



PROJECT MUSE®

Digital Tools in Urban Schools

Mahiri, Jabari

Published by University of Michigan Press

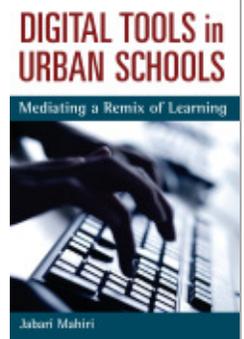
Mahiri, Jabari.

Digital Tools in Urban Schools: Mediating a Remix of Learning.

University of Michigan Press, 2011.

Project MUSE., <a href="

<https://muse.jhu.edu/>.



➔ For additional information about this book

<https://muse.jhu.edu/book/2393>



1 | NEW LITERACIES NEED NEW LEARNING

The digital age and the age of hip-hop emerged collaterally during the last 35 years. Increasingly, young people in the United States and globally use screen-based, digital technologies to source and transmit words, images, video, and sounds as they engage in meaning making, identity connections, and social networking. They come to school with experiences, interests, affinities, and skills uniquely enabled by new media, and engaging them in classrooms requires new learning of teachers.

This book reveals significant ways that high school teachers extended their professional learning to revitalize learning in their classrooms in the complex educational context of an urban, public continuation high school in northern California. They did this through participation in a novel professional development project that was part of a university/public school research collaboration called TEACH (Technology, Equity, And Culture in High-performing schools).¹ In this project, teachers were supported and guided in developing perspectives and skills needed to take greater advantage of new media and new information sources in conjunction with relevant connections to youth experiences and interests. This work draws on extensive qualitative data to document, describe, and analyze how the learning of both teachers and students was dramatically transformed as they worked to incorporate an array of new media in their classrooms.

Dewey (1938) argued for an American educational system that respected all sources of experience. So the importance of sourcing experience for learning is not new, but the virtual experiences of digital youth are. The lives and learning of today's young people are permeated with engagements with new media. Consequently, many students come to school with experiences, interests, and skills—different resources for meaning making—that are shaped by and expressed through digital texts and tools. Interestingly, the virtual substance of these affordances often reflects hip-hop cultural influences that are revealed in language, music,

images, entertainment media, electronic games, and sports as well as in personal styles and perspectives. Hip-hop's emergence during the global information age vastly increased its reach, and it has had provocative cross-connections with technology and world culture since its inception in the 1970s. For example, rap artists were quickest to exploit digital samplers and sequencers when these and other technologies suited their cultural purposes (Miller 2004). Rose (1994) noted that "hip hop transforms stray technological parts intended for cultural and industrial trash heaps into sources of pleasure and power. These transformations have become a basis of digital imagination all over the world" (22).

Now, through a kind of digital DJ-ing, contemporary youth in the United States and globally utilize technological resources to source, sample, and cut and paste multimedia texts for replay in new configurations, just as hip-hop DJs reconfigure sounds, words, and images to play anew (Mahiri 2006). Digital media allows for greatly increased mobility, interchangeability, and accessibility of all kinds of texts and signs, while it magnifies and simplifies processes for new authorial assemblages, such as multimodal collages and remixes (Gibson 2005; Manovich 2001). It has expanded our notions of textuality and virtuality as well as our sense of space and place. The ubiquitous cell phone is a case in point with its diverse capabilities for accessing written texts, voice recordings, music, pictures, video, TV, the Internet, GPS, clocks, calendars, calculators, and games. Miller (2004) claimed that home is where your cell phone is. Thousands of applications are available for added personalization and performance of smart phones, and many more are continually being developed. These new texts and tools for communication, pleasure, work, and social networking reflect new forms of literacy that offer vast possibilities for meaning making and identity construction for youth and adults (Gee 2003; Johnson 2005; Mahiri 2004b, 2006, 2008). Increasingly, teachers will have to engage the digital imaginations of youth through a new remix of techniques and tools for learning in schools.

Dewey understood seventy years ago that to be effective, teachers needed to change their perspectives as well as their practices. In addition to sourcing experiences, he argued for "the introduction of a new order of conceptions leading to new modes of practice" (1938, 5). Now, new conceptions of design and new practices for delivery of instruction are crucial to education and societal challenges of the twenty-first century. These challenges call for innovative approaches and programs to

facilitate teachers in mediating the learning of contemporary youth with appropriate uses of digital technology.

It is important that novel approaches to teaching and learning with technology were able to take place in the challenging setting of an urban, continuation high school. Continuation high schools are distinguished from other kinds of schooling alternatives to traditional high schools in that students are assigned to and required to attend continuation schools against their wills, often for severe discipline problems or chronic underachievement. Students can be sent to continuation high schools based on these issues at any time during the school year, and they later may be allowed to return to the main school. Continuation schools are sometimes pejoratively referred to as “dumping grounds” or “pre-prisons.” Village Tech High (V-Tech),² however, was a continuation school that was already taking a different approach to teaching its “involuntary” students that included expectations of academic rigor, the selection of caring and committed faculty and staff members, and the creation of partnerships with community and other institutional resources. Its collaboration in the TEACH Project to increase the effectiveness of professional development for its teachers was seen by the school community as complementary to other efforts being taken at the school.

