i-movie, which demanded students' personal opinions and validated them. While the paper responses and essays explicitly asked students to offer their own ideas about the readings, there seemed to be an unspoken conception about how they should be (or sound) academic, and about students' inability to speak that language. Ruth comments on how the discussion boards, by asking specific questions, especially when students responded to each others' questions, appeared less prone to plagiarizing. The i-movie was about connecting personal identity with wider social issues, and being less mainstream than essay responses, it also seemed to be more difficult to plagiarize. She hypothesized that if these assignments were to become mainstream they could potentially fall prey to plagiarizing as well. While it might be a possibility that those assignments exhibited less plagiarism because they were not mainstream, it is also important to consider how they interpellated students differently and elicited more engaged responses.

Ruth's take on plagiarism was particularly remarkable, because plagiarism was expressed as a recurrent concern among PDS participants, especially in relation to the Internet. As a general tendency, students were caught copying and pasting text from the Internet into their papers. To some of Ruth's peers in the PDS, plagiarism appeared to be a malady stemming from the new media era, which corrupted the students with facile access to information and an inability to formulate their own ideas.⁷ In contrast to this view, Ruth observed that when using the new

⁷ There was a particular PDS participant, Mandy, who expressed this concern with plagiarism in relation to the Internet, and developed her inquiry project on the topic. Her case is presented in chapter six.

media in productive ways, students found a voice that was not emerging in traditional assignments, and thus the drive to appropriate other people's voices was not an issue. Her experience points to an association between plagiarism and busy work, and with scripted forms of schooling whose faults the new media era is only making more evident.

Ruth was not advocating for replacing written papers with other kinds of texts, but rather for helping students become literate with multiple kinds of texts that they could use in different contexts, for different purposes. Besides, she found that the web of textuality that was established with the engagement in multiple venues favored the students' performance in more traditional forms of writing. Awareness of the rhetorical situation in the i-movie, of tone and voice, could be used to improve the students' writing (Interview, 6/12/2007). If students found it easier to express and develop their ideas on Internet discussion boards, which stimulated their engagement with the texts and with each others' ideas, they could be asked to write an essay (or an i-movie, as they did in Ruth's class) expanding on the ideas that they expressed on the discussion boards. This could be a way to avoid paper responses to the readings that were repetitive and scripted, just an exercise in filling the page, and it could also prevent plagiarism.

For the students to develop a voice implies some degree of personal involvement in their writing or in the authoring of texts. Furthermore, Ruth's conception of critical literacy involved establishing relevance, for the students to be able to connect the critical concepts to their own lives. However, the personal and the academic, which is supposed to be objective and detached, are dissociated in the Discourse of modern rationality. Since the i-movie required the students to engage with their own identity as they were relating to an aspect of American identity, some found it difficult to bring this to terms with their concept of "doing school." Ruth commented on the difficulty of bringing those two aspects to terms: "I think many of my students struggle with

that as far it being kind of a visual expression of themselves but actually being kind of more academic” (Interview, 6/12/2007). There was resistance as well to critically think about some Super Bowl commercials, as this would imply complicating what they were taking for granted and enjoying in everyday life. It was as if thinking about them critically would be threatening their enjoyment of it. Critically thinking about something so connected to their everyday life caused discomfort because it would push them to question and reframe deep-seated assumptions and power structures on which their lives were based. This was particularly challenging because they were not used to that kind of questioning; it was not what they had learned that school was about.

In connection with personal involvement, another dimension that the students had learned to be incompatible with the objectivity and abstractness of academic discourse was the aesthetic. The dichotomization of the aesthetic and the academic emerged most visibly with the i-movie assignment. The traditionally “academic” students resisted the requirement of including a thesis within the i-movie, arguing that it would ruin the aesthetics, which they conceived of as free expression. These students were those who felt most comfortable writing essays, and it seemed that the difficulty to use their academic skills through a different form of expression was related to learned conceptions that academic analysis or critical engagements were separate from aesthetic and personal forms of expression. Critical thinking seemed to have no place in an aesthetic product, which then would be an a-critical piece, *l’art pour l’art*:

many of my students excelled and were doing in depth critical thinking that they hadn’t done before, and then I had this other set of students who were still resisting the thesis part of it, so it was still working with them and so it wasn’t just a picture slide show set to music (Interview, 6/12/2007)

If the aesthetic text has no place in it for critical thinking, if aesthetics and critical thinking are separate domains, it follows that in an “academic” assignment, where there should be a thesis, there is no place for aesthetics. There would then be no pleasure to find in academic texts. Artistic inspiration, which would come from an interior sensibility and originality, as in the romantic conception, would be held in opposition with the objective, detached, rational knowledge required for an academic essay.

This dualism can be connected to the idea that the “visual,” as in the visual culture of the new media age, appeals to the senses more than it appeals to the intellect, contrary to the modern idea that written text appeals mainly to reason. For the students who were most successful with traditional forms of schooling, multi-media text seemed to be beyond the critical engagement that can be developed with written texts. This dichotomy can be conceptualized in terms of Myer’s (1994) distinction between an objectivist conception of literacy, associated with modern rationality, and a subjectivist conception emerging with electronic spaces. Those students were associating written text with abstracted knowledge and reason; multi-media text and visual culture with subjectivity and emotion. Ruth was struggling to reach a cultural approach to literacy in her classroom, seeking to transcend the dualism of individualistic conceptions that separate reason from emotion, and, as it was manifest in her students’ resistance to critically analyze the Super-Bowl commercials, the personal from the political.

Although in proportion the students who had trouble with the critical aspect of the i-movie were few, their number was significant enough for Ruth to identify it as an issue to be addressed in her future practices. The issue was not expertise with the technology, since there were students who were using the i-movie software for the first time who were not resistant and incorporated the critical thinking element with a thesis. It was rather about identification with a

particular academic discourse. As mentioned earlier, Ruth reflected that in order to address such resistance from her students she needed to transcend in her classroom the traditional compartmentalization of the academic, and, more broadly, she thought that schools needed to transcend the split at an institutional level. She had already addressed the issue by explaining why media literacy was important:

I guess overcoming it what I tried to do is I guess reinforce why we're doing it, I mean there is a lot of reinforcement, there was a lot of going back over what is media literacy and why we're doing it, ehm, there was a lot of I guess explanation and rationale that I had for that (Interview, 6/12/2007)

However, while the resistant students had been receptive to her explanation, they were still reluctant, and especially, they were still having difficulty with incorporating critical thinking in the production of the i-movie.

