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Digital Tools in Urban Schools

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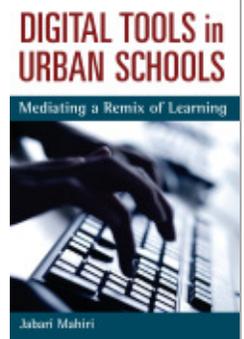
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4 | "VIRTUAL" WORLD MEDIA

The image shown in figure 3 is from Teen Second Life, the youth version of Second Life. This multi-user virtual environment is free for teens under 18. They can access the features of this MUVE by creating an avatar whose image and actions they control; then they can move around and do things in this world. It was originally established as a site where teens could meet, create things, socialize, and make friends using text chats and even voice communication. For example, they can use their avatars to chat and interact with other avatars, to build an infinite range of objects or structures, and to travel to various places that have been built primarily by other "residents" as well as the Linden Lab hosts of this virtual environment. At any time, they can use a camera option to snap a photograph of their avatar or some other object at a specific location in the world and e-mail it to themselves or to others as a "postcard."
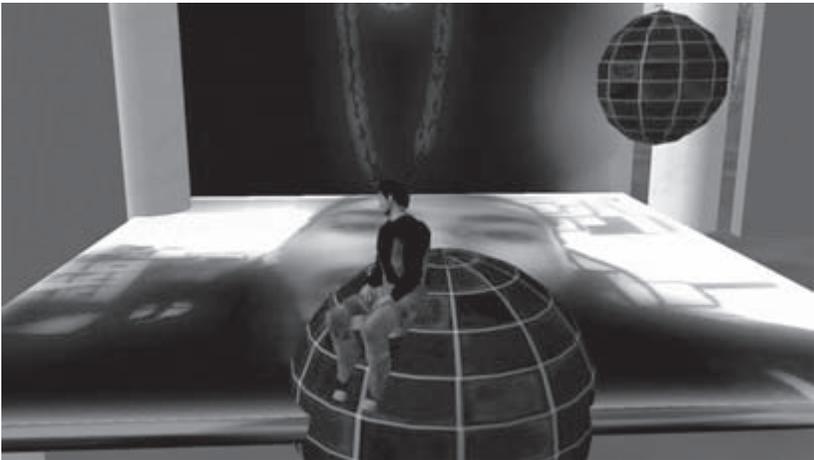

Fig. 3. Teen Second Life

The postcard in figure 3 depicts the avatar of a young man I will call Terrance, a 17-year-old V-Tech student who was in Ms. Glide's World Media class during the second semester of the academic year. Some of the work on digital projects, the interactive communication, and the other class activities of Terrance, a young woman I will call Jada, and a number of students in this class are focused on in this chapter to exemplify the nature of learning and instruction during a two-week curricular unit in Teen Second Life. Terrance named his avatar "GReala Blitz," but he was not entirely satisfied with the way it looked. He noted that he was "still learning how to create him."

GReala Blitz sits on top of a "world" that Terrance created. The avatar is looking down on a structure Terrance built as a multifaceted club or presentation space for performances in spoken word, rap music, and hip-hop dance. The floor of his club is composed of a modified picture of Terrance's face that he took using his computer's Photo Booth application, and the design on the wall behind the stage is a snapshot of the shirt and chain he was wearing. As his skills developed, he was able to integrate various shapes, textures, colors, animations, and sounds into his design. On a number of occasions, he stayed after school to continue working in the computer lab on projects even after the unit in Teen Second Life came to an end.

Terrance's postcard reflects some of the new literacy practices that came into play in Ms. Glide's World Media class during a two-week curricular unit in which her students learned to create, communicate, and explore through the affordances of Teen Second Life. In this chapter, I discuss how these practices complicate our notions of (and the interactions between) texts and experience. I describe how they project new dynamics of mind and body, of "virtual" and "real," of space and place, of production and consumption, and of the hyperconnectivity of different expressive modalities. I argue that they offer emergent ways to both create and constrain meaning and identity, agency and power, and culture and pleasure as these constructs are mediated digitally and transmitted globally. I show how viable examples of project-based learning were realized in individual and joint productive activities that reflected significant forms of academic discourse, inquiry, and accountability among and between the students and their teacher(s). I also address key problems that occurred in attempting to utilize a virtual environment for learning in the real world of Ms. Glide's class.

Unlike Ms. Foster, the highly experienced teacher of the Hip-Hop Journalism class, Ms. Glide was in her first year of teaching during the year the TEACH project was implemented. As noted in the first chapter, she started the year being very tentative about using any technology in her classes. She was particularly concerned that her students might know significantly more about the use of various kinds of digital media than she did. In the previous chapter, I described how she and her teacher colleagues at V-Tech gained greater confidence and competence, albeit unevenly, in trying different ways to incorporate more technology into their instruction. By the second semester, Ms. Glide was regularly using the computer lab for some of her class activities, and by the middle of that semester, she felt that she was ready to do a unit utilizing Teen Second Life in her two World Media classes.

There have been concerns raised about the adult version of Second Life, in which about nine million avatars reportedly interact on a digital landscape, in some cases to achieve real-life purposes like selling products, doing research, conducting classes, and even recruiting for college admissions (Bugeja 2007). There are concerns, for example, about "griefing," where one person's avatar harasses the avatar of another person. Linden Lab, the host of this virtual environment, has worked to mitigate these concerns in the teen version, in part by its age restriction for use of 17 years old and under. This is why V-Tech's principal felt comfortable getting authorization to unblock Teen Second Life to provide access for the school's use.

Ms. Glide was supported in implementing this unit by me and two other students from the university who worked with the TEACH Project. One of these students, Ms. Canon, was a key member of our support team (especially with respect to technical support), because she had worked with an earlier research project called the Fractal Village that took place at V-Tech for three weeks during the middle of the first semester of the school year. As part of a dissertation study for which I was a committee member, its focus was to facilitate eight V-Tech student volunteers in learning about fractals and other mathematical concepts through building things in Teen Second Life. Since the TEACH team had already planned to work with Teen Second Life during the second semester of the school year, I was able to support the Fractal Village Project by letting it use TEC Island, a virtual space for which I purchased a one-year lease from Linden Lab, the company that owns Second Life.

Consequently, a few students in the school had experiences with this virtual environment seven months before the unit in Ms. Glide's class, and two of these students were actually in her class.

The other university student volunteered to work with us on this unit for several of the days that it ran. But most often, there were three adults in the computer lab to guide and support the students' activities—Ms. Glide, Ms. Canon, and me. We met before the intervention to plan these activities, and decided that we wanted to focus more on attempting to understand specific ways that the students' learning developed through their experiences with this particular form of virtual, digital media, rather than only trying to make explicit links to Ms. Glide's established curriculum. In the two-week time frame of the unit, we decided to closely follow the work of building the avatars that were needed to access the MUVE in conjunction with the virtual and real identity work involved. Next, we wanted to encourage and follow students in their building of a variety of digital objects on TEC Island, particularly objects or structures that might incorporate other kinds of media, like photographs, video, voice recordings, or music. Here our focus would be on their continuing development of digital or computational literacy skills as well as on their communication and interactions with others both in the classroom and in the virtual world. We also wanted to encourage their travel to various sites in Teen Second Life to expand their skills, experiences, and perceptions of possibilities in this world.