Ms. Glide,³ an African American woman who was new to the teaching profession and also a new teacher at V-Tech, reflected the dilemma of many educators. “I completely resisted the idea of integrating technology into my practice,” she wrote in response to an interview question about her early teaching. She further noted, “My feelings stemmed primarily from my limited technological proficiency and the related fear of trying to teach things to students that I didn’t understand myself.” Part of the dilemma is that young people often have more expansive experiences with digital media than their teachers. Most students—including those who are underperforming in school—extensively use cell phones, text messaging, YouTube, and Twitter; they are avid downloaders of digital music; they are comfortable with basic Internet searching; they use digital photography and video and play an array of video games. Many have blogs and Facebook or Myspace pages and profiles. As Alvermann (2008) noted, young people come to school with different technological experiences in contrast to older generations that are not addressed by instruction. Still, the value of these digital practices of youth is often contested or seen in opposition to traditional literacies surrounding page-based texts (Rich 2008). This issue will be addressed later in this chapter. Yet,

as Lankshear and Knobel (2002) have argued, page-based texts and their corresponding instructional practices do not compete well in what they called the “attention economy.” As one student noted, “When I come to school, I feel like I have to power down.” Powering down, or the sense of a loss of power, is even more pronounced for underachieving students who are pushed to the margins of schooling through academic disengagement and disciplinary problems (Gregory, Nygreen, and Moran 2006).

Discussions and critiques of the problems of urban, public schools in the United States are pervasive, particularly with regard to their failures with underachieving students like those assigned to V-Tech.⁴ One major aspect of school failure in this country is the rising rate of dropouts with its disparate economic, social, and health consequences for those who do not complete high school (McNeil et al. 2008). According to the National Center for Education Statistics, negative outcomes from dropping out of high school include significantly lower annual incomes (\$20,000 versus nearly \$30,000 for graduates), much higher unemployment rates, worse health conditions as adults, and far greater possibilities of going to prison and of being on death row (Laird et al. 2007). The research of Balfanz and Legters (2004) indicated how dropping out is increasingly a problem of urban schools and particular regions of the country. They found, for example, that nearly 80 percent of high schools with the highest dropout rates are in just 15 states, and California is one of these (vi).

Recent work revealing more accurate tracking systems for high school dropouts in California suggests that school failure with regard to this factor is significantly worse than generally assumed. With the new student tracking system, school officials determined that the projected dropout rate for African American students in the state—the most extreme example—was an astronomical 42 percent, approximately twice as high as earlier claims using the old system (Asimov 2008). Another important aspect of educational decline is the breakdown in the pipeline between this nation’s high schools and its colleges and universities. Within the last decade, after having pioneered mass higher education, the United States has gone from first to fourteenth among nations in the world in rates of participation in postsecondary education. The United States currently ranks twenty-first in high school graduation rates, and Europe is now the first choice of international students (Douglass 2008). In significant ways with regard both to national and global contexts, this country’s schools are also failing many of its highest achieving students.

Questions are now being raised as to whether schools can be saved or are worth saving. For example, in a speech in 2005 to the National Governors Association, Bill Gates, whose education philanthropy has been immense, claimed that this country's high schools are obsolete. He went on to say that even when schools are "working exactly as designed . . . [they] cannot teach our kids what they need to know today" ("American high school" 2006, 12). In this milieu, major private funding (and some government) agencies are consciously shifting their focus and resources from school reform initiatives to what they consider to be more promising venues of youth informal learning, or to innovative literacy programs taking place after school. In line with this, formulations by groups like the Economic Policy Institute suggest that schools alone cannot combat the broad social factors that contribute to failing schools, so more money should go to health care programs, antipoverty initiatives, and after-school and pre-K programs. Groups like the Education Equality Project agree that focusing on these kinds of programs and initiatives is important, but they also argue that reforms that change the fundamental structure and accountability systems of schools can make a big difference (Brooks 2008).

In light of these considerations, I am not arguing that increasing the use of technology for learning is a panacea for failing schools. Clearly, political, socioeconomic, cultural-historical, and geographic factors—like priorities for government spending, the growing divide between rich and poor, intense global competition and changing markets, and the increasing role of standardized testing—are intricately linked to problematic outcomes in our schools. However, school structures that result in disproportionate numbers of inexperienced teachers being assigned to teach in high-poverty schools or with the lowest-performing students in comprehensive schools are one of the problems that sorely needs to change. This problem is dramatically documented in a report by the National Commission on Teaching and America's Future (Carroll et al. 2004). Similarly, an analysis of recent Education Trust data that utilized a highly refined Teacher Quality Index (Carey 2007) identified many subtle and overt ways that students who face the greatest educational challenges receive much less opportunity to be taught by the most qualified teachers. At the same time, reviews of research summarizing hundreds of studies over several decades have shown that better preparation of teachers is a direct way to transform schooling and increase student achievement (Darling-Hammond 1997, 2000). Consequently,

the TEACH Project focused its work on the professional development of teachers as a key lever for school change.

A critical challenge for teacher preparation and professional development programs, however, is to enable teachers to understand and utilize relevant digital technologies that can be viable resources for learning. In the spring of 2008, Ms. Glide completed a master's degree along with a secondary English teaching credential from a university whose school of education is ranked in the top 10 in the country. Yet there was very little in her preparation at the university and in her professional development while working in schools that helped her to teach with new technology. What she did get in her preparation program had to do more with learning about technology than with ways of using technology to learn. During her initial interview for the research project she noted, "As a new teacher, I wanted to simplify rather than complicate my teaching. I viewed technology as an inconsistent, logistical nightmare replete with malfunctioning programs and equipment—sure to end in frustration for teacher and students alike." Based on considerable work in professional development with over 25 school districts across the country during the past six years as a senior scholar for the National Urban Alliance for Effective Education (NUA), it is clear to me that this view is also held by many practicing teachers. I have addressed this issue in terms of new considerations for teaching practices in a number of earlier books and journal articles.⁵ That this view on teaching with technology could be held by young, promising, new teachers as well as highly experienced teachers was one of the compelling reasons I initiated the TEACH Project to collaboratively deploy research and resources at the university and school district levels to redesign programs of teacher professional development.