Ruth reflected that in the case of the resisting students, they were having difficulty applying the critical skills that they were able to deploy in writing essays to a new medium such as the i-movie. Particularly, they had difficulty integrating different modes of a multi-modal text:

yes, they were the same students, so the students who were resistant or would prefer the essay or said that they would prefer writing, a written component, were also the students then who many of which produced strictly images with sound, with little commentary, so little titles, little voice-over, little video (Interview, 6/12/2007)

In a reverse situation, some students excelled in the i-movie but had difficulty expressing their ideas in writing. She gives the example of a student who had difficulty writing but could develop tone and style in her i-movie, and with whom she reflected on these rhetorical concepts in order to be able to apply them in her writing:

I had one former ELL student, she's been out of ELL for two years now, a Korean student, who, I've kind of been working with her ability the whole year [...] 'cause her ideas are definitely there but she's kind of bridging the gap between languages, and she's been having trouble with like style within her writing, and

for the first time in her i-movie I saw style or tone emerge, and so it was a huge breakthrough, especially for the student cause I could sit down with her and talk about style and tone in her i-movie, and then relate that to how she writes, and so that after that we could use the i-movie as a tool for her in her writing then as well, cause then she can see, where before I couldn't really communicate what was going on, that she wasn't really getting a style, in her i-movie she was very specific in waiting, or pausing, or changing her tone, so then we talked about how to do that in her writing, as far as word choice, or punctuation, length of sentences, and so I really felt it'd start transferring over once I had had that conversation, and that was I guess the reason I tell you this is because I didn't expect that kind of interaction, I expected kind of this critical thinking but I didn't know how to apply that to her writing then, and in that moment I realized that I can also use the i-movies then to talk about how they communicate in general, and how we create tone and style and this other element of English and then it went back to the writing process (Interview, 6/12/2007)

Ruth was helping her student integrate her communication skills in multiple media. In the process, she was bringing together two forms of development that Gee (2001) observed were often separate in educational contexts: "acquisition" and "learning."

The traditional separation of "acquisition" and "learning" can be correlated with the contrast between the two aforementioned situations among Ruth's students. On the one hand is the student who was able to produce texts in the new media (i-movie) with a critical message and good use of rhetorical devices but had difficulty with writing essays. On the other hand, there were students who excelled at analytical essays but were not able to develop an argument in a movie. Ruth was attempting to "bridge that gap" in her students between the ability to analyze and the ability to produce creative texts, so that her students could be critically creative and creatively critical.

Chapter Six

Negotiating Professional Identities in a Time of Change

The academic discipline of English is currently undergoing deep changes. The burgeoning of digital technologies is pushing English teachers and teacher educators to reconsider their curricula, both in terms of course content and in terms of classroom dynamics. There are pressing questions regarding what counts as text in the English classroom, how we define reading and writing, and what practices are considered to be within the realm of literacy. There is a widely embraced mandate to innovate, and the concept of innovation permeates multiple discourses: policy documents, academic studies, school talk. Common knowledge holds that it is important to innovate in order not to fall behind, especially since schools are considered a part of all-encompassing market competition. In this chapter, I look at the interpenetration of policy, academic theories, and pre-service teachers' discourses in order to consider the meanings that new technologies and literacies take on in English classrooms. My focus is on teacher-agency: on what identities new teachers construct in relation to these discourses and the implications of these constructions for teacher-educators.

It is important, first of all, to analyze the concept of innovation and how it plays out in actual practices. Policy discourses (OECD, NETP) pretend to promote *innovation* in the abstract but actually run against certain forms of innovation, since their concept is particularly tied to market values. While certain policy documents accuse public educational systems of being outdated, the policies of accountability and standardized testing re-inscribe and intensify traditional educational structures and run against truly innovative projects. Ruth's story, presented in Chapter Five, demonstrates this point. Her incorporation of new technologies

beyond scripted or superficial additions to the traditional curriculum was consistently resisted by students and restricted by mentor teachers and the school structures. Resistance to her curriculum did not come strictly from reactionary positions tied to discourses from the past. On the contrary, standardized state tests connected to *No Child Left Behind* accountability mechanisms were contributing to a narrowing of the English subject, particularly in Ruth's perception of students' definitions of literacy.

The tensions and contradictions with respect to the meaning of innovation and the implications of digital technology are visible in the contrasting cases of Ruth and Hannah. While Ruth claimed that schools were holding her back and that she had to work hard to find a school district where she could openly practice her high-tech pedagogy, her colleague Hannah at the PDS was striving to get a Teaching with Technology certificate from the university so that she could be better prepared to meet the increasingly technical demands of most school districts (Interview, 3/27/2007). One of them was feeling hindered by schools in her forward looking innovations, while the other was working to keep up with school-initiated technological advancements. These different positions were accompanied by important differences in their approaches and experiences with technology. Ruth was technology savvy, she felt very comfortable experimenting with technology and she had reached a high level of awareness of the affordances and implications of different technologies, especially of how they work contextually and historically. Hannah was open to some experimentation but she feared that new technologies were taking over too much of the school curriculum and of social life, to the detriment of other forms of literacy and communication.

The fear of new technologies, to different degrees, was an element that appeared in the talk of several pre-service teachers participating in my study. These fears were usually voiced by

those less experienced with the technologies, but not in every case. In a parallel situation, the students that resisted the new technologies in Ruth's story were those who were academically oriented and generally more successful with traditional school literacies. There is an analogy between those students and teachers who want to hold on to old forms and those writers who predicate the intellectual and social dangers of new technologies, for example Postman (1993), Anderson (2002), Bordelois (2005), and those from the English early modern period mentioned by Brayman Hackel (2005). They all operate within a determinist discourse where technology is a cause of social behavior and leads human activity and consciousness. They fear technology because they ascribe to it the power to determine social life. This conception assumes a *tool-for-result* framework, since it separates technologies from the human engagements of which they are a part and, thus, creates a false polemic by ascribing those technologies separate lives.

Even if they are articulated from an opposite standpoint, policies associated with the Discourse of the knowledge society, which promote the intensive application of new technologies to education, also function as tool-for-result. They are determinist in that they also assert that technologies lead social changes, with the difference that they celebrate these changes and state that the engine of educational change should thus be technology. By ignoring how technologies are part of social activity, both the tool and the result of purposeful social engagements, they obscure the ways that technologies are simultaneously shaped and shapers in social change. Technologies are seen as fixed or pre-determined by abstract mechanisms of progress and development. Ian, whose case was presented in Chapter Five, operated within this Discourse to a great extent. He spoke of technological change as a given, and was eager to take in the new without questioning the implications. He assumed that educational systems had to adapt to these changes and he took for granted that this was desirable. Like the policy

documents, Ian did not address the social implications of these changes, but focused on the procedural aspects of *what works*: he emphasized the aesthetic aspect while the policies focused on effectiveness and regulation. Ultimately, Ian's aesthetic approach can be considered a way to promote effectiveness: texts had to be *catchy* and appealing to attract and keep readers' attention.

The emphasis on effectiveness was shared by other pre-service teachers, particularly PDS participants. Like Ian, they wanted to make texts appealing to their students, and technology was often conceived as a "hook" to lure them into engaging with schoolwork. In the story of Ryan, narrated in Chapter Five, there were instances of an effectiveness orientation and an emphasis on how technology can make school assignments more interesting. The study participants mostly oscillated between the reactionary and the effectiveness orientations to technology. There was a pattern of participants with less technological experience identifying more with a reactionary position, and participants with some more experience and comfort with technology occupying the effectiveness standpoint. However, both positions were often taken simultaneously by the same participant, who would end up making ambivalent statements. This contradiction makes sense if both opposite positions are seen as integrated in a tool-for-result viewpoint.