Data for this unit was collected through direct observation and field notes along with a stationary camera that was used to record activities and conversations connected to the unit that took place in the school's computer lab. The transcriptions of the recordings were used mainly to capture the general discourse in the classroom (the discussions among students and between students and teachers), rather than attempting to capture things on the computer screens with the camera. Selected things that were produced by the students on the computers were captured using the features of Teen Second Life that allowed for snapshots of screens as well as text chats to be saved and turned into documents and artifacts. Students also did quick writes about some of their experiences with this media, and five were interviewed. These data were augmented and triangulated with my descriptive, reflective, and analysis field notes; reflective field notes by Ms. Canon and Ms. Glide; and interviews with Ms. Glide before and after the intervention.

CLASSROOM CONTEXT

Ms. Glide taught two 55-minute periods of World Media that were scheduled during the last two periods of the school day. These were humanities-centered courses that had a focus on global issues like the environment, world poverty, and global and local conflicts, and she used the same curriculum for both periods. Because of the achievement levels of most V-Tech students when they arrive at the school, one central objective of these classes was to strengthen their reading, writing, and analysis skills. Before the unit utilizing Teen Second Life, Ms. Glide had done units that focused specifically on writing development and social science analysis. She had worked extensively with her students on traditional writing genres like exposition and persuasion that were aligned with the California state standards for English–Language Arts. They had worked, for example, on structuring logical arguments, on the use of rhetorical devices to support assertions, on defending positions with relevant evidence, and on ways to appeal to emotions or systems of belief.

In conjunction with their writing of essays, Ms. Glide also had her students write about literary, social, and global issues in blogs. This allowed them to incorporate a variety of multimedia texts as well as draw on Internet sources to further support or develop ideas that they initially presented in their essays. Essentially, she wanted her students to first get the traditional approach to writing, then explore various technologies to see how their use might deepen understandings of techniques of written persuasion. In addition to creating and writing their own blogs, students also read and wrote responses to other blogs that were addressing topics that were being focused on in the class. In extending traditional classroom activities to incorporate elements of digital media, she was attempting to facilitate her students' writing development through the features of a wider range of textual mediums. So her work with this class was often split between the classroom and the computer lab, and in both sites, she guided students to work both individually and collaboratively. She noted,

> Given the flexibility that the course allows, I employ a variety of teaching methods and a range of activities to meet these broad objectives. For example, students conduct Internet research, critique films, and analyze and respond to literature. Units are created around themes such as "Conflict and Resolution" and contain a variety of assignments that allow students to demonstrate their knowledge in different ways.

Most of the students in the World Media classes were sophomores and juniors, although this delineation was problematic given the actual credits earned by individual students. The total enrollment for both classes was 44 students (22 in each class), of which 18 were males and 26 were females; 33 were African American, 8 were Latino, 2 were Asian/ Pacific Islander, and 1 was White. As noted in the first chapter, however, Ms. Glide found that there were rarely more than 15 students in attendance in each class on any given day, and that was one of the biggest obstacles to their achievement. Additionally, of her 44 students enrolled in these two classes, 10 had Individual Education Plans (IEPs) required for students with designated learning disabilities. Although most students revealed key problems in their abilities to write and read, overall skill levels still varied tremendously. Despite these obstacles, Ms. Glide assessed that her students had many strengths and enjoyed working on things that connected to their interests, particularly when computers were employed, even though she saw that they could also become distracted during their work with computers.

In some K–12 educational settings, the forms of technology like those Ms. Glide had begun to use—computers for writing and Internet searches, creating and responding to blogs and class websites, the use of whiteboard and PowerPoint presentations—have already been incorporated into instruction. Most often, the use of these technologies is directly linked to traditional structures for teaching and learning that can also be employed to a significant extent without the use of digital tools. This is what was described earlier in Ms. Glide's use of blogs to connect to the genre-based writing that her students were assigned as an integral part of her curriculum.

However, technologies like Teen Second Life, video games, and other new media that offer interactive experiences in virtual worlds have, for the most part, not found a place in the life and learning of schools. One discipline that is somewhat of an exception to this point is science, where significant work is being done with 3-D modeling tools to model various scientific phenomena in order to help students develop conceptually richer understandings beyond the limits of traditional textbooks, lectures, and discussions. An important aspect of computational modeling that is just as significant for cognitive development in other disciplines as it is in science is that it allows students to visualize abstract concepts by creating structures through which they can explore and experiment. Importantly, these rich understandings are distributed across all phases

of the modeling process, including the learning about and use of the computational tools needed to construct the models. This approach to learning in a virtual environment through building things that model or go beyond physical reality is a central aspect of the activities in Teen Second Life. Yet for most educators, there is still resistance to using new media and virtual world technologies that can model or expand physical reality, and this resistance is not entirely an expression of technophobia. For example, as Berry (2008) noted, "The newest virtual environments threaten traditional classrooms—challenge hierarchies, wrench authority away from teachers, distribute rather than individuate knowledge and disrupt traditional forms of assessment."

Essentially, the use of certain forms of new media necessitates dramatically different approaches to teaching and learning, and the TEACH Project's work with Teen Second Life in Ms. Glide's class was, in part, an attempt to explore these differences. Rather than linking her students' work in this world directly to her established curriculum, we were interested in understanding more of the specific nature of their learning and literacy development as it was revealed in their constructing of identities; their travel to different sites in the world; their building of various digital objects; and their communication, interactions, and collaborations with peers and others as they experienced and explored this virtual world. Ms. Glide introduced the unit to her students by saying, "We've been talking about world media and trying to understand what's going on in different worlds, and Second Life is another kind of different world."

CONSTRUCTING IDENTITIES

Virtual, three-dimensional learning environments can be leveraged to create opportunities for students of all ages to learn about an array of topics (math, art, music, science, literature, geography, astronomy, etc.) in completely new ways (Barab et al. 2000). For example, the earlier Fractal Village Project worked with eight V-Tech student volunteers in Teen Second Life to support the development of computational literacy and mathematical reasoning. A key thing that the Fractal Village Project attempted to foster was the development of the students' mathematical identities through their virtual activities, to see if that could transform their real mathematical identities.

In Ms. Glide's class, we also saw that acts of identity construction were

central to the kinds of learning that took place in Teen Second Life, and we found that the students' processes of developing particular personal identities in the virtual world were decidedly different from traditional notions of intellectual identity. Noddings (2006) linked the development of academic rigor and critical thinking in high school disciplines to processes for self-understanding that connected broader aspects of students' lives to their explorations of challenging issues. This connection of the academic and the personal was a key strategy for Ms. Glide's earlier work in the class, but we wanted to see how it might be uniquely revealed in the Teen Second Life unit as her students constructed personal, virtual identities that could link to their developing identities as learners.

Constructing an "in-world" identity by creating an avatar that was needed to access the features of the site was one of the students' first digital learning experiences. For example, Terrance, who was mentioned at the beginning of this chapter, was not happy with the look of his avatar, in part because he was "still learning how to create him." His statement reflects two aspects of the learning that began immediately in this site while constructing an in-world identity with an avatar—not only the computational literacy skills that were required, but also the cultural context and constraints that were realized while creating, communicating, interacting, and moving in this virtual world.