Why haven't teacher preparation and teaching practices changed in conjunction with dramatic changes in technology? With all the recent work being done to certify and professionalize teachers, something remains amiss regarding their general lack of facility with technology. Stigler and Hiebert (1999) claimed that despite the continuous succession of reform initiatives, the system and culture of schooling in the United States essentially reproduce teachers who teach pretty much the way that they have been taught. From their comparative analysis of Japanese, German, and U.S. teaching, they argued that many more opportunities were needed for teachers to learn on the job, particularly with and from other teachers, if they were going to improve significantly as pro-

professionals. For new knowledge and skills to be acquired and effectively implemented, they concluded, teachers need to have both the time and support to systematically and collaboratively study and work to improve their teaching practices.

These and other perspectives that will be further delineated later in this chapter were key to the formulation and implementation of the TEACH Project. For several reasons that will also be discussed, the school site for the project was primed for a new approach to professional development to transform teaching and learning. Essentially, it provided an educational context that allowed project participants to engage in as well as study the processes of learning and teaching with digital technologies. Describing these processes provides insights into how other school contexts may also be transformed. The implications are not just for underachieving urban schools but for schooling generally in the United States. In her first interview for the TEACH Project, Ms. Glide echoed the feelings of many teachers when she said, “I failed to see how technology could be a useful tool in my practice without me submitting to painful, substantial, intensive instruction.” This book chronicles how she and her colleagues worked together with university-based educators to ameliorate this perspective in order to bring a new and more effective remix of learning to their school.

THE TEACH PROJECT

I am the principal investigator of the TEACH Project. It works collaboratively with teachers to support and guide them in rethinking their design and retooling their delivery of instruction in order to more effectively build on and extend the learning, academic achievement, and social development of their students. Ms. Glide ultimately was a self-described technophobe, but in her final interview for the project, she recounted how this collaborative effort changed her perspective on teaching. “Workshops on software programs and unit plan development helped teachers reconsider the ways that multimedia can address student modalities and interests,” she noted. “I have found that the workshops have assuaged my initial fears of technology and allowed me to be more imaginative.”

Two main goals framed the work of the TEACH Project during the 2007–8 school year that is the focus of this book. The first goal was to

develop and document an approach to teacher professional development that integrated effective principles of teaching with successful strategies for mediating student learning with digital media. The second goal was to collaborate with, coach, and support teachers to implement and refine the knowledge and skills learned in this project as core augmentations of their teaching practices, perspectives, and curriculum. Documenting this project included descriptions of the conceptual frameworks, professional development approaches, and teaching and learning activities and products connected to its implementation, along with an assessment of its general feasibility in other educational settings. Three central research questions that guided the project were specifically how the teachers could learn to change their practices in order to more effectively mediate student learning—particularly with digital technologies; what key obstacles and challenges might be encountered in changing teaching and learning through incorporating more technology; and what key changes in the process and products of students' learning could be connected to changing teacher practices.

Beginning in the summer before and continuing through the 2007–8 school year, a team of faculty and student researchers at the University of California, Berkeley,⁶ under my direction worked in collaboration with faculty, administrators, and community members at V-Tech. The school's new principal, who was in his third year, had changed the traditional name of the school and advocated for a technology orientation as part of his efforts to move beyond the stigma of a continuation high school. He was also the first principal in the more than 30-year history of the school to develop a curriculum that made it possible for students to fulfill minimum college requirements before graduation. His continuing efforts to transform the school were key to the viability of this collaborative effort.

My initial connection to this school began in the spring of 2003, when I was invited to be the speaker for its graduating class. One thing that was obvious was that the vast majority of the students at this school were African American. I had worked on a long-term research project with the comprehensive high school that sent its “problem” students to this continuation high school, and I kept informed of events and issues at the school. In 2006, two graduate students in my urban education class were also doing their educational psychology field placements at the school. I talked with them often, and it became clear through their excitement that the school was undergoing dramatic changes under the

leadership of the new principal. He had a master's degree in educational technology, and his vision was to go beyond support and care for these students and provide them with a challenging curriculum that could significantly change their perspectives and possibilities regarding learning and work in and beyond school. The "three R's" of education for the school became "relationships," "rigor," and "relevance." He selected faculty and staff members, generally younger professionals, who supported the need for healthy relationships with students as well as family and community members who wanted to work toward the new mission for the school to provide both rigorous, college-preparatory, academic work and preparation for jobs that were relevant to the students' communities and personal experiences.

When the principal began work at the school, the Academic Performance Index (API) rating was a mere 317. The API is a numeric index (or scale) ranging from a low of 200 to a high of 1,000 that reflects a school's performance level based on the results of statewide testing. The performance target for all California schools is 800. After the first year of work by the principal, the API score for the school went up significantly; it then went down slightly after his second year. After his third year, the 2007–8 academic year, during which the TEACH Project was implemented, the school's API score jumped from 429 to 586, the highest increase of any school in its county. This score actually surpassed the 574 API rating of the African American students at the comprehensive high school that sends students to V-Tech because they are underachieving and/or designated as severe discipline problems.

Interestingly, in the 2007–8 school year, there was not a single fight at V-Tech. However, this is not to say that there were not serious problems at the school. In the spring of 2008, there was a major theft of 10 laptop computers from the school's mobile computer lab. Also during that spring, one V-Tech student shot a classmate in a neighborhood away from the school site, and another V-Tech student was also shot and killed in neighborhood violence. Violence is clearly a prevalent force in most of these students' lives. In reviewing student records, the school's counselors have noted that they can almost always trace the root of academic and discipline problems back to one or more major traumatic events that these students have experienced.

Most of the students who come to the school read and write well below grade level, and their overall academic skills vary greatly. In addition to behavioral considerations, some have substance abuse issues.