There is an apparent contradiction between, on the one hand, the two determinist positions that attribute causative power to technology, be it positively or negatively evaluated, and, on the other hand, the tool- for- result assumptions made by Ryan that old and new technologies can be different means to the same curricular ends. Ryan's assumption that technology can be neutral reduces literacy to "skills for communication" that can be abstracted from those human practices of which it is constitutive. This type of contradiction can be found in the autonomous model of literacy (Street, 1993), according to which literacy is abstracted from culture specificities and assumes universality. This leads to literacy being considered socially

neutral and at the same time deterministically associated with positive consequences such as progress and development. In the Discourse of the knowledge society, a similar process occurs with digital technologies, which are equally abstracted from context and associated with social improvement.

In the complexity of the discourses in which the pre-service teacher participants were involved, *tool-and-result* moments would arise, as those detailed in Ryan's story. These moments pointed to a developing awareness of how the technology is inseparable from the process and product of the activity, and occurred especially among the PDS participants, who were immersed in school situated practices. Ruth is an outstanding case of a teacher who transcended the limitations of dualistic, tool-for-result conceptions of technology and literacy. She was not afraid of technology, but she did not blindly celebrate it either. For her, technologies were not good or bad in an abstracted way, but they provided affordances for critical literacy engagements. The activity, not the abstracted technology, was the process through which these engagements were defined. Thus, she focused on engaging her students with multiple kinds of texts, making them participants in a community of literacy, providing them with the elements to critically evaluate texts in their inter-textualities and to produce texts that develop a voice for an audience. Literacy education consisted of involving her students with social texts, with relevant meanings, in order to understand their position in their society and to engage with cultural difference and inequality.

One particular area where conflicting meanings were assigned to technology was with regard to forms of sociality. Under tool-for-result assumptions, technology was seen either as promoting interaction and connectivity, or as creating isolation by discouraging more involved social contact. In some cases, the study participants reflected upon this tension relating it to the

specificity of media and mode for different purposes and different forms of socialization. This would support Kress' (2003) argument that engagement with multiple media and modes in the "new media age" facilitates an awareness of the materiality and affordances of each form of communication. This awareness implied acknowledging that the materiality of the technologies is intrinsically tied to the social activities of which they are part: tool-and-result. It was the beginning of a reflection on how the new modalities of communication, based on effectiveness, speed, constant connectivity and fluidity of time and space, were not a direct consequence of digital communication technologies but aspects of socio-economic formations.

In teacher-education programs, it is important to identify and engage with these conflicting discourses on literacy and with technology as praxis. Determinist discourses deter teachers and students from consciously engaging in questioning, creating and producing meanings since meanings and procedures are narrowly pre-defined. As Laclau contended (Worsham & Olson, 1999), absolute freedom is impossible; but there are conditions of relative openness or closeness. Challenging determinist discourses and creating dialectic approaches to teaching is a way towards a democratic and innovative educational culture. Engaging with a tool-and-result conception in teacher education would be most likely facilitated under conditions of long-term engagement of the pre-service teachers in classroom practices, together with the creation of an inquiry community. This was the case with the PDS program, which linked theory and practice in a collaborative framework. It was in the PDS program, as opposed to on-campus learning environments, where instances of tool-and-result engagements emerged in my study. In the following sections of this chapter, I present examples of the two opposite (and complementary) tool-for-result, deterministic discourses on technology: the technophobic and

the effectiveness viewpoints. I then review the instances that emerged of dialectic, tool-and-result approaches to technology and literacy and the implications for literacy teacher-education.

Technophobic insinuations

The fear of technology often appeared as a fear of other media taking over to the detriment of writing, and some PDS student-teachers struggled to legitimate the integration of new forms of textuality into the curriculum. When this fear arose, the participants saw technology as a threat to established forms of literacy. Marissa, a PDS intern, expressed in a seminar discussion that the focus on new technologies relegated “reading critically” and “writing critically” to the backstage. She observed that her students had difficulty sustaining the reading of long passages, as when reading a novel, finding them deficient in the kind of reading that Kress (2003) qualified as “introspection.” She stated that “they’re not able to sit and focus and read something and think about it and then write about it, [...] because they are so used to this constant stimulation” (PDS seminar, 1/31/2007). Marissa was viewing reading and writing as a separate domain from engagement with media texts associated with new technologies, so that excessive attention to multimedia texts, including the critical analysis of media texts, was detrimental to the teaching of writing. This either/ or conception can be observed in her question: “is it our job as an English teacher to teach students to analyze things critically or is it also part of our job to help them become better writers?” (PDS seminar, 1/31/2007).

If engagement with multi-media texts was seen as a threat to the development of students as writers or as introspective readers, online communication was seen as hindering more direct forms of human contact. Specifically, the participants spoke about written digital communication such as instant messaging, text messaging, email, and facebook. Several PDS participants

observed during a seminar discussion that they used these forms of communication to avoid the more intense contact that would develop in a phone conversation. They mentioned that canceling an appointment or an agreed upon gathering was easier by sending a text “because they don’t wanna hear the disappointment in your voice” (Sabrina, PDS seminar, 1/31/2007). This comment qualified all those forms of textual messaging as detached and impersonal. Sabrina told the story of how her boyfriend had broken up with her through a text message because he did not want to talk to her or hear her cry. Samantha commented on a similar situation with facebook, in which her roommate had received an email from facebook to confirm that her relationship with her boyfriend had been terminated.

Ruth told of how she found out through facebook that her friend had lost her baby, observing that news about friends’ relationships and family situations were increasingly received through those networking sites instead of voice or face to face communication. Hannah extended the commentary on how technologies were interfering with social relationships from written forms of digital exchange to phone conversations, observing that they interrupted face-to-face encounters: “when I’m with my friends and the phone’s ringing and we’re [...] together, you’re in the middle of something important and the cell phone’s ringing, I mean just, you really have to figure out what do we value as a society now” (PDS seminar, 1/31/2007). During the same discussion, Amanda acknowledged that she often avoided contact by sending texts:

but I avoid my parents, [...] I just think *it is making us this way, not having to keep conversations, not having to create personal relationships*, [...] it might be much easier for me to just IM you and just say “I can’t go today” rather than you be “oh, come on...” you know, if there is not like a real big reason, like I’m lazy, and I don’t wanna tell you that I don’t wanna go because I’m lazy, I just wanna tell you I won’t go and I hope you will not write back, so I *think it’s really in a way making us socially inept*, like trying to avoid everything (PDS seminar, 1/31/2007, my emphasis)

This excerpt of Amanda's contribution to the dialogue is particularly telling of a discourse that ascribes to technology an almost causative effect on social relationships, making people avoid social contact.

The attribution to technology of causative properties on social relationships was also observed in a group discussion among Secondary Block participants:

Something that I think is really funny is the measures that people go to avoid direct confrontations with each other, like I knew a lot of freshmen, two of the guys who were in my dorm, where they would be in the same room together but they'd be messaging each other, and I'm like why do you do that if you're in the same room? And I have a friend who is on the floor below me and she was like IMing this week, I'm in the same building as you are, like you're one floor down, you could be up here talking to me in 30 seconds, and yeah, I never understood that, 'cause I really like talking to people face to face, *so I think that technology is supposed to make it easier for you to have more friendships, but I think that it might make it easier to avoid that* (Secondary Block group discussion, 3/7/2007, my emphasis)

While there is no doubt of the fact that the anecdotes told were actual observations by the participants, the significance ascribed to them points to a deterministic discourse. Instead of thinking about those ways of interacting as consequences of immanent material qualities of the technology, they could be conceived as part of a system of social relationships where the tool is part of the activity and its cultural history.