Computational literacy skills that were developed and/or reinforced began with getting to the site online; going through a rather complicated registration process, which included selecting a name for one's avatar and providing a telephone number or e-mail address; retrieving log-in confirmation codes via subsequent e-mails or text messages from Linden Lab, which took about 20 minutes; and using the selected name and code that was received to log into the virtual world. Ms. Glide had given her students an assignment sheet that listed these steps, which we wanted them to go through on the first day of the unit to get started with the project. She told them that they would get credit for completing each stage of the project, beginning with getting logged in and creating an avatar. Although these may seem like mundane activities, the students were experiencing how the site worked through multiple digital texts and interfaces—the Internet, cell phone texts, and e-mails. Loud cheers could be heard intermittently in the class as each student successfully completed the process of getting logged in. Some called their friends over to their computer as if to get verification that they were in. "I just got in as 'BigO Footman,'" one student exclaimed. "I got 'Doe Magic,'"

his friend responded. (I use the student avatar names in this chapter because these selected names and TEC Island itself are no longer being used and no longer exist in this MUVE.)

As noted earlier, Teen Second Life's basic approach to building understanding and proficiency with specific computational literacy skills was through model building. Essentially, the process of building the avatar modeled the building of all objects and structures in the world, no matter how complex they became. So the activities for constructing identity apprenticed the learning and skills that the students needed to develop for every aspect of building in the site. Researchers like Pea (1993) and Salomon (1993) argued that the understanding of any concept, process, or practice was attributed to and distributed across the physical, temporal, and spatial occurrences through which the competencies had emerged. In other words, according to Lave (1988), cognition is "stretched over, not divided among mind, body, activity, and culturally organized settings which include other actors" (1), and resources from each of these domains were critical to the processes through which competent actions emerged.

In our first class in Teen Second Life, Ms. Canon, one of the university students who had helped with the earlier Fractal Village Project, gave a brief demonstration of some of the tools used for building an avatar by using an LCD projector to project the images on her computer onto a large screen in the lab. These tools allow one to design, shape, and color the features and clothing of a range of stock male or female avatars in order to customize their appearance within a wide range of options. For example, in the adult version of the game, a resident can get over 100,000 items of avatar clothing and accessories for free. Ms. Canon also used the site's "camera view" tool to show her avatar at different angles and doing different things, like walking, running, sitting, gesturing, and dancing. When students were able to log in, they would first go to Orientation Island to begin creating their avatars. Eventually, they would learn how to make their avatars fly as well as how to teleport them directly to other locations in this world.

Ms. Glide began the first computer lab class in Teen Second Life by reminding her students to select a last name for their avatar from the assignment sheet she had given them and then to make up a first name to go with it. "Making your avatar is the main thing we want to get done today," she announced. The assignment sheet had a list of the most recent last names that the virtual world provided, and all residents

have to select from these lists for a last name. However, new residents are allowed to create their own first name. The names on the list seem to be constructed such as to not reflect any specific cultural content. So they rarely used actual words, although there were a few on Ms. Glide's list, like "Footman," "Haystack," "Magic," and "Twine." Most were made-up words like "Ansar," "Clowes," "Parx," and "Fhang." The list that Teen Second Life provides is changed frequently.

Most students were quite unhappy with the last names that the site offered for their selection. "I don't like these names," one female student said immediately in a tone loud enough for everyone in the room to hear. "Nobody does," another student responded just as vociferously. They were reacting to what they perceived as an unwelcoming context for ways they would be comfortable representing themselves with respect to a fundamental and important aspect of identity—a person's name. Although Teen Second Life attempted to provide last names that were not culturally specific, Ms. Glide's students felt constrained by having to associate themselves with these kinds of names. Instead of seeing the names as somewhat culturally neutral, they interpreted them as names for white people or as foreign names that were difficult for them to identify with or feel good about using for their avatars.

This problem was partially mitigated by the students' ability to choose first names that they marked with cultural content. For example, Doe Magic used a word that communicated specific cultural content, as in "Do you feel me, doe?" Real Twine was connecting to the significance of being "real" in black culture. A number of girls chose the last name "Fhang," adding first names like "Precious" or "Fa." One girl selected "Fhang" because she felt it had "an Asia background." She was not Asian, but she noted that she wanted to create an avatar that looked like "an Asian American beautiful woman." BigO Footman said, "I chose this name because it was the first name that popped in my head, and it's funny to me." Another student turned the joke on the MUVE and also caused a big discussion in the class by slipping through the name "Osamabinladen Raviprakash" for his avatar. When the student sitting next to him asked Terrance why he chose the first name "GReala," he explained that the G stood for "Gangster." So, beyond the sound correspondence with "gorilla," the name he had given his avatar was meant to signify "a real gangster."

At times, the students' disaffection with the last names required by Teen Second Life had unintended consequences, like they would forget

their last names (or forget how to spell them, since they were unusual) and then find that they could not log in and get online unless they called Linden Lab. At the beginning of one class, Ms. Glide told a student who didn't remember his avatar's name and password that he would have to call in to reset them in order to get started that day. Misunderstanding the overlapping identities at the intersections of real and virtual worlds, he said a bit defiantly, "I'm not calling no avatar." Getting through the initial registration and log-in process was a struggle for a number of students at the beginning of the unit. Interestingly, two V-Tech students who had worked on the Fractal Village Project helped us get everyone registered. Jada was one of these students, and she was also a student in the World Media class. She named her avatar "Sweetie Mayako." The other young man just dropped by the class at the beginning to help out. Ms. Glide noted, "For some students who were frustrated with the sign-up process, it really diffused the negative energy to have peers helping them."

Ms. Canon, our resident expert, sometimes showed frustration with the MUVE herself. "Our students were limited by Second Life itself," she reflected. "The log-in process is definitely not friendly to our students, and the default avatars aren't made to represent minority races very well. Second Life is really geared toward the white middle class." She noted that these problems had also frustrated the students in the Fractal Village Project, yet because of that she was more prepared to deal with the technical and cultural issues that came up in Teen Second Life. For example, as she was modeling how to build an avatar, the site was running very slowly at the time, but she was still able to talk the students through the basic things they needed to do. Yet she did not always conceal her feelings, as indicated in her following instructions: "So when you guys go through the registration process, you pick up a default avatar, which is kind of boring, but you get to redevelop the avatar to make it more customized."

Despite the constraints, the students' work to customize their avatars revealed ways that constructing these virtual identities connected to their real identities and to their learning. They talked excitedly to peers and to the adults in the class about how they wanted their avatars to look. Ms. Glide noted, "The girls spent far more time on the appearance of their avatars (face, body, and clothing), while almost all of the boys made comments about being dissatisfied with the clothing, hair, and shoe options." Students wanted to make interesting-looking avatars, but

they often ended up spending a lot of time trying to remove or change objectionable aspects of the available clothing and of the default avatars. For example, several of the students wanted to make the skin tone darker, but they were dissatisfied because of the inability to make the tools of the virtual environment do so to their liking. Others, however, made avatars that didn't attempt to mirror their actual appearance.