Throughout the academic year of our collaboration, all of the teachers struggled with inconsistent student attendance in their classes. For example, in her second interview Ms. Glide noted, regarding her World Media classes that are the focus of chapter 4: “There are 22 students on the roster [in each class], but rarely more than 15 in attendance on a given day. The total number of students present does not reflect the fact that the class often contains a different grouping of students each day.” An important perspective at the school, however, was not to essentialize these youths. Instead, V-Tech’s principal, teachers, and staff have consciously worked toward a perspective that is reflective of the view of prominent scholars of African American education that “black youth [are] diverse human beings engaged in normal developmental tasks under difficult conditions” (Spencer 2008, 253). Consequently, educators must always be aware of how differences both inside groups and between groups are dynamically constructed and positioned within historical, political, socioeconomic, and geographic contexts.

The V-Tech campus is about a mile away from the comprehensive high school. It is a small school with nine classrooms, one computer lab, and a modest library space. The staff offices, a multipurpose room, and the library are located in separate buildings at the front of the school. There are two rows of portable classrooms situated in the back of the school facing a small, elongated grassy area. A building in back of the school is occupied by the comprehensive high school’s Independent Study program, and it is separated from the rest of the campus by a tall metal fence. V-Tech has student-created artwork and tile murals throughout the campus that provide a colorful, pop-culture aesthetic.

The school has a faculty of 10 teachers (8 of whom participated in the project),⁷ and a maximum capacity of 150 students. New students arrive at the school nearly every week of the academic year. The demographic makeup of the comprehensive high school is approximately 30 percent White, 30 percent African American, 17 percent Latino, 8 percent Asian, and 15 percent multiracial. All of the students in the Independent Study program on the other side of the fence are white. By contrast, the students at V-Tech are approximately 85 percent African American and 15 percent Latino. They are also 65 percent male, and 100 percent qualify for free lunch. Thirty-four percent qualify for special education services. Although many of these students eventually have the option to return to the comprehensive high school, approximately 90 percent decide to stay at V-Tech.

Data for this book comes from a range of qualitatively documented activities of the TEACH Project. The school's principal worked extensively with the university team to design and implement 90-minute professional development (PD) sessions for all of the school's teachers, although two were not able to participate. These sessions occurred approximately every other week for the duration of the 2007–8 school year. They operated recursively in facilitating teachers to develop and implement lesson plans in their content areas that incorporated things like podcasting, blogs, digital photography and video, Google Maps, GarageBand, and Teen Second Life. Teachers gained skill and comfort with a specific digital tool in each session, experimented with some level of its deployment in their instruction during the following week(s), and then shared and critiqued their teaching experience in using the tool with other teachers and project participants in subsequent PD sessions.

With continual collaboration of the TEACH team, I guided the PD sessions during the first semester, and a member of the project who has significant technological expertise guided the sessions during the second semester. All of the PD sessions were recorded as well as documented with field notes. Key additional sources of data came from our observations and field notes on teaching and learning connected to the PD in selected teachers' classrooms. Surveys and interviews of the teachers were conducted at the beginning and end of the school year to capture prior and emerging approaches and perspectives on teaching and learning and to develop profiles of their professional and educational backgrounds. The principal was also interviewed at the beginning and end of the school year. Teacher-written narratives and reflections on their experiences with learning and implementing elements from the professional development were collected during and at the end of the school year. Student reflections on their classroom activities connected to the project were also noted during classroom observations. Additionally, members of the research team wrote reflective and analysis notes to capture specific vantage points that they had on the PD activities. Finally, the digital affordances of many of the PD activities allowed for considerable documentation of the teachers' work and learning on a PD website and in teacher-created blogs, podcasts, and other digital media. So the data for this research was generated from the eight V-Tech teachers and their principal who formally consented to take part in this project with the understanding that pseudonyms would be used to conceal real identities in the publication of this work. Elements of the teaching and learning in

the classes of two of these teachers were also brought into focus through observations in some of their classes that were documented mainly with field notes.

These data were used to address the three central research questions of the TEACH Project, already identified at the beginning of this section. The primary discussion of how teachers learned to use digital tools to change their practices has been presented in chapter 3 through extensive description and analysis of the work that all the participating teachers did in the PD sessions throughout the academic year. Description and analysis of the nature and products of the students' learning as well as obstacles encountered have been presented in chapter-length discussions of the work of two focal teachers out of the eight who participated in the project. Ms. Foster was one of the most experienced teachers in the school, and she eventually incorporated more technology into her instruction than any other teacher. I focus on her Hip-Hop Journalism class in chapter 2 to provide compelling examples of the range and possibilities (as well as some of the obstacles) for mediating teaching and learning with digital tools in this school setting. Ms. Glide was the least experienced participating teacher, and yet, by the second semester, she was willing to engage her students in learning in Teen Second Life, an online, multi-user virtual environment (MUVE), with the support of members of the TEACH team. In chapter 4, I focus on the work with this unit in her World Media class to provide interesting examples of the real learning that can take place in virtual worlds. In chapter 5, I provide concluding considerations of the teachers' and students' learning along with implications for wider settings of schooling.

My approach in this book was to develop a narrative quality to the presentation of the data in each of the three descriptive/analysis chapters (chapters 2–4), to make the work more accessible to teachers, other educational practitioners, and general readers, in addition to researchers. Rather than citing each interview, survey, written reflection, or field note used as a source for the comments and activities described, I worked toward a dialogic quality, so that the scenes in the PD sessions and in the classrooms unfold as a kind of story that attempts to connect what selected teachers were learning and doing in professional development with how learning was being mediated with students in selected classrooms.