The incorporation of technology for effectiveness and entertainment

One of the predominant ways of talking about technology among participants was to see it as a way to make learning more efficient. This view was often expressed by defining the function of technology in the classroom as a 'hook,' as a way to make old content more interesting by luring students with more appealing forms. This way of thinking about technology

was discussed with regard to Ryan's case in Chapter Five, and it emerged among other PDS participants:

I feel that you can still incorporate writing into all of that [...] as long as you know what you want to get. [...] that's what kids go home to, you already know that they are interested in that, [...] and you're already almost hooking them with that, we still have to enforce the writing, but maybe it's up to the teachers to make sure that, you know, you're still using those things, but maybe adapting your writing assignments to those (Amanda, PDS seminar, 1/31/2007)

This quotation makes it clear that reading, and especially writing in traditional terms were the priority, and were separate from the technology that appears as an enhancement, especially necessary in order to attract students. As long as the technology did not overshadow the writing, and especially if it was used as a means to get at the writing, it was desirable. This approach overlooked that writing is not a fixed skill or a universal form but that it changes with social-technological changes.

The entertainment aspect of technology, conceived as a hook, was an element towards the principle of effectiveness. This principle became evident when Amanda introduced a productive argument about how technology could be used as a tool for thinking (for organizing ideas, learning vocabulary, etc), but conceptualized it in a way that did not integrate technology in a more complex socially situated activity system:

I don't know if the technology makes someone a better writer but it makes them a better thinker. And I think that using tools to analyze or like using tools to like you know to organize yourself, your ideas, or to learn vocabulary using that technology will make you a better thinker, and in turn, it is the teacher's responsibility to teach the writing, and that's the way you marry the two, or at least that's how I'm seeing those work, so I don't know if the technology makes you the better writer, but it makes you the better thinker, which will make you the better writer (Amanda, PDS seminar, 1/31/2007)

The assertion that the technology would make the students better thinkers was a deterministic assumption, since she was ascribing an effect to the technology itself without giving

consideration to the ways in which it was used in particular contexts and for particular purposes. While she made the teacher responsible for writing instruction, it seemed that the technology itself was constituted as a means to promote critical thinking.

The value of effectiveness was associated with some material qualities of the new media, such as interactivity and greater flexibility of the time-space dimensions, which make online forms of communication appear as more convenient. In the context of the school, online communication was preferred for its speed and efficiency. The interns valued the opportunity to communicate with parents through email, since it made it faster and more fluent to keep in touch, and especially to reach parents when needed and to keep them informed:

there is websites and parents are just so appreciative when you keep it updated and have the homework assignments [...] you know, whatever the worksheets are, so if you're absent, just pull up the website, and then, just with communication through email with parents is really helpful sometimes, and sometimes it's just easier I guess for people to just send emails at work, you know your work, parents are working so just using the phone, you know sometimes it's really huge to keep the lines of communication open (PDS seminar, 1/31/2007)

[email is] immediate, immediate thing, do it right then, teachers just reach parents at school, [...] because my sister's daughter's in a very different school to the old school district that she had, now she moved to Hershey [...] and they constantly use email, they constantly you know, all these different modes of technology, and for once she's actually talking to her teacher through email, but before she had to write a letter, request to have a meeting, schedule a meeting, and now two weeks have passed, so that email gives you that connection almost, that immediate, okay let's talk about that, this is going on in my classroom (Ruth, PDS seminar, 1/31/2007)

These excerpts present more traditional lines of communication, such as phone conversations and letters, as slow and cumbersome. They constitute commentaries similar to those by Ian about outdated institutional websites that hindered easy communication.

The effectiveness of online communication worked as an instrument of control, especially when communication with parents was a way to manage student behavior:

I see it as really bridging the gap to parents, because we have a student who was just not turning the paper in, he showed no interest, [...] so we sent an email to his mom, and things went very swiftly from then on [...] and the parents were there on Monday, and he's actually been nicer to me in class too, so I don't know what happened with mom, but the ability to just email her and be in contact with her was great, she was like if you ever need anything just let me know, so [...] (Mandy, PDS seminar, 1/31/2007)

The increased fluidity in communication that was experienced by keeping in touch with parents was also part of professional exchanges between mentors and student-teachers, and it can also be seen as a mechanism of control in keeping teachers continuously at work. There was a conversation during our seminar where many of the interns humorously agreed that technology made professional communication faster and efficient, but this implied limitless working hours:

So my laptop puts me at work 24/7. She could IM me, my mentor teacher could IM- you know talk to me later in the evening and tell me you know I was thinking about this, let's change it, and then I can change it by tomorrow morning because I had this conversation with her through the computer, so I mean yes it's definitely marrying the two, I mean I'm at home, it's not work, but yet I'm working (Amanda, PDS seminar, 1/31/2007)

With the help of the new technologies in 'fast capitalism,' work is no longer circumscribed to the workplace as in the modern era.

The erasure of formal division of the day into working hours and leisure time was made possible for these pre-service teachers by being constantly online, which meant being constantly available for work-related communications. PDS student-teachers were assigned individual laptops as part of the tools provided for their yearlong internship. These laptops became indispensable tools throughout the experience, and were intrinsically linked to their daily lives:

if you're talking about identity and my laptop, I literally was sitting in Sam's parking lot, writing a reflection waiting for my mother, at that moment it hit me, and I would not get out of the car until my reflection was done, and people were staring at me like [...] but it gives you the ability to literally have something, any

tool you need, at your fingertips, it would be really hard to take out a pencil and a paper and lean on my steering wheel and write, where if I'm waiting, I mean in a parking lot, I can do that [...] When I travel, and somebody's driving, and I have my laptop, I can do my work (Ruth, PDS seminar, 1/31/2007)

In this instance, there was a blurring or interpenetration of work and the lifeworld, a phenomenon that Gee, Hull, and Lankshear (1996) link to 'fast capitalism.' In a seminar discussion, Mandy commented on how computers and the Internet had become so much a part of her identity that she could not "understand living without email open at all times" (PDS seminar, 1/31/2007).

The penetration of work into personal time and space is connected to the value of time-effectiveness characteristic of fast capitalism (Besley & Peters, 2005). This value reappeared throughout the pre-service teachers' talk about technology. For example, one of them commented on how surfing the Internet provided them with fast information, so that if an issue arose during the day they could just look it up during their lunch break:

we have team meetings that I find out, oh like my kid is like has ADHD problems, so I'm in a lunch break, and I go online and just find an article about how to raise the kid's self esteem in a classroom setting, and now I've got something to work with, so I mean it's helping students too as people, to be able to look that up with technology (Amanda, PDS seminar, 1/31/2007)

Fast availability of information, effectiveness, and control, are all features of "fast capitalism" that the participants valued in online communication over other forms.