As with the students in Ms. Foster's Hip-Hop Journalism class, the young men in Ms. Glide's class wore baggy jeans, loose-fitting hooded sweatshirts, and athletic shoes. The male clothing options in Teen Second Life were usually tight-fitting shirts and pants and odd-looking shoes. Most of the young men just wanted their avatar to have clothing that looked like what they actually might wear. They complained about the hair not looking right. One student tried to give his avatar a "fade," a black haircut style. They also complained about the eyelashes being too long and about the shirts being too short and tight. Ms. Glide commented that her male students were concerned about not wanting their avatars to "look gay." Despite these obstacles, she noted, "Almost all of the students were immediately engaged in designing their avatars. Several of the girls and some of the boys who have really struggled with attendance, assignments, and focus were unusually engaged, self-disciplined, and self-directed, which was a noticeable change."

During the first two days of the unit, the students worked hard on building their avatars, changing the styles and colors of their clothing and hair, and eventually teleporting to other places to explore and experience other things in the virtual world. We could see how productive most of the students' experiences were as they worked on their avatars. A student who named her avatar Saysay Snoodie, for example, was really excited about giving it short, bright-colored hair, even though she had long black hair. She had an extended discussion with Ms. Canon about her choices and how to implement them as she experimented with the digital tools to construct her design. "I like the punk rock, funky look," the student said. "I wanted to make her look very unique, but normal looking at the same time." Jada had a similar objective for her avatar and commented, "She's beautiful, but hella thick than me. I swear she is. I don't know why she's like that." Another student who had often been disaffected was absorbed in making his "Osamabinladen" avatar. He wanted it to look like Osama Bin Laden, but Ms. Canon teased him by saying it really looked like Jesus. Yet he managed to get it to where he was satisfied with the look. When asked why he chose to make this avatar, he joked,

"Because I'm a terrorist." Ms. Glide noted that this student, whose attendance had been sporadic all semester, came just about every day during this unit.

One thing that we all noticed was the quality of conversations going on in the classroom among the students and between students and adults. Though the conversations were often quite animated at the various computer stations, they were also mainly focused on work that was being done. Each station had two desktop computers, and students were constantly turning their screens to each other to show what they were doing or calling others over to see something they had created or to get help with a problem. They sometimes gathered to look over each other's shoulders, or they knelt down beside each other as they worked and also shared what they were doing. For example, when one student finished building his avatar, "Real Twine," he called a couple of other students over to look at how it turned out. His pride in the avatar he created was also a reflection of how he had developed his skill with the digital tools. Earlier, he was clearly not comfortable with his avatar and told a friend, "He look the way he is now because I just started. But give me time, I'm gonna make my second person nice." When he finished he said, "I gave him a look that makes him stand out from everybody else." He was happy to find out that he could take a snapshot of his completed avatar and send it to himself as a keepsake via e-mail.

Two students who both had dreads themselves were set on their avatars having dreads. "How can I give my avatar dreads," one of them called out to no one in particular. He had named his avatar "Ripcarl Magic." "Then he's gonna be hatted up," he continued. This student later reported that he wanted his avatar to "look like me 'cause I wear black all the time, and I put my dreads in a ponytail." This was a student who earlier had vocally complained about having to do this project. "What am I going to get out of this. I don't want to do this," he said at first. Before long, however, he was working hard on his avatar. At one point, he showed it to the student next to him, who looked over and said, "You still got a bald spot." Another student came over to help, but they were not able to figure out how to attach dreads to the avatar.

It turns out that the only way to get dreads was to buy them. They were not in the regular Teen Second Life "inventories." Ripcarl Magic asked, "How do I get money?" We had Linden dollars, the currency of Second Life. The site has its own foreign exchange called Lindex, and in the real world, Linden dollars can be traded against U.S. dollars at

the rate of one dollar to 270 Linden dollars. But adults cannot give this in-world money to teens, even when they are authorized, as Ms. Canon was, to have an avatar in Teen Second Life for educational purposes. This problem was eventually solved, and some students were able to purchase things like dreads, stylish clothing, or even a cell phone to dress up the look of their avatars. But there were a lot of free things too, and as they found items to augment the look of their avatars, the young women would sometimes offer compliments to each other like "Look at yourself! You look fresh with those shades on." When GReala Blitz received some Linden dollars, he said, "I'm rich." "How are you rich?" Real Twine asked. "I'm rich in my second life," he responded.

Ripcarl Magic, who started out vocally resisting the project, ended up deciding to download the Teen Second Life program on a computer at home to continue exploring it. He reported, however, that it operated very slowly on his home computer, and therefore he did not really play the game there. But he came to class eager to play. At this point in the project, through extensive play with alternative identities, the students were also experimenting with new identities as digital learners. Even in these early stages in the unit, the students were engaging in experiences that reflected some of the principles of learning that the TEACH Project focused on like multimodal learning in semiotic domains where students' meaning-making activities were being stretched across multiple sign systems that included images, words, sounds, symbols, and other kinds of artifacts. In building avatars, they had to attend to the actions, gestures, movements, communication, and some metalevel thinking about the play of semiotic domains across the borders of real and virtual worlds. These kinds of earlier experiences positioned them more as active, collaborative, and even critical learners as they worked to understand as well as to question the experiential frameworks they were receiving through this digital media. I will also show examples of their enacting the probing principle that has been discussed earlier in this book as these students traveled around and explored in this virtual world.

Importantly, as they were learning to take on, make choices about, and play with identities that were virtually new and sometimes problematic, they were also expanding their fundamental sense of identity through learning experiences that were overtly predicated on identity work and connections. Gee (2004) outlined "a tripartite play of identities as learners relate, and reflect on first their multiple real-world identi-

ties, then their virtual identity, and finally a projective identity" (208). In other words, the real identity of the person expands to include the virtual identity of the character or role that the person takes on in the 3-D media, and this relationship is enacted through the projective identity, which is the kind of character that the person wants to be in the virtual world.

During the unit, Ms. Glide's students became aware of and enacted these overlapping identities at various levels and in interesting ways. For example, the student who made the statement "I'm not calling no avatar" recognized a distinction between his real identity and that of an avatar but mistakenly assumed that Ms. Glide was asking him to communicate with his avatar as if it had an embodied identity of its own. Some students tried to closely link their real and virtual identities by making the avatars look exactly like them. Ripcarl Magic, for example, dressed his avatar entirely in black because, as he said, "I wear black all the time." Others, like Real Twine, established greater distinction between a real self and "my second person." Jada's comment about her avatar "She's . . . hella thick than me. . . . I don't know why she's like that" revealed a sense of the connection between her real and virtual identities in a way that attributed a kind of agency to the virtual that might be connected to how she was also projecting identity. Jada was slender, but her avatar was "thick," and her comment "I don't know why she's like that" implied that the avatar had a kind of life of her own despite having been created by Jada.

So, Doe Magic, BigO Footman, Real Twine, Ripcarl Magic, Fa Fhang, Saysay Snoodie, Sweetie Mayako, GReala Blitz, and the other avatars were not disembodied illusions but interconnected, multilayered characters used to experience virtual living and learning in a real world. These virtual, representational selves were not throwaway identities of real selves; instead, their construction and activities extended the play and complexity of enacting and interacting identities. In so doing, they changed the context of (and perhaps some constraints on) the emergence of new perceptions and ideas about the world and about being in the world. One consideration is that the representational self of the avatar and the actual self of the person are connected by a mediational self that is distinct in its role as the nexus of interaction and control. With this perspective, we were able to observe the mediational selves of Ms. Glide's students positioned in front of the computers while animating their avatars' travels to real places in the virtual world.