Essentially, V-Tech provided something of a laboratory in which to try new conceptions and new practices of teaching. My perspectives on

teacher professional development have been substantially influenced by my ongoing research in urban public schools; by my years of teaching in the Multicultural Urban Secondary English Master's and Credential Program at the University of California, Berkeley; and by the NUA's extensive work in this area in over 25 major urban school districts throughout the country. I have worked with NUA as a senior scholar presenting my research in many of these school districts since 2003. This national organization has developed comprehensive frameworks and many effective teaching strategies that facilitate teachers achieving "high intellectual performances" with increasing numbers of their students. My experiences working with NUA have contributed to my understanding of what is needed for successful professional development of teachers.

In the TEACH Project specifically, our central focus on teachers learning to rethink and retool their instruction became part of an emerging theory of change that was collaboratively developed to provide guides and goals for our work at the school. This approach incorporated a dynamic remix of key pedagogical perspectives in order to provide a multifaceted conceptual framework for effective teaching with technology. For its documented success in guiding teacher effectiveness across disciplines, we drew on the five standards of effective pedagogy developed by the Center for Research in Education, Diversity, and Excellence (CREDE) (Tharp et al. 2001). I felt that these standards were also consistent with core NUA strategies. Additionally, we drew on the four principles of the "pedagogy of collegiality" developed by Chavez and Soep (2005), because of their effectiveness in guiding the learning of urban youth with new media at Youth Radio International, a highly successful youth development organization. Finally, we drew on 6 of the 36 principles of learning with new media that have been defined and articulated by Gee (2004), and all of these perspectives were directed toward being realized through project-based learning. The integration of these perspectives can be imagined as a platform for supporting project-based learning that has three legs: the CREDE standards, the pedagogy of collegiality, and Gee's (2004) new media learning principles. In this image, CREDE's role for "activity centers" would be the seat of this platform.

CREDE's standards are (1) joint productive activity among teachers and students; (2) language and literacy development across academic disciplines; (3) connecting academic content to students' prior knowledge and experiences; (4) using challenging, complex tasks for learning; and (5) engaging students in planned, goal-directed dialogues called

instructional conversations (Tharp et al. 2001). CREDE feels that the use of “activity centers” is important for fully realizing these principles in classroom instruction. The pedagogy of collegiality that undergirds Youth Radio’s acclaimed programs and pioneering strategies for effective digital learning of youth is a powerful way of reconceiving youth and adult participation in teaching and learning. Its features are (1) joint framing of media projects, (2) youth-led inquiry as a key form of learning, (3) mediated intervention to incorporate comprehensive perspectives into the inquiry and to increase the possibility of influencing social change, and (4) distributed accountability between all participants in the production of media projects (Chavez and Soep 2005).

From the 36 principles of learning connected to new media that are outlined by Gee (2004), we focused on the multimodal, the semiotic, the material intelligence, the distributed, the probing, and the active, critical learning principles. These principles are defined and discussed later in this chapter in the section “What’s New about New Literacies.” All of these approaches supported the enactment of project-based learning that had the elements of “prompt,” “process,” “product,” “presentation,” and “reflection” as a systematic cycle for learning, including digitally mediated learning. Although there have been important successes with urban students in some after-school programs (Chung 2000; C. S. Mott Foundation 2005), students should also be able to consistently experience dynamic, culturally connected, digitally mediated learning during the six or more hours a day that they spend in school. The combination of principles and perspectives we enacted at V-Tech framed our work to achieve this goal.

SUMMARY OF THIS BOOK'S CONTENTS

The four following chapters describe and assess the TEACH approach and how it worked in and beyond the PD sessions in guiding and supporting teachers to change their perspectives and practices in the use of digital tools. As noted earlier, chapter 2 looks at enactments of elements of this approach in Ms. Foster’s classroom. Through the teaching and learning activities described, we also get an initial view of V-Tech students learning with new media. Ms. Foster was hired at the beginning of the 2007–8 school year, and because she was a veteran, credentialed teacher with more experience than most of the other teachers, the

principal and I asked her to informally take the lead in piloting some aspects of the TEACH Project in her classroom. She selected to do this primarily with an elective class that she offered, Hip-Hop Journalism. She gave the class this title to signal that the curriculum would address issues that were important to contemporary youth from the perspective of investigative journalism. In this class, she placed considerable emphasis on digital mediation of student learning and on incorporating some of the successful strategies for working with young people that are used at Youth Radio. The principal and the TEACH Project supported Ms. Foster in bringing in a collaborator from Youth Radio, Ms. Young, to also work with this class.

With the context of teaching and learning at V-Tech partially reflected through descriptions of the activities in Ms. Foster's class, chapter 3 presents the project's specific work that took place in the actual PD sessions with the eight participating teachers. Research has shown that there is no real value in incorporating technology into teaching just for technology's sake (Alvermann 2008). Effective teaching is a complex process that requires abilities and skills to simultaneously perform a wide range of intricate, interrelated tasks to prompt, mediate, and assess student learning. The teachers and administrators had already done a number of important things to change the culture of the school to one of caring consistent with its "three R's" of "relationships," "rigor," and "relevance." But the principal also noted how a number of the students would say that though they could see the teachers and staff really cared about them, their actual learning was not significantly different from what they had received at the comprehensive high school. In addition to caring, the students needed a more dynamic process of learning.

Chapter 3 describes the early work of the project to provide a common vision and language for teaching and learning, framed initially by CREDE principles, in conjunction with our specific approach to project-based learning, and also by considerations for a collegial pedagogy in conjunction with principles of learning with new media. The chapter documents the ways that teachers were learning to incorporate these perspectives into instruction across the disciplines. It also describes how the teachers themselves moved from novice to more expert users of a variety of digital tools, and it illustrates the importance of the teachers' disciplinary knowledge with respect to the effective use of these tools. Additionally, the chapter shows how the learning of the teachers in the PD sessions was designed to model approaches that they also could use

to engage their students' learning in classrooms. Essentially, this chapter chronicles what was productive and problematic in the process of the project's participants developing as "digital teachers."