There was often ambivalence in such valorizations, as there was both enthusiasm and reservations among the study participants regarding the ability, and concomitant pressure, to be constantly connected and in communication through the network. Marissa's observation expresses this:

I think we're in a culture where everything is so go go go, fast fast fast, so it's just so much quicker to just pull out the laptop and just type, you know, bang bang two pages, while it would take me forever to sit there and handwrite it, [...] it's the culture we live in, it moves so fast (PDS seminar, 1/31/2007)

This ambivalence, and the complexities of the pre-student teachers' relationship to technology, could be observed not only among participants who feared technology from an 'outsider' perspective⁸ like Marissa, but also among those who were technology savvy. Ian, for example, who displayed an intense identification with effectiveness models of education, expressed as a function of the entertainment aspect of digital texts, engaged very deeply with critical conversations when we read the novel *Feed* in class. He identified negative implications of the heavy reliance on digital communication and analyzed how technologies can function as forms of social control. However, he did not move from a tool-for-result, deterministic framework where he either ascribed technology the value of efficiency and interactivity, or the downside of reduced human control and impoverished social relationships.

In contrast, Ruth did not attribute immanent positive or negative consequences to technology. She saw that it could have different implications according to the particular dynamics in which it was working. For instance, she was estranged by the fact that friends gave very intimate news on public forums and she spoke of students being "inundated with information" (Interview, 6/12/2007), which marked for her a need to teach them to deal critically with media texts. Nevertheless, she also saw innovative technology as providing multiple

⁸ The concept of "outsider" in relation to new literacies is described by Lankshear and Knobel (2003) as someone who has not developed into the mores of digital communities but relates to them predominantly according to an "old grammar."

pedagogical possibilities for critical engagements and was well aware of the responsibility to teach students to participate fully and forcefully in the media intertext.

Critical engagements: *tool-for-result* or *tool-and-result*?

In a tool-and-result conception, such as Ruth's cultural studies approach, new technologies are considered an important aspect of the literacy classroom because of the whole social process in which they operate. It is important to incorporate technology not to make an assumed universal form of literacy more effective or to learn it better, but in order to engage with relevant literacies and to connect to students' out-of-school lives. This instance expresses a concern for making the curriculum meaningful by engaging students in critical readings of texts and in critical participation in the webs of textuality with which they interact daily. There is awareness that the activities of reading and writing are changing together with technologies, so that it is no longer possible, for example, to think of writing a paper without thinking of word processing and online research tools.

When a separation was established among the study participants between, on the one hand, academic reading and writing, and on the other, engagements with technology, then teaching critical thinking tended to be seen as an 'academic' way to remediate the pervasive influence of technology. Critical thinking was considered important as a way to teach students to guard against the misleading messages of media texts. For example, one element of being critical thinkers would have been to be able to judge when an Internet site was "reliable" and would be acceptable as a reference in an academic paper. One PDS participant, Mandy, was particularly concerned with the legitimacy of Internet sources of information and with encouraging the use of appropriate sources among her students. In connection to this, she was also concerned by issues

of plagiarism and the Internet. She wanted to teach students to be critical so that they could be averted from undesirable practices, such as quoting from unreliable sources or plagiarizing texts by copying and pasting from Internet sites (a practice that she often identified among her students).

One specific practice of her students that troubled her was the use of Wikipedia as a source of information. She found that this kind of website was more valued by her students than her academic voice, and she encountered issues of authority:

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

Although Mandy identified some aspects of new literacies as dangerous or inappropriate, she was aware that she could not deny the preeminence of new media in her students’ lives and that it would be counter-productive to shy away from it in her classroom. On the contrary, she decided that she was responsible for helping her students use the kinds of texts with which they regularly interacted in critical ways.

In the particular case of Wikipedia, she resorted to popular culture as a way to persuade them of the unreliability of the site, by showing them an episode of the Steven Colbert show in which he plays with changing the entries of the online encyclopedia. She supported her authoritative stance by bringing evidence to the class from the kind of popular sources to which her students were more receptive:

my students were able to see then that it wasn’t just because I’m a teacher and I don’t like it that Wikipedia was not a good resource so I was able to bring in this outside thing that they sort of liked and could believe you (PDS seminar, 1/31/2007)

As part of the discussion regarding Wikipedia, Mandy and her students established analogies with Orwell's *1984*, which they were reading at the time, regarding how some characters in that novel could go back and change parts of history arbitrarily, so that historical records, 'truth,' became virtually untraceable. In a similar fashion, any Internet user could get at Wikipedia and change the 'encyclopedic facts' displayed.

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

This premise was an important step towards critical literacy engagements, but her treatment of the Internet sources relied on an objectivist approach to literacy (Myers, 1994) insofar as she applied the criteria of neutrality and objectivity to determine which sources were preferable. Based on these criteria, when looking for sources dealing with the Guantanamo Base, she endorsed websites such as the *New York Times* and the *International Herald Tribune* over the Naval website and an activist website that argued for closing the prison. The value of objectivity can be related to a modern scholastic framework that assumes the universality of knowledge. It can be argued that purported "objective" or "neutral" reports respond to their own biases which pass as universal truth. Rather than pretending to be objective, it seems important to situate the sources consulted in terms of where they stand ideologically, inquiring who wrote

them and under what socio-cultural framework. This would imply a cultural (Myers, 1994) or ideological (Street, 1995) approach to literacy.

Moreover, while the Internet seems to be viewed as a misleading site where anyone can post without regulatory mechanisms in place, there seems to be an absence of consideration for the need to establish the same critical analysis of any book or printed source. This omission seems to say that books are unquestionably reliable, especially library books, and implies identification with the *culture of the book* (Kress, 2003). While plagiarism has been an issue in schools for a long time, Mandy was associating it almost exclusively with Internet use, and particularly with her students' copying and pasting from Internet websites without acknowledging the source. Ironically, modern disciplinary institutions, with their emphasis on the transmission model, on absorbing authoritative knowledge, and on being able to memorize what 'authors' had said, were no less prone to plagiarism since students were not seen as authoritative voices but were taught to heavily rely on, and be absorbed by, what others have said before. The whole premise on which the system worked, and to a great extent continues to work, could be said to promote "plagiarism," although plagiarism was, and is, officially condemned, (and is now being blamed on the Internet).

Mandy's approach was to give students the tools to avoid plagiarism. It is interesting that her purpose for the whole project was "to avoid plagiarism" and not to help students find their own voice or to formulate their own opinions and perspectives. One way to avoid plagiarism was to focus on the writing process. One of the assignments, the senior projects, consisted of several steps with students having to meet various deadlines so that they did not find themselves with a blank page at the last moment, and so that the teachers would have various opportunities to view outlines and drafts throughout the process. First, the students had to submit a list of sources that

they would use, then a write-up of what they found from each source that they could use in the paper, then a rough draft, and then a final copy. For another class she and her mentor had the students read excerpts from a journal article that developed a thesis about the characters in the play that they were reading. The students then had to respond to a particular excerpt by agreeing with one of the author's ideas. This kind of response made it difficult to copy from Spark Notes or online sites. The students had to create a rough draft in class and conference with Mandy or her mentor about their draft. In this way they were able "to make sure that there would be no temptation of plagiarism," since the teachers saw what the students had been able to produce in class (Inquiry Conference presentation, 4/28/2007).