WORLD TRAVELING

"Are these real people?" a student said out loud when his avatar encountered other avatars after he first teleported to one of the active locations in Teen Second Life. As the unit progressed, students continued to experiment with the appearance of their avatars, but they were anxious to get to some of the other sites in the world. For example, as he came into class on the third day of the unit, Ripcarl Magic said, "I'm tired of just walking around in Second Life. Can I do something else?" We had already planned to show the students how to teleport to other sites and to let them explore, and after we showed them how to teleport, Ripcarl Magic and the other students were content to travel around the virtual world for the rest of the period. He eventually found a music site called Def Jay that was a kind of nightclub, and he seemed to enjoy figuring out how to play the music at the site while he looked at artwork and other artifacts there.

Ripcarl Magic had stumbled on a model for what we had planned as the main project for the unit. We wanted the students to design and build a studio, gallery, or loft to use as a multipurpose interactive presentation space in which they could incorporate other digital projects that they could do or had already done like podcasts, photography, video clips, or music tracks. It could also be used to host performances of music, dance, rap, spoken words, and so on.

The more Ripcarl Magic explored this and other sites, the more he got into experiencing and learning about this world. Eventually, he called me over and said, "Excuse me. How do you say something?" I showed him how to text and chat, and he was off again on his journey. The other students were also enjoying visits to various sites, but even after the class ended, Ripcarl Magic stayed and continued to explore. "Can you talk on this?" he asked Ms. Canon. "Yeah, but you don't have a microphone that you need," she replied. All of the students had left the computer lab, and the adults had begun an informal meeting to assess how things had gone and to work on our skills for building objects in preparation for the next phase of the unit. All the while, we could hear Ripcarl Magic talking out loud to no one in particular as he also chatted online with a female avatar he had met. Suddenly he said, "Hey, she just kissed me." He turned from his screen and realized that the only other people in the lab were the three adults. "That girl was following me," he told us, although

we hadn't asked anything. "Where'd everybody go?" he asked finally. "I guess I'm 'bout to leave. How do I get out"? Ms. Glide showed him how to log off.

Ripcarl Magic had become more absorbed in his second life than most students in the class. But the other students were also experimenting with travel and online, real-time chats along with other virtual experiences. Our thought was to get them to all offer friendship to each other and thereby be able to track and join other classmates at anytime while in the virtual environment. This goal never quite came to fruition during the unit. However, we did follow and get accountings of many of their experiences as they traveled. We taught them how to teleport to different locations. Some initially experienced frustration with travel because they had trouble getting either into or out of places. One student who was stuck in a location said not so jokingly, "Beam me up, Scottie!"

Generally, the students were good about helping each other find different places and things and about trying to answer each other's questions. They talked to other avatars that were online and learned how to get free stuff to wear or to place in their inventories for future use. They also talked to other avatars to find out about cool places to go. For example, when Ms. Glide asked one student how he got to a particular site, he responded, "I don't know. Someone I met walking around gave me the coordinates."

Their travels and interactions helped them become aware of a wide range of self-representations and alternative ways of being in the world. One student, for example, told the person at the computer next to her, "I was talking to someone, and he was just sitting on a couch talking to me, and he had a big Jesus pin on." Another student asked no one in particular, "Do they know who I am? Do they know that I'm at school or something?" He was talking to someone in the world and commenting out loud about the different things going on in the interaction. "Ah, they laughing at me," he said. A little later, he said, "Um, he just broke on me. These are white people. He told me his name was Brett." They also encountered avatars with green skin and purple hair, ones that were gigantic or diminutive, and others that looked like animals or robots. It surprised some of Ms. Glide's students that these were avatars of people who could be anywhere on earth. Sometimes, they needed to use the MUVE's map feature to get around, or they needed to get orientations on how to use certain things—things that other residents had made and left available for everyone's use, like cars, helicopters, and even guns.

Several male and a couple female students were definitely interested in getting guns for their avatars and learning how to fire them. Ms. Canon said that she thought some avatars had come to TEC Island and left a stash of guns. When Doe Magic got a gun, he jokingly asked her, "Can I get arrested in Second Life?" "You can get in trouble for hacking, but that's about all," she answered. "Can you shoot people?" he continued. "Yes!" Jada answered. "How do you shoot a gun?" he continued "Do you know how to shoot a gun?" Jada knew how to put guns into her inventory that she could then attach to her avatar and carry around, but she did not know how to shoot them. We didn't teach them how to shoot guns, but we understood their fascination with this feature of the virtual environment from their play with video games. We also realized that even though it has a more open-ended script, Second Life was also a game, and residents often called themselves players. This unit in the World Media classes was influenced, in part, by scholars like Gee (2004) and Shaffer (2006) who have conceptualized ways that video games and computer games facilitated types of learning and literacy development.

Although our intent was not to look at traditional video games like those the students might already be playing, there were a couple of times during the unit when the video game possibilities of Teen Second Life inadvertently erupted in the class. For example, at one point during the part of the unit in which we were encouraging students to travel and explore, Terrance, whose avatar was GReala Blitz, yelled out excitedly to the class, "Hey look. They fightin' man. Look. They fightin'." Jada and a couple other students went over to his computer station. "Hey," he said, "you want me to tell you what they said?" He laughed loudly. Jada said, "I want to go where you are. You better get up out of there before they shoot you. I think he's really shooting at you." The sound of gunfire could be heard. A student calls out from the other side of the lab, "Y'all playin' Grand Theft Auto?" From where I was standing, I could see several avatars hiding behind or inside of different structures at the site and firing rifles at each other. Eventually, one of them started shooting in the direction of Terrance's avatar. Terrance made GReala Blitz run in the opposite direction, and the other avatar gave chase while still shooting. GReala Blitz ran around a corner and down a narrow street, then hid inside of one of the buildings. The students who had gathered around Terrance's computer where shouting out suggestions for what he should do next. The hostile avatar walked around the corner, paused for a moment, and peered down the long street. Then it turned around and

went back toward the battle with the other armed avatars. Before returning to their computers, the young men talked excitedly for a while about how to make Teen Second Life work like a video game.

We had suggested particular sites that the students should visit, but in the travel stage of the unit we also wanted them to follow their intuitions and discover things. So we tried to exercise restraint rather than being overly directing about where the students traveled. Students found a number of interesting sites that had been designed by residents that showcased various affordances of the MUVE. They saw beautiful landscapes with dramatic mountain backdrops and animated by waterfalls and trees swaying in the wind; urban scenes with drivable cars, motorcycles, trains, planes, and helicopters; and colorful structures that had unusual shapes and textures and purposes. They met characters along the way that ranged from interesting to odd. Our key purpose for the students' travel in the world was for them to develop their skills in manipulating the virtual environment in order to enhance their experiences, through learning how to move, gesture, chat, and text; how to interact with other avatars, including ones that were unfamiliar; how to find places and things using maps, coordinates, and teleporting; how to attach objects to their avatars or put them in inventories for future use; and how to do things like drive or fly. As they traveled, we also knew they would see many interesting and unusual things in the vast array of structures and objects that other residents had created, and we felt this would seed their imaginations for things they could also learn to design and build.