Chapter 4 looks at an enactment of digitally mediated teaching and learning in the class of a new teacher, Ms. Glide, who was in her first year of teaching. She was motivated by the school's renewed focus on meaningfully incorporating more technology into instruction and wanted to get past her apprehension of making significant changes in her instructional approach. The chapter focuses on two classes she taught during the spring semester of 2008 in the language arts curriculum, entitled World Media. These classes had a thematic focus on global issues and personal awareness. The discussion in the chapter is primarily of a two-week unit in which Ms. Glide (supported by the TEACH Project) guided her students on explorations and learning in the MUVE called Teen Second Life. We extensively documented the activities surrounding this unit from a number of vantage points of the various participants. The digital media itself offered each participant novel ways to capture and preserve audio, visual, and written texts of each activity. It was an important project for understanding the directions that digitally mediated learning might take. Moving from our familiar world to explorations of life and learning in a virtual world took Ms. Glide and her students to frontiers that, as of yet, have little mapping. The chapter charts and critiques their journeys into this new and fertile, virtual terrain.

The final chapter synthesizes the findings of these digital and virtual explorations in terms of their implications for schooling. It provides a concluding assessment of the project's work to change the perspectives and practices of teachers at V-Tech in order to ameliorate academic outcomes for their students. It attempts to shed light on the pivotal question, raised by some of the school's students, of what the term *Tech* in the school's name really means relative to approaches to teaching and learning that are different from the typical practices that have pushed them to the margins of school. Although this work was with teachers of underachieving students, this chapter provides implications for much wider school settings. A fundamental consideration from this work is that with ever-expanding modes for making meaning effective teachers are even more crucial. This chapter presents these implications as initial indications of how the structure and culture of U.S. schools might be changed, in part through incorporating appropriate technology, to vitalize learning and make it relevant to the challenges of a new century.

WHAT'S NEW ABOUT NEW LITERACIES

Many scholarly works explore the emergence and functions of new literacies, and in this section, I use this scholarship to illuminate ways that contemporary teaching needs to change. The sociocultural turn in understanding literacy pivots on a core concept in New Literacy Studies—that reading, writing, and meaning are always situated in specific social practices within specific discourses (Gee 1990). Street's (1984) earlier research and development of the idea of “literacy practices” to refer to both behavior and conceptualizations related to reading and writing helped to seed expanding notions of literacies as always being embedded in broader cultural practices—rather than having independent value—and patterned by social and historical contexts and institutions. Literacy practices, then, are shaped by social rules that work to regulate the use, distribution, production, and significance of written texts (Barton and Hamilton 2000), and the habitus of institutions of schooling plays key roles in determining these processes (Bourdieu and Passeron 1977).

What is new about new literacies is that the nature of texts as well as the materials and processes of text production and distribution are dramatically transformed by digital technology. This changes the social rules surrounding literacy practices as well as the social roles (or functions) these practices play. A characteristic of these changes, in part, is a movement from page to screen. Print texts are ever prominent, but other textual mediums are increasingly available for meaning making, mediums that are highly accessible, interactive, portable, and interchangeable. These qualities result from digital media's capabilities to incorporate graphics, moving images, sounds, shapes, and other forms of texts into computable data (Manovich 2001). Essentially, new media enables new literacies.

A number of scholars have argued that computer games can provide highly viable designs for productive learning of youth (Gee 2004; Johnson 2005; Shaffer 2006; Shaffer et al. 2005). In exploring learning and literacy associated with video games, for example, Gee (2004) defined 36 learning principles connected to digital media. A number of these principles were useful in illuminating the learning that took place with teachers in the PD sessions and with students in their classrooms. The vision of V-Tech's principal was ultimately to utilize the best principles from video games in the design of all learning at the school. The professional development did not attempt to go that far. However, in the ses-

sions, we did place considerable focus on six of the principles outlined by Gee that we found to be highly interrelated and intricately connected to new literacies.

We explored implications for learning for the *multimodal principle* (how meaning and knowledge are built up through various modalities, not just words) in conjunction with the *semiotic principle* (that learning involves interrelations with and across multiple, complex sign systems). Similarly, we explored implications for the *material intelligence principle* (that thinking, problem solving, and knowledge can be designed into and stored in material objects). Another important principle for our formulations that extends considerations of material intelligence is the *distributed principle* (that meaning and knowledge are distributed across the learner, objects, tools, symbols, technologies, and the environment). This principle accommodates a collective intelligence, the networking that allows the access of knowledge from other people, texts, and tools that is enabled by communicative technologies. We felt that these four principles facilitated learning that is often reflected by the *probing principle* (that learning is a cycle of probing and continually reflecting in and on this action) and that they were directly realized through the *active, critical learning principle* (that the learning environment created by these principles encourages active and critical, rather than passive, learning). In assessing the actual learning in conjunction with the incorporation of technology into instruction, it became clear that a number of other principles outlined by Gee (2004) were also in play, and ways that they were reflected in the learning of teachers and students are discussed in subsequent chapters.

In continuing Gee's work on computer games, Shaffer (2006) noted that it is these new ways of learning and new ways of thinking about learning, rather than computers and video games themselves, that should be the focus for parents, educators, and policy makers. He noted that preparation for a world with increasing emphasis on creative thinking requires young people to learn the epistemologies that underlie the work of innovative professionals. He proposed the use of *epistemic games*—games that are fundamentally about learning to think innovatively—as a key way to do this. But he felt that these kinds of games are different from school, and he focused on how they could be played in out-of-school settings like clubs, after-school programs, summer camps, and community centers. He claimed that “schools as currently organized make it difficult to prepare kids for innovation through epistemic games” (182).