This emphasis on guiding their students through the writing process avoided placing the blame on students' attitudes with respect to plagiarism and acknowledged that it is teachers' and educational institutions' responsibility to teach students how to use research sources and to develop their ideas with respect to the ideas of other writers. However, the problem was identified with Internet practices rather than seeing the whole perspective of reading and writing as social practices of which the schooling system was an integral, constitutive part. It is telling to see the contrast in Ruth's observation, addressed in Chapter Five, that she did not encounter plagiarism in assignments involving digital technologies, such as Internet discussion boards and the production of an i-movie, while she did encounter it in paper responses. She related this difference to the possibility that the students had in those technology assignments to get personally involved, to share their opinions and have an audience, and to the fact that they had not yet become mainstream assignments.

Ruth addressed the conceptual split between teaching "writing" and teaching the "technology," by questioning whether writing itself was changing as part of technological

change. She asked: “is writing transforming into a different form?” (PDS seminar, 1/31/2007). She mentioned that she expected business, political, and professional correspondence to be done over email rather than over typed letters sent in the mail, and she got angry when these expectations were contradicted. In this example, while the medium and convention had changed from mailed letter to electronic communication, it was still written communication. She argued that it was important to take these changes into consideration when teaching writing. She also argued that diversifying the possibilities of expression and communication in the classroom was a way of validating students’ abilities, encouraging the use of different modes, mediums, and genres. This would provide a meaning-rich environment and possibilities for development:

[...] they know if they’re not a good writer, my students have that brand already ingrained, they know if they’re a good writer, they know if they’re a good reader, they say to me ‘but I don’t read well’, okay, let’s work on it, I mean, they went through so many years of schooling, and I feel like by changing it and incorporating many different modes, including writing, including audio, including visual, that maybe it opens many doors, even different genres, so, maybe, you know, they’re not the best at analyzing, so what else can, what else are they good at? So instead of closing the doors to students, and saying you’re not good at this you’re not good at that, let’s try to find something that they’re good at (PDS seminar, 1/31/2007)

As already mentioned in Chapter Five, Ruth found ways to connect the productive skills in the students’ composition of an i-movie with their writing skills, identifying analogies with respect to how style and tone were expressed, and thus helping her students’ writing by having them produce it in other modes. In this way, she transformed her classroom into a productive workshop of interconnected textualities.

The integrative approach embraced by Ruth sometimes emerged among some of her colleagues. Many of the PDS participants spoke of literacy as ‘communication’ and of the importance of incorporating multiple kinds of texts into the English classroom as a way to

encourage critical thinking and enhanced communication. They made the point that academic, formal, essay –type writing and literary analysis were enhanced by their connection to different kinds of texts, both as texts to interpret and as venues for expressing ideas. For example, a PDS participant had her students produce an i–movie as a pre-writing activity, which helped develop ideas about character analysis (PDS seminar, 1/31/2007). Another PDS intern expressed her feeling that giving students “a creative outlet” to go along with formal writing assignments had worked well in her class, providing the students with the opportunity to look at the text or subject matter in different ways. In one assignment, she asked her students to create a hero myth and a comic strip along with an essay on the *Odyssey* (PDS seminar, 1/31/2007). Yet another PDS student-teacher had her students create a soundtrack for the independent novel that they read, and they had to provide a rationale for how the songs related to the major aspects of the book. She argued that this assignment required her students to “critically think” as they established those connections across texts (PDS seminar, 1/31/2007).

The dialectic integration of technology that was emerging among PDS participants was significantly associated with collaboration and participation in an inquiry community. Ruth observed that her students engaged in critical thinking particularly when they shared their work and established a dialogue about it. As student-teachers, the PDS interns collaborated with their mentors, and in seminars they interacted with each other and with supervisors about their experiences. Some expressed the importance for them of being able to connect to the Internet as a means to participate in a professional community wider than their school and their program: to access information on teaching and schools and to be in touch with what other teachers were doing and get ideas:

We were actually just talking at lunch about like getting information from the Internet [...] you sometimes have this idea like well, am I stealing that, am I cheating, but it's not like that, it's like such community, I just think like I feel isolated without my laptop, especially in the position that we're in that we got just thrown into this and 'here you go, be a teacher,' you know, and [others laugh] but you know that's what it's like, and I'm just saying it's so, [laughs continue] I know, but I'm just saying it's helpful to be able to have that community and see what other teachers are doing all the time [...] I mean it's nice to be connected to teachers in other states, like I know I don't know if I'm gonna end up in Pennsylvania, I'm from New York so, I don't know what I'm gonna do, and it's just nice to see what's going on in the place, I just can't imagine being isolated from that (Samantha, PDS seminar, 1/31/2007)

These student-teachers constructed their pedagogical practices by participating in 'communities of practice' (Wenger, 1998) across spaces that were virtual (the Internet) and constituted in physical proximity (peers in the school environment).

In her study of digital online practices of young adults, Angela Thomas (2007) observed that "[f]or children, there is no such dichotomy of online and offline, or virtual and real –the digital is so much intertwined into their lives and psyche that the one is entirely enmeshed with the other" (p. 3). This observation applied to the young pre-service teachers in my study, for whom online and offline spaces were constitutive of their realities in inseparable ways. Ruth narrated:

I was IMing and talking on the on my cell-phone with the same person yesterday [...] I definitely think that not only am I talking but I'm typing and sending them links and getting them the information as quick as I can, she said 'hey, just send me the link' [...] I mean, it's constant, and I think that it helps developing the unit too, because we can talk to each other and say 'hey' and I think that's where the marriage comes because, I mean, we're social beings so, you know, we chat, and then you say 'oh, just wait, I found this link here' (PDS seminar, 1/31/2007)

It seemed that for them staying connected to the Internet implied being immersed in a constant dialogue or web of textuality that formed a continuum with their social space, or rather, which had become an integral part of their social space.

Throughout seminars and interviews, the study participants pointed out convincingly the drawbacks of online interactivity and of the fluidity in time and space in digital communication: especially the expansion of work towards personal spaces and the creation of more distanced social relationships. They also talked of some advantages, such as speed and efficiency. Nevertheless, Ruth's experience using online forums with her students and the two latter comments by her and Samantha make it salient that even the implications of the interactive and fluid aspects of digital technology depend on how the activity is defined in a particular social situation. These examples together with the other instances of tool-and-result engagements presented in this study provide evidence that under the right conditions, digital communication technologies can provide powerful affordances for the development of inquiry communities and critical literacy education.

Chapter Seven

Conclusions: Reframing Literacy Education towards the Enactment of an Ideological Approach

I began this dissertation with a concern that the role of technology in recent projects of educational reform was significantly tied to mechanisms of control that seriously restricted educational activities by scripting the curriculum and curtailing academic freedom. After a critical encounter with the passing of new educational legislation in Argentina in the 1990s, I could identify analogous patterns in the Spanish Program where I first taught in the United States, and the heavy use of technology to standardize the curriculum was a feature that particularly stood off. When I read the novel *Feed*, I saw it as a vivid representation of my strong reaction to the advancement of digital technologies. I also saw my position reflected in the work of Neil Postman. Participating in the English Education Program where I conducted my research provided me with the opportunity to move beyond this limiting perspective.