CONSTRUCTING OBJECTS

After focusing on creating avatars during the first two days and on traveling in the world during the next two, we worked with students on building things on TEC Island for the remainder of the two-week unit. Ms. Canon was not available on the last day of the first week in the unit, and this was the day that we shifted the focus to the students working on projects that required them to build a structure in which additional media could be incorporated, like a house or some kind of interactive presentation or display space. Ms. Glide, Ms. Canon, and I were confident that Jada, one of the V-Tech students from the Fractal Village Project, would be able to begin helping the students get started with this project. I even heard

Ms. Canon ask Jada a technical question about teleporting to get around in Teen Second Life. In addition to working on her own project for the unit, Jada had already helped tremendously in getting the students registered on the website and generally being an additional technical resource to her classmates. Unfortunately, some students in the earlier class were not able to log in due to system maintenance being performed by the MUVE. Even on the computer that Jada was using to project her demonstration, the Teen Second Life program was moving much slower than normal. Nevertheless, for the first 20 minutes at the beginning of each class, 16-year-old Jada competently led her peers in developing some of the fundamental skills needed for constructing objects.

Ms. Glide introduced Jada by saying, "Right now, Jada is going to show us how to build things. I understand that it is frustrating for some of you who cannot get logged on, but at least you will know how to build when we get all of the kinks worked out. Jada, the floor is yours." Jada sat at the front of the computer lab and used the LCD projector to project her computer's images onto the large screen, like she had seen Ms. Canon do in her demonstrations. I have provided a significant portion of what Jada said while leading the class. She had prepared a lot, and it took a lot for her to get up in front of her peers and lead the class. She started by saying,

You all got to look, 'cause I'm not going to go back through everything step by step. So you all have to watch what I do. OK, I'm going to go from the beginning. First you go down to the little box that says "build" and click on it, and that gives you all the shapes [called "prims"] that you need in order to build things. I'm about to make a little club or something, so watch how I do it. Are you all paying attention? If not, you're not going to learn.

See how it's a little box over here [called the "sandbox"]. See this little block where the arrow at. If you click somewhere on this box, you can stretch it. If you want to make it like a place you can go in, you can go to "high/low," and it's cutting a path on the inside so that you can get in.

Then I'm going to my inventory, so you can put some textures on it. They have textures that you can put on there, and if you want to make it look like a house, you can make it into a house.

There's this thing over here that lets you rotate an object, move it down or from side to side. Click rotate and that will turn it all around. Click this and it will make it bigger. Click texture and it's the same as when you are making clothes and stuff for your avatar. Like if you wanted to make a silk

shirt, you can click on that if you have it in your inventory. The same goes for textures for your house.

When you see boxes that say "open it," then open it, 'cause they have all kinds of free stuff in them that you can take and put into your inventory and then add it to your house. If you go to Orientation Island, you can get hecka free stuff.

Jada guided the students through building most of the structure of a house and demonstrated how to make walls, windows, doors, stairs, and so on and give them the shapes, textures, and colors that were desired. She seemed to model her presentation on some of the ways that she had learned to work with digital media from her experiences with the earlier Fractal Village Project. This was mixed with a bit of what she might have imagined the role of a teacher should be, in terms of being highly directive. One thing that was not immediately visible in her presentation was the amount of preparation she did. She earlier had built a new house and put it in her inventory in order to be able to show the complete product while explaining how she made each component. She knew that she would not be able to build the entire house from the ground up in the midst of demonstrating each discrete tool. So she had an overall strategy for her presentation that was nicely thought out and reflected her own understanding of how her classmates could learn best by providing alternate insights into the structure of the whole and its constitutive parts and by building on knowledge that they already had from creating clothing for their avatars and linking that prior knowledge and experience to building new objects. But because of the problems with Teen Second Life, she was not able to get to that last stage of her presentation. What she did do, however, revealed a complete grasp of the technical skills needed even though it was not always communicated in the available technical language. For example, she said, "There's this thing over here that lets you rotate an object," yet she also used a number of appropriate technical words like *inventory, animate, rotational, acoustic, texture,* and *gesture.* When students learn vocabulary in relevant contexts, they have better retention of its meaning and more control over its use.

Students in the first class tried to follow her demonstration, but something was lost for those who could not get online. This may be why Jada at one point exhorted them to pay attention. Not long after she finished, however, Teen Second Life started working properly, and more of the students were able to get on. By the time this class was ready to end, several students asked Ms. Glide if they could stay for the second class

and continue to work. She said they could if they got permission from their next-period teachers. Two students returned with permission, and several others who were not in Ms. Glide's class also came and asked if they could work with Second Life. Jada gave a similar demonstration in the later class, and with the MUVE operating properly, the students were very focused and able to get more practice with the basic skills of building. After both demonstrations, Jada, Ms. Glide, and I circulated around the lab and worked with individual students as they practiced constructing things.

As we did this during the second class for that day, it became clear that some students still did not know how to teleport to places where they could get free things to incorporate into their projects, so Jada went back to the computer with the projector and got the class's attention again for a brief brushup on this feature. "To teleport," she told them, "you first go to map, and at first you can go to Help Island, or Orientation Island, or there is something you can click on that will show you a list of all the popular places in Second Life. Basically, if you want to go somewhere you can type it in here and click on teleport. You can also search for places. Orientation Island is one place that is like a free world, and you can go there and get some clean stuff."

I use the term *peer pedagogy* to characterize ways that students were able to work with and learn from each other while using digital tools. Jada was out front in the preceding example, but throughout the unit, students both mentored and supported each other's learning in a variety of ways. One of the central ways (partially reflected in the stance that Jada took toward her classmates' learning from her presentation) was what Gee (2004) called "performance before competence" where the learning takes place by doing rather than learning first and doing later—the development of competence by immediately engaging in the desired practices. So, beyond the support provided by the TEACH team, the pedagogical role of Ms. Glide in this unit was dramatically different than it was with her students prior to the unit. As noted in chapter 2 with Ms. Foster's class, the mediation of "material intelligence" was designed into the digital tools. But with 3-D virtual environments, something more seems to have occurred. The analog space of the classroom was reprogrammed into multiple, virtual places that were inhabited subjectively and collectively within myriad, modularly linked, overlapping digital realities.

After the weekend, students came back to the class very excited about

designing and building structures on TEC Island. Like Ripcarl Magic did earlier, another student talked about how he had done some things in Teen Second Life at home over the weekend. Ms. Canon was back, and the class began with her giving another demonstration on how to build things. Using the projector with her computer, she built on what Jada had covered by showing students how to operate and incorporate things using different video and audio tools. Using objects that she had created, she also showed them how to animate and add unique textures to objects they might want to make. She asked for someone to build a sign for our TEC Island site, and two students volunteered and started working on that. Soon, almost everyone was working intently on building things, and they all seemed highly engaged. Ms. Glide was amazed by a student that had not been present for the entire first week. She reflected on how, during this single class, "he quickly signed up, designed his avatar, figured out how to teleport, and immediately began trying to build on TEC Island. He stayed through the next period, helping another student while continuing to build his structure. He even stayed after school and, by the time he left, had built an unusual, cylindrical-shaped structure. He was very proud of himself and talked about really enjoying Second Life."