Scholarship on technology and learning in urban contexts is often focused on settings beyond school. Recent articles on the concept of collegial pedagogy (Chavez and Soep 2005; Chavez, Turalba, and Malik 2006), on community-based media production (Fleetwood 2005; Poyntz 2006; Soep 2006; Charmaraman 2008), on cultural considerations of learning in digital environments (Gutiérrez 2002; Lee 2005), on structures of participation in digital culture (Ito 2007; Boyd 2007), and on digital storytelling projects (Davis 2005; Hull and Katz 2006) provide insights on digital mediation of learning and literacy with youth in nonschool settings. Additionally, there are a number of recent books that, like these articles, explore voluntary, informal digital learning and experiences of youth outside of schools (Alvermann 2002; Gee 2004; Goodman 2003; Gruber 2000; Hill and Vasudevan 2008; Johnson 2005; McLaren et al. 1995; Shaffer 2006; Tompkins 2006; Willoughby and Wood 2008).

In looking at school contexts specifically, there are some works that offer insights into various school contexts where technology is used to enhance learning (Mahiri 2006; Warschauer 2006). Generally, research on technology in science education seems to be ahead of work on other school subjects or work that goes across school disciplines. For example, early “think papers” of Halverson and Gomez (1998) and others associated with the Center for Learning Technologies in Urban Schools, funded by the National Science Foundation, examined possibilities and paradoxes of technological innovation in partnership with public school systems of Chicago and Detroit. Books by Linn and Hsi (2000) and Linn and Davis (2004) on computers, teachers, and peers as learning partners and on affordances of Internet environments for learning look at schooling but with a focus on science education. Clearly, more research in other school subjects as well as work that goes across school disciplines is needed to illustrate how schooling can and must change to incorporate viable uses of technology.

MEDIATING A REMIX OF LEARNING

This book uniquely contributes to understanding the possibilities and challenges of incorporating technology into schooling through descriptions and analyses of the sustained work of V-Tech teachers and students learning with new media. In attempting to apprehend the pedagogical implications of “what’s new about new literacies,” the TEACH Project

proposed and sought to realize two key conceptual turns. The first was a turn for teachers away from being deliverers of instruction to conceiving of themselves (and ultimately becoming) “mediators” of student learning. The second was a turn for teachers to “remix” student learning with an array of digital texts and tools in order to increase their engagement, achievement, and personal/social development. In mediating a remix of learning with digital media, the teachers worked to enact the principles that were incorporated into the TEACH approach and particularly to understand and leverage both the material intelligence and the collective intelligence available to extend student learning. The following chapters describe how these turns occurred at V-Tech. The remainder of this chapter gives rationales for these turns in terms of what teachers would actually be doing while “mediating a remix of learning” and why this is significant for transforming teaching and learning in schools.

The structure and culture of schooling in the United States reproduce teaching practices that resist change, and these practices are sustained by a system and philosophy of hierarchical organization of ideas, institutions, and individuals. Deleuze and Guattari (1987) noted that these kinds of Western systems are reflected metaphorically in a “tree” image: “The Tree or Root as an image, endlessly develops the law of the One that becomes two, then of the two that become four. . . . Binary logic is the spiritual reality of the root-tree” (5). Essentially, Western imaginations are rooted in the play of hierarchies and dualisms like right and wrong, smart and dumb, work and play, teachers and students. Deleuze and Guattari argued for the necessity of shifting to an alternate metaphorical frame, that of the “rhizome,” in which the tree is supplanted by the image of a subterranean stem or bulb. The roots of this orientational frame are revealed in a multiplicity of access points and connectivities, like a rhizome system of underground stems and tubers. They noted that two of the key principles of this system are “connection and heterogeneity: any point of a rhizome can be connected to any other, and must be. This is very different from the tree or root, which plots a point, fixes an order” (7). The turns in teaching perspectives and practices we sought in the TEACH Project were toward attempting to cultivate classroom interactions and activities into a rhizome-like system that reached for and cultivated multiple entryways to learning with novel connectivities and the promotion of a democracy of ideas. We felt the mediational roles of teachers and the multimodal affordances of digital texts and tools were key to a rhizomatic shift.

This shift is aided because the core interactions between teachers and learners—including the relationships, roles, and rules they are realized through—can be fundamentally changed when learning is mediated with a remix of digital texts and tools. There are several conceptualizations for mediating learning that informed our project. For example, Feuerstein’s work (Feuerstein et al. 2002, 2004) provided insights for considering the nature of new roles for teachers in mediating learning. His focus on the interaction between the learner and materials or tools for learning like books or computers acknowledged that direct learning can occur without assistance. But his models and theories powerfully revealed how direct learning can be significantly extended when a mediator intercedes between the learner and other learning materials or tools. The mediator guides learners to interact more productively by systematically modifying their interactions and responses to learning materials in order to continually increase the learners’ levels of understanding. In the TEACH Project, we benefited from the general conceptual framing of mediation in Feuerstein’s work, but we did not in any way attempt to employ his systematic Mediated Learning Experience model because we did not have the extensive training needed for this comprehensive approach.