Conducting my research study led me to an understanding of technology as *tool-and-result*, defined through the activity system in which it is specifically involved. As mediation tools, technologies carry the socio-cultural baggage of their history. Nevertheless, this embedded history does not determine the way they will function within a specific activity system, because they are dialectically implied with other elements of the activity such as collectively defined goals and the dynamics of the particular community of practice. Awareness of tool-and-result can empower educators to consciously transform their practices and critically participate in professional communities. Furthermore, my data suggests that English teachers who adopt a tool-and-result perspective can promote a culture of critical literacy practices in their classroom and

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

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

1. Engagement with education as inquiry and experimentation, so that the pre-service teachers were developing as teacher-researchers.
2. Participation in a community of collaboration where ideas and experiences could be shared and understandings developed in a constant dialogue.
3. Engagement in reading and critically producing multiple genres of texts, including multimodal texts, where critically analyzing and critically participating in a literacy community are part of the same process.
4. Engagement with multiple social discourses relevant to the lives of the students, which activated the connection of the students' personal, local concerns and identities with broader discourses and social relationships.
5. Teachers' involvement with critical discourses such as Cultural Studies, Critical Theory, and Critical Media Literacy, particularly in one case who took up those frameworks in her analysis of her own experiences in education and integrated them in her teaching and learning activities.

I contend that literacy teacher-education programs should engage in these kinds of practices in order to create vibrant professional communities that transcend the determinism of dominant discourses on education. I call them *conditions-and-practices* because they are both the tool and the result: the desired practices are simultaneously the purpose of critical literacy education

(powerful participation in social discourses as an enactment of active citizenry) and the way to achieve that purpose.

Engagement with education as inquiry and experimentation

The practice of inquiry and experimentation constituted a purpose of the PDS program, which was to educate teacher-researchers. The pre-service teachers were allowed and encouraged to take initiative and try new ideas, reflect on the implementation of those ideas, and transform their practices. They had the opportunity to experiment with innovative practices and construct conceptualizations or emerging theories. Generally, the participants could speak of their practices in critical ways, analyzing the students' responses to their teaching and articulating what they would do differently in the future.

Ruth developed a unit to develop critical media literacy among her students, and that unit was the basis for her inquiry paper and final presentation at the Inquiry Conference. During this project she read academic sources, designed and implemented the lessons and assignments, and constantly collected data about students' work and responses, not only looking at student texts but also establishing a dialogue with them and conducting surveys. She collaborated with her mentor and talked about her work-in-progress with her peers in seminar meetings and during the school-day. She also met regularly with university consultants (I was one of them) to discuss her work and get feedback and academic support. Ruth was constantly questioning her own practices and collecting classroom data; she often surveyed her students and reflected on how to modify her assignment the next time. This meant that she was not applying pre-constructed theories in her classroom, but constantly building her own knowledge. It was not tacit knowledge, contained in the teacher's head but never articulated, as the OECD report conceptualizes teachers'

knowledge. On the contrary, it was dynamic knowledge constantly made explicit and shared with her peers.

Ryan was also constantly reflecting on his teaching practices, building explanations, and considering student responses as a way to rethink his curriculum, as when he reflected on ways to improve the podcasting assignment. Ian, in the literacy block on campus, looked for broader possibilities of experimentation that the program did not provide at that particular stage. He considered himself a “practical learner” and could not understand knowledge abstracted from actual engagements. He needed to experiment with his unit plan in an actual school setting in order to learn from the experience, and out of his own initiative he scheduled a practicum for himself and the other team members in a local school.

Participation in a community of collaboration

Inquiry and experimentation were closely tied with participation in a community of collaboration. In the PDS program, the interns had multiple spaces to establish a dialogue about their teaching-and-research: seminars, planning periods with their mentors, consultant meetings, the PDS inquiry conference at the end of the internship, online interaction with each other and with their mentors. Participation in this local professional community created a Zone of Proximal Development that worked as tool-and-result of professional development. Presenting their ideas and discussing them with peers was a process of developing their knowledge and their professional identities as well. The PDS interns also participated in a wider professional community through online interaction and involvement in professional organizations such as the National Council of Teachers of English.

The campus literacy block participants did not have such a developed system of experimentation and collaboration, especially because it was a methods course and the practicum experiences in schools came later in the program curriculum. Nevertheless, there was an emphasis on collaboration through team-work assignments and the creation of spaces for dialogue in-class and online. For instance, the online literary circles, where they interpreted and analyzed young adult literature, were simultaneously a collaborative space and an instance of experimentation with a kind of activity that they could implement with their students. The participants generally observed in personal interviews that it was a productive activity and getting the perspective of other team members enriched their reading of the literature.

In the case of the PDS participants, the creation of communities of collaboration often occurred not only among themselves but also among their students. Ruth's students collaborated as a class in constructing interpretations of television commercials in an online forum, and they initiated a form of research exchange when they started to post links to information and texts that they were finding. This was an instance when Ruth found her students engaging in critical thinking to an extent that was not evident in other assignments. They also worked in groups to create a news webpage related to the novel that they were reading, and they created study material for one another when producing their vocabulary podcasts. Ruth was projecting future practices where she would expand these possibilities, for example, when she planned to compile the podcasts that her students would create so that they could be available to everyone outside of class as study material.

When Ryan's students were reading and responding to each others' digital stories, they were also participating in a collaborative community, which provided an audience for the texts that they produced. To be more precise, they produced texts within a community, for a specific

audience of peers. This gave particular relevance to the texts that they were producing, which acquired a different performative dimension as opposed to texts written for more traditional assignments where the main and usually only audience is the teacher. The vocabulary podcasting activities that Ryan and Ruth's students produced, the online forums, the digital short stories, were all produced for peers and involved dialogue: engagement with each other's arguments and mutual critique. Evidence of this is Ruth's observation that students were more open to consider other positions and provided more constructive critique in online forums than in class discussions. The reasons for this difference can be diverse, and the data suggests that they are related to the definition of each activity. In any case, this difference proves that in the online forums a community of collaboration had formed.

Engagement in reading and critically producing multiple kinds of texts relevant to the lives of the students

The production of multiple genres and modes of texts is a way to participate in multiple social discourses. The participants in the study as well as their students not only analyzed texts in different media as part of the media literacy curriculum, but they also engaged in multimedia productions (i-movie, podcasts, webpages). *Powerful literacy* (Gee, 2001) involves mastering dominant social discourses in order to be able to participate in their transformation. Practical involvement and critical analysis are inseparable aspects of powerful literacy practices. Literacy education needs to transcend the modern Discourse of schooling that assumes that objective analysis through essay writing is the one and only acceptable form of academic literacy. While study participants generally established the goal of critically analyzing texts, including popular

culture and digital texts, they only case where I found ample evidence of critical production of multiple kinds of texts was Ruth.

By “critical” I refer to literacy practices that take power relationships into account, considering how social discourses differentially relate to different social groups and to the distribution of socio-cultural and economic resources in a society. In this sense, critical literacy practices would imply embracing an “ideological conception of literacy” over the “autonomous model” (Street, 1995). It would require transcending dominant conceptions of literacy skills and technological innovation as neutral and universal. In the case of Ruth and her students, the critical literacy practices that integrated analysis and production of texts were enabled by establishing the relevance of social discourses to students’ lives. In the critical media literacy unit that culminated with the i-movie assignment, the students were invited to integrate the personal with the socio-political, addressing how they situated themselves within the wider construct of “American identity.” The critical approach was facilitated by previous activities in the unit where the students engaged in critical argumentation through the production of multiple forms of texts within a community of collaboration (online forum analyzing Super Bowl commercials, team creation of the news webpage for the historical setting of *The Great Gatsby*).