In the second week, in addition to building things, students experimented more with getting and using some of the free stuff that had been made by others. They put their avatars in cars, boats, and planes that were available at various sites and clicked "ride" to drive and play with these vehicles. Spontaneous talk would erupt, such as "I'm going to see what happens if I crash my car"; "Hey, I just stole a helicopter. Can I take it back to my inventory?"; and "I'm at this house, and I hear music." But the students also worked on building their projects, and as Ms. Glide, Ms. Canon, and I walked around the room and helped out, some were attempting to make more complex constructions like houses with automatic sliding doors or animated waterfalls. "Somebody help me. Somebody help me. Somebody help me," one student kept saying until Ms. Glide came over to help him. Essentially, this help took the form of instructional conversations. Sometimes students had to learn how to write the scripts needed to program certain kinds of animations. Most students were proud of what they were building. Wanting others to see what they had done, they said things like "Come check this out, man. This looks good!"

By the end of the two-week unit, Ms. Glide was pleased to see that most of her students had completed making a digital project that was in

line with the general goals of the unit. As they completed their projects, students would often call Ms. Glide over to show off their work. "Come look," Real Twine invited. "My house is so dope. Ha, ha, ha. My house is clean. Unfortunately, I'm supposed to be in another class right now. But I had to work overtime in here. I'll be back tomorrow." Ultimately, the work was uneven in sophistication, and students did not get to the point of incorporating a fuller variety of media, like podcasts, music or beats, or video. Videos, for example, could actually be shot inside this virtual world. But we found that we didn't have enough time for students to create these media at the same time that they were learning a wide range of fundamental skills needed for manipulating and experiencing Teen Second Life. One female student's frustration captured the problem of our time constraints. As Ms. Glide approached her work station she told her, "You see all this work I gotta do, Ms. Glide. You see all this work I gotta do to build this house? You know I don't really know what I'm doing."

To conclude this section, I briefly return to the development of one project from the unit, Terrance's performance space or club that was depicted at the beginning of the chapter. The process he went through in building it reflected a number of important considerations regarding the work these students did. Terrance was one of the students who really got into the project and, in Ms. Glide's words, "sped ahead." Like a number of the young men in the class, he wore dreads and wanted to put them on his avatar. "I need some dreads really quick," he said while creating it, asking, "Can you buy dreads?" But he was not able to. The person sitting next to him was the young woman who had expressed her frustration to Ms. Glide. As Terrance worked intently on his project, he also helped his station mate by guiding her through various steps in the process and patiently answering her questions. When she was trying to make walls, for example, he told her, "Look through the inventory for textures. Go all the way down to 'library.'"

Terrance talked to himself (or to his computer screen) a lot while he worked. "Alright, I got my floor down," he said out loud. Ms. Canon came over and looked at it. "Oh, that looks cool," she said. "I'm making a club," Terrance replied. He had initially started building a house but later became more excited about building a club space for different kinds of performances. "Are you going to put a pattern on your stage?" Ms. Canon asked. "Yeah, " he answered. "I gotta get everything coordinated, or I can't work with it." He thought for a while and then said to her, "I want to attach stuff. Can I upload some stuff?" "Like what?" she asked.

"Like some pictures. I have some of my pictures on Photoshop." They talked this over. It was one of the many instances of instructional conversations that occurred between the teachers and students. Students felt that this project was challenging, and they were able to get just-in-time consultations when they needed technical help or help with decisions about the content in their work. As a result of this conversation with Ms. Canon, Terrance decided to take some photos of himself and of his shirt with the Photo Booth application to upload onto his club, rather than to use pictures he had taken earlier and stored in Photoshop.

A bit later, the principal came in and watched Terrance work for a while. Finally, he asked what he was doing. "I'm working on my project," he said. "What I'm trying to do is get on there and get stuff up the way I want it. I want to have bulls running in the street." He continued working until the next class came in. Other students from the first class were still working on things, and several of them, including Terrance, asked to continue working during the next class. Ms. Canon came over and said, "Save your club, Terrance. Go into. . . . Oh, you're going to stay for the next class? Then when you're ready to go, let me know, and I'll make sure that you save everything." Most of the other students left, but Terrance stayed and continued working on his club. He eventually asked to keep working in Teen Second Life even after the unit of instruction ended.

During the next period, Ms. Canon checked on the progress that Terrance was making. "How's it going over here?" "Good." "Have you looked at all the textures?" she asked. "You might want the walls to have a different texture on the outside than on the inside." "Yeah, that's what I tryin' to do," Terrance said. They both studied the club for a while. "Sometimes you have to walk your avatar around it to get a better angle on it," she said as she left to check on someone else. As the project neared completion, Terrance created and hung a big blue ball from the ceiling and placed an even larger one in front of his stage. He later deleted the larger one, but he figured out how to animate the hanging ball, making it spin. "Cool," Ms. Canon said when she returned and saw what he had done. "I bet I could make this into a video game," Terrance said. "See the way I'm making this spin? I could make this into a video game." "You're right. They do use similar tools," she confirmed. They both seemed a little hypnotized by the spinning ball for a few moments. "This is a lot of work," Terrance said finally. "Its complicated, so complex. It takes time to get well into it. But it's fun."

LEARNING IN VIRTUAL WORLDS

"Is this some real stuff?" a student asked Ms. Canon on the first day of exploration in Teen Second Life. "Is it real?" she repeated. "It's virtual; but it's still real," Ms. Canon answered. Online multi-user virtual environments like Teen Second Life expand, complicate, and blur distinctions between stuff that is virtual and stuff that is real. MUVEs can be re-creations of physical worlds, completely imaginary worlds, or unique combinations of both, as is the case with Teen Second Life. Rather than attempting to ascribe borders between what is virtual and real, I think of virtual environments as providing alternative realities or choices for how one is able to experience reality. In MUVEs, these alternative realities occur in digitally mediated, three-dimensional, highly interactive, multi-user "places" that I believe must increasingly be present in schools.

"Place" is a fundamental concept in architecture and urban design that illuminates how possibilities for human activities are incorporated into or accommodated by the design of physical as well as virtual spaces. Because virtual spaces (like physical ones) are structured according to the uses and needs of humans, their designs extend from core principles that guide the designs of physical spaces. Human activities in both worlds have to be "situated" somewhere; they take place in a "place." Harrison and Dourish (1996) noted that "place" in a virtual world is not the three-dimensional space itself but, rather, derives (as it does in the physical world) from a tension between distinctiveness and connectedness. They argued,

> The critical property which designers are seeking, which we call appropriate behavioral framing, is not rooted in the properties of space at all. Instead, it is rooted in sets of mutually-held, and mutually available, cultural understandings about behavior and action. In contrast to "space," we call this a sense of "place." Our principle is: "Space is the opportunity; place is the understood reality." (67)

The school place is a distinctive reality that is in tension regarding its connectedness to the changing needs and interests of students and the changing realities of life beyond school. Incorporating new media more pervasively is not, in and of itself, a panacea for the critical problems impeding effective teaching and learning. However, ameliorating these problems begins with transforming how the reality of the school place

can be reconceived. For this to happen, educators must redesign how behaviors and activities are framed and enacted, to better leverage the backgrounds, experiences, interests, and cultural understandings of students as foundations and sources for high intellectual performances that are viably connected to the world beyond school. This world and student experiences in it are increasingly represented in and realized though digital media. I believe that the unit in Teen Second Life emitted glimmers of possibilities for new realities in the place that we call school.