Rather, the TEACH approach was to utilize the five CREDE standards for effective pedagogy that we trained V-Tech teachers in as foundational guides to what they would actually do while mediating student learning. These guides were augmented by our approach to project-based learning as well as by concepts from Chavez and Soep’s (2005) collegial pedagogy. In enacting CREDE’s first standard of joint productive activity, for example, teachers mediate student learning as experts engaging novices as they work toward joint products and learning goals. This form of mediation substantively consists of engaging students in planned, goal-directed dialogues called instructional conversations, as delineated in standard 5 that connect academic content to the students’ prior knowledge and experiences as indicated in standard 3. Mediating learning through these kinds of classroom dialogues is a pivot point in the turn of teachers because it is through these conversations that the knowledge, skills, values, and culture of the learner are revealed, enabling the teacher to contextualize teaching to fit the learner’s background, experiences, and interests. As noted earlier in this chapter and throughout this book, prior knowledge and experiences for many students are highly influenced by hip-hop culture. So, through instructional conversations, teachers make

these connections in conjunction with their designs of challenging, complex projects and tasks for learning as reflected in standard 4. Augmenting this approach to mediation are processes to have the students themselves jointly frame projects and share in accountability for the work. These projects would frequently have an emphasis on social change as well as on students taking increasing leadership in inquiry learning as delineated by the collegial pedagogy of Chavez and Soep (2005). The combined elements of this systematic approach to mediating learning work to negate the deficit presuppositions of remediation approaches that have primarily been used with students like those at V-Tech by building on their diverse capabilities, interests, and strengths rather than focusing on weaknesses.

CREDE standards are based on Vygotsky's (1978) formulations of the social nature of learning—that learning occurs in the zone of proximal development (ZPD) through social interaction and discourse with teachers or peers acting as more knowledgeable others. This approach to mediating learning is not dependent on the use of digital technology, but other considerations attend when teachers remix digital texts and tools into learning activities. When this happens, mediation of learning also occurs through students engaging the material intelligence of digital devices. It acts as a “third participant” in the sociocultural process of learning and, at some level, is able to perform the role of “expert” (teacher) in the ZPD in guiding, differentiating, and creating appropriate levels of challenge for learners to progress from novices to experts. Examples of students learning through the material intelligence in digital tools are described in Ms. Foster and Ms. Young's classes, and further analysis of how this worked to guide their students' learning is provided in chapters 2, 4, and 5.

The concept of material intelligence is somewhat similar to but not as comprehensive as actor-network theory (ANT), an approach to social theory and research that originated in the field of science and technology studies. ANT offers a range of material-semiotic approaches and theories that locate agency in networks of associations between humans and nonhuman objects (Callon 1989; Latour 2005; Law and Hassard 1999). Beginning in the 1990s, ANT spread beyond the field of science and technology studies to become a popular tool for analysis of large-scale networks in a wide range of fields. However, the more limited focus of the concept of material intelligence regarding affordances of specific digital tools was more useful in the TEACH Project for seeing the ways

that teachers needed to incorporate mediating capacities of the digital devices into their own mediational roles in the learning of their students.

Another feature we felt teachers needed to bring into the mediation of student learning was the collective intelligence that could be easily accessed with digital media. The power of collective intelligence in facilitating the generation, evaluation, and synthesis of ideas to increase student learning was demonstrated in the early PD sessions and realized in both the learning of teachers in professional development as described in chapter 3 and the learning of students as discussed in chapters 2, 4, and 5. In conjunction with and as a consequence of affordances of material and collective intelligence in new media, the teachers needed to not only accept but also reconceive how they enacted their mediational roles. This was especially apparent when considering possibilities for their students learning in multi-user virtual environments—how material, collective, and personal intelligence are “embodied” in digital spaces and how knowledge is gained and changed (linked and overlapped through multiple realities and identities) in virtual worlds.

In reconceiving mediational roles for these learning environments, the notion of “place” that is used in architecture and urban design was important. Learning in virtual environments is predicated on being able to establish a sense of place (a sense of rootedness in an understood reality). In other words, learning experiences are “situated” (they take place in a “place”) in such a way as to be familiar to the learner. This notion of place is important in order for learners to feel both connectedness and distinctiveness in virtual environments. It is enabled by the material intelligence designed into digital media and the collective intelligence that the media facilitates. It requires learners to produce and probe for meanings in multimodal, semiotic domains of virtual worlds and to be more active, critical learners.

New National Educational Technology Standards and Performance Indicators for teachers (appendix A) and students (appendix B) that are being adopted in the United States and other countries are beginning to address the need for teachers to design, develop, and model digital-age learning, assessment, and work experiences for students. Developed as benchmarks by the International Society for Technology in Education (ISTE), these standards are increasingly being seen as central to the professional growth and leadership development of educators. This book shows how the work of V-Tech teachers connected to many of these new standards for technology in education. In the context of new demands

and possibilities enabled by technology, the role of teachers in mediating student learning has become more critical rather than less so.

To effectively enact these critical roles, teachers, administrators, and staff at V-Tech worked to transform the culture and structure of their school to better engage, enrich, and enable their students to meet the challenges of life and learning in the twenty-first century. Clearly, through the TEACH Project, considerable resources were brought into the school to support the teachers' learning and work to enact new perspectives, so aspects of what was achieved might not be reproducible in some educational settings. Nevertheless, this work to ameliorate the learning of marginalized students contributes to understanding how to better design educational experiences for a far wider range of students. It starts with teachers like Ms. Glide and her colleagues who were able to make a fundamental turn in their teaching perspectives and practices. Initially technophobic, Ms. Glide learned to mediate her students' learning with a range of digital texts and tools and eventually led her students on learning expeditions in the virtual world of Teen Second Life. At the end of the school year, she reported, "I developed a genuine interest and excitement as I acquired new skills and have seen this manifest itself in my teaching practice. In turn, I have observed similar engagement from my students when technology is a part of their learning." Together, the V-Tech teachers mediated a vital remix of learning that cultivated new roots and shoots of rhizomatic growth and intellectual connectivity.