Teachers’ involvement with critical discourses

What made it possible for Ruth to reach such a developed tool-and-result modality of teaching and to perform an ideological approach to literacy? While it is difficult to establish direct causation, there are some suggestive aspects of Ruth’s practices and personal history that differentiate her from the other participants. The main difference that stands out between her and the other participants is her involvement with cultural studies and critical theory, which she

adopted as a lens not only to design her units and assignments, but also to understand social discourses and institutional relationships in which she was involved. In contrast, Ian specified that he had a difficult relationship with academic theories, and there is no evidence in the data that Ryan had any background of those theories, which is not particularly likely as he had previously been a computer-engineering major. Ian had had contact with the theories but could not relate to them, and I hypothesize that this was related to the tool-for-result orientation of academic knowledge, with little opportunities for experimentation and practical involvement. Remarkably, Ruth had been able to establish relevant connections between the theories and her practical engagement with media discourses because she was working in media communications at the same time as she was taking an Introduction to Media Literacy course (Interview, 6/12/2007). It is significant that she “hated” reading in school because she found school practices senseless and irrelevant, while she enjoyed reading with her parents at home (Interview, 6/12/2007).

Ruth’s ideological approach to literacy enabled her to respond to institutional relationships with a critical perspective. She could analyze student resistance to her assignments not only in relation to standardized tests that promoted a limited conception of reading, but also as linked to wider discourses of schooling and what counts as academic generally identifiable with an autonomous model of literacy and tool-for-result. These broad discourses of deterministic edge are very influential at a macro-level of society, as reflected in policy discourses, literature and social critique (Anderson, 2002; Postman, 1993) and the verbal data of the study participants. For a transcendence of these dominant discourses that conceal the ideological nature of social practices, teacher-education programs need to become tool-and-result, enacting the five forms of engagement addressed in this chapter.

Conclusions

The teacher-education programs where I conducted my research performed some of the conditions-and-practices of tool-and-result. The campus literacy block provided some opportunities for collaboration, introduced critical theory and cultural studies, and encouraged the critical production of multi-modal texts to connect personal experience with social discourses. However, the possibilities of experimentation and practical engagement were very limited; thus critical participation in a professional community could not develop far. The critical theories were introduced but they were of limited reach as it was difficult to relate them to actual pedagogical practices and concrete participation in a professional community. The PDS program facilitated ample conditions for inquiry and experimentation, professional collaboration, and practical engagements with multiple kinds of texts and technologies. Tool-and-result perspectives and practices were emerging among several participants (Mandy, Samantha, Ryan, Ruth). Nevertheless, the performance of powerful literacy that established relevancy and productive participation in social discourses, linking the personal to broader sets of social relationships, was identified in just one case. This participant presented a specific personal history where she could connect cultural studies and critical theory to her practical discursive engagements in the production of media texts. While more research would be necessary to support these conclusions, the data suggests that the integration of the five conditions described in this chapter could be a powerful way to develop transformative literacy teacher-education programs, towards the formation of a critically participant citizenry.

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Appendix
Data Sources

Audio-recorded individual interviews

Secondary Literacy Block students:

Fall 2006

Ian: 11/21/2006; 12/12/2006

Lynette: 11/13/2006 ; 12/13/2006

Judith: 11/27/2006; 12/14/2006

Alyssia: 11/21/2006; 12/12/2006

Spring 2007:

Lee Ann: 4/30/2007

Julia: 5/2/2007

Pamela: 5/3/2007

Alex: 5/3/2007

David: 5/8/2007

PDS Interns 2006/2007:

Amanda: 4/23/2007

Hannah: 3/27/2007

Ruth: 3/27/2007; 6/12/2007

Ryan: 3/22/2007; 6/14/2007

Audio-recorded group discussionsSecondary Literacy Block students, Spring 2007:

Group discussions on the novel *Feed*: 3/7/2007; 3/21/2007

PDS Interns 2006/2007:

Seminar discussion: 1/31/2007

Audio-recorded research presentations at the PDS Inquiry Conference:

Amanda: 4/28/2007

Hannah: 4/28/2007

Ruth: 4/28/2007

Mandy: 4/28/2007

Online discussions:

LLED Block participants' contributions in online discussions during fall 2006 and spring 2007.

Artifacts collected:

Lesson plans, assignments and activities that they designed, i-movies that they designed, inquiry paper drafts, personal websites and e-portfolios, multigenre papers.

Informal notes:

I took notes of consultant meetings and class discussions that were not audio-recorded.

Curriculum Vitae
Leticia Eugenia Ortega

Education:

Doctor of Philosophy, Education. The Pennsylvania State University, August 2008.

M.A. in Spanish (Applied Linguistics). The Pennsylvania State University, May 2003.

Profesora en Letras: National Degree as Literature and Literacy Secondary Teacher. Universidad Nacional del Comahue (Neuquén, Argentina), Facultad de Humanidades. May 1999.

Publications:

Jacqueline Edmondson, Leticia Ortega, Susan Pitcher, Christopher Robbins and Patrick Shannon. (in press). 50 Years of Federal Government Involvement in Reading Education. In Yetta Goodman and James Hoffman (Eds.). *50 Years of Reading Research*. Newark, DE: International Reading Association.

Conference Presentations:

“Learning to teach with the theatre of the oppressed” as part of the panel “The ripening of the pedagogue” at the 13th Annual Pedagogy of the Oppressed Conference. Minneapolis, Minnesota. June 2007.

“My role as a university consultant: Bringing theory to bear on practices through dialogic engagements” as part of the panel “How ambiguity nurtured our secondary school English PDS”. 11th Annual Conference of The Holmes Partnership. San Antonio, Texas. January 26, 2007.

“Awareness of situated and constructed identities in pre-service teachers’ discourse practices” as part of a group presentation titled “Coaxing theory out of identity in literacy events with future English teachers.” National Reading Conference, 56th Annual Meeting, Los Angeles, California. December 1, 2006.

“Developing intercultural online communication among pre-service teachers through the discussion of short stories.” 96th Annual Convention of the National Council of Teachers of English, Nashville, Tennessee. November 17, 2006.

“No Child Left Behind and English Language Learners: the Discourse of Choice and Science,” as part of a panel on Critical Policy Analysis. 95th Annual Convention of the National Council of Teachers of English, Pittsburgh, Pennsylvania. November 18, 2005.

“Federal Educational Policy and Language Diversity: From Civil Rights Legislation to No Child Left Behind” as part of a panel on Fifty Years of Federal Policies on Reading Education. 50th Annual Convention of the International Reading Association, San Antonio, Texas. May 1, 2005.

“English Language Only Policies: Considering the assumptions of assimilation,” as part of a panel on Critical Policy Analysis. 94th Annual Convention of the National Council of Teachers of English, Indianapolis, Indiana. November 20, 2004.

“Borges’ rewriting of the detective genre in ‘Death and the Compass.’” Eighth Annual Latin American Studies Symposium for Undergraduates, Birmingham Southern College, Alabama. March 2000.