For a number of reasons, Ms. Glide could not have instituted this curricular unit without the support of members of the TEACH Project and the work of Ms. Canon in particular. It was reminiscent of how Ms. Young was integral to the work in the first semester of Ms. Foster's class. Perhaps this indicates the need to have a technology coordinator on site at schools as a central component of the overall educational mission. But it should also be remembered that without Ms. Young in the second semester, Ms. Foster continued to extend the uses of technology in her classes as her own confidence and competence grew through her teaching practices. This was a reflection of how teachers needed to continually develop by engaging in new learning themselves.

Ms. Glide became an example of a teacher who was continually engaged in learning that was new, in the Teen Second Life unit and afterward in her teaching practice. During the professional development sessions, she and other teachers were guided on downloading Second Life, building their own avatars, and practicing the basic movements, navigation skills, and communicative capabilities of the program. This was partially why she felt comfortable attempting the unit with her class. Her changing understanding of her practice continued after this unit that took place toward the end of the school year. For example, she wrote to me with an outline of a project that she wanted to do during the summer with some of her students: "I've been thinking about trying to pioneer some kind of class during the summer that would allow me and my students to work remotely—some kind of electronic blackboard or blog site. The idea would be to have students working continuously on digital projects and using technology to give them immediate feedback. I feel like it could continue some of the work that we started in spring semester."

Ms. Glide had seen that the dynamics of her class had changed dramatically while the unit was going on, and she wanted to continue the students' development as well as hers. I have described earlier how their

projects had been realized in individual and joint productive activity that distributed the learning as well as the accountability and support for learning among and between the students and their teachers. These activities revealed students' successes and challenges in creating complex virtual artifacts and collaborating in real time with peers and adults. The students' learning also reflected significant forms of academic discourse. I discussed how there was considerable expertise in Ms. Glide's class itself as the students learned and also helped each other. For example, there were the interesting contributions of Jada, who actually led instruction and even answered an occasional technical question from Ms. Canon.

Although mediating teaching and learning with technology can be challenging, that should not stymie educators in leveraging its affordances. With an understanding that there will always be technical problems and concerns, it was important to consider the ways that teaching and learning significantly changed during this unit. Within the digitally mediated context of Teen Second Life, the sense of place was not only distinctive; it also offered dynamic possibilities for connectedness that was culturally grounded (often in youth popular culture), on the one hand, yet interestingly linked to a range of real-world activities, on the other.

In an article on critical media literacy, Sholle and Denski (1993) argued that "educational theory must engage with the popular as the background that informs students' engagement with any pedagogical encounter" (307). In this chapter, I have attempted to show that despite its constraints, work in Teen Second Life enabled a wide range of personal and popular cultural content and connections to learning and activities that were challenging and complex. The point was not to valorize the students' personal interests and cultural contexts but to enable connections to aspects of their prior knowledge as a part of their processes for learning. With more time, the overall focus of the curriculum could have been easily infused with (or aligned with) more direct disciplinary content and more specific driving questions that could have been generated by the teachers and the students. But even with the limits of the unit, it was clear that work in virtual environments could provide a fertile context to support active, critical inquiry and project-based, participatory learning. I think it is also clear that educators must take advantage of emerging technologies that have capabilities to immerse students within contexts that challenge, ground, and ultimately extend their understandings.

The students' connectedness to the symbolic texts and to the constructed reality of the virtual world of Teen Second Life was revealed in part through the high levels of excitement and enjoyment that characterized the engagement of almost every student that worked with the unit. Ms. Glide was impressed by the fact that attendance increased dramatically during the unit. She had never before seen her students lobby to stay and work during second period for the class or to continue working on their projects after school. At times, she had to turn away students from other classes who tried to sit in during these periods in the computer lab and join in the work her students were doing. "You guys get to play a game in class?" they would ask. For sure, there were also problems, which will be discussed in the concluding chapter. Yet each day was generally marked by student experiences of delight, discovery, and dedication to the work of producing digital images and objects and to communicating and learning with others in both virtual and physical worlds.

Among other things, the script or narrative of this MUVE positioned and reinforced the identities of students as producers with the agency, power, and tools to design and build all sorts of things, beginning with their avatars and continuing to a wide range of objects with varying complexities. Their building, travel, and communicative activities encouraged or required that they probe the multimodal affordances of the virtual environment through their avatars and decode meanings in an array of semiotic domains. Bugeja (2007) noted, "The conscience responds to symbols as if they were real. Avatars symbolize the self. They represent our deepest wishes, aspirations, virtues, and yes, vices. Nothing is more authentic." The students' experiences were not only real; they also represented significant learning that had obvious as well as subtle links to learning and experiences beyond the alternative realities of Teen Second Life.

I now offer a closing reflection on this learning with a final reference to the club that Terrance built. A video posted on YouTube that highlighted activities in Second Life depicted a New York–styled loft placed there by Warner Brothers to promote singer/pianist Regina Spektor. If you go to this loft in Second Life, your avatar could animate prompts that would provide news, a photo gallery, audio and video clips, and tour dates for this popular singer. There were interesting correspondences between this loft space and the club space that Terrance built. He had imaginatively placed photos of himself in his club in ways that provided a culturally specific personalization of the design. Although he ran out of

time, his intention was to build more things into the space like a photo gallery and prompts to play his favorite music in addition to enabling it to host performances of hip-hop music, dance, and the spoken word. With more time, he could have also actualized his desire to "have bulls running in the street."

In probing what the virtual environment enabled him to build, Terrance saw how it could be used to create video games. "See, that's how they make video games," he said at one point in his building process. In fact, there are games that have been designed and played in Teen Second Life. Some are role-playing games that use imaginary characters or pop culture characters like those from the *Star Wars* movies. In his book *How Computer Games Help Children Learn,* Shaffer (2006) argued that modeling epistemic, role-playing games on the work and skills used in actual professions would be a powerful design for teaching and learning in schools. A video game called SL-ingo that focused on allowing for quick action on fast-changing information displayed multidimensionally was designed and perfected in Second Life and then licensed to a real business. So there were clear connections to important skills and perspectives in the world beyond school in the kinds of probing of material intelligence built into the digital environment by Terrance, which reflected active, critical learning that had links to some level of his prior knowledge and interests.

Essentially, what both Warner Brothers and Terrance had done in building loft and club spaces was to use computational tools to enact designs that would give digital spaces a sense of place. They utilized opportunities provided in digital worlds to put unique understandings and experiences into place. Their designs differentially incorporated or accommodated a variety of "real" human activities, one of which is engaged learning. As Terrance said, "It's complicated, so complex. It takes time to get well into it. But it's fun."