# Real-Life Migrants on the
MUVE

Stories of Virtual Transitions

**By Ross A. Perkins
and Cathy Arreguin**

Mom, you have to check this out! You'll love it!" Peg Sheehy, a middle school educator in the Ramapo Central School District (RCSD) in Rockland County, New York, couldn't be bothered. She did not have time for the video game her adult daughter played (and "worked" in, of all things)—something by the name of Second Life. Then one day her daughter came for a visit and introduced Sheehy to her virtual world—and Sheehy was fascinated. Shortly thereafter, she signed up for an account of her own, and there has been no going back. After spending just a few days learning to navigate, chat, and build in this multi-user virtual environment (MUVE), Sheehy felt as though she had discovered an aspect of 21st-century literacy that could be meaningful and powerful. Sheehy now leads an innovative project in Teen Second Life in her RCSD middle school.

Background

The communication and collaborative interface known as a MUVE has existed since as early as the late 1970s. MUVEs refer to programs that have an animated character ("avatar") controlled by a user within a wider environment that can be explored—or built—at will. (See "What's In a Name?" for other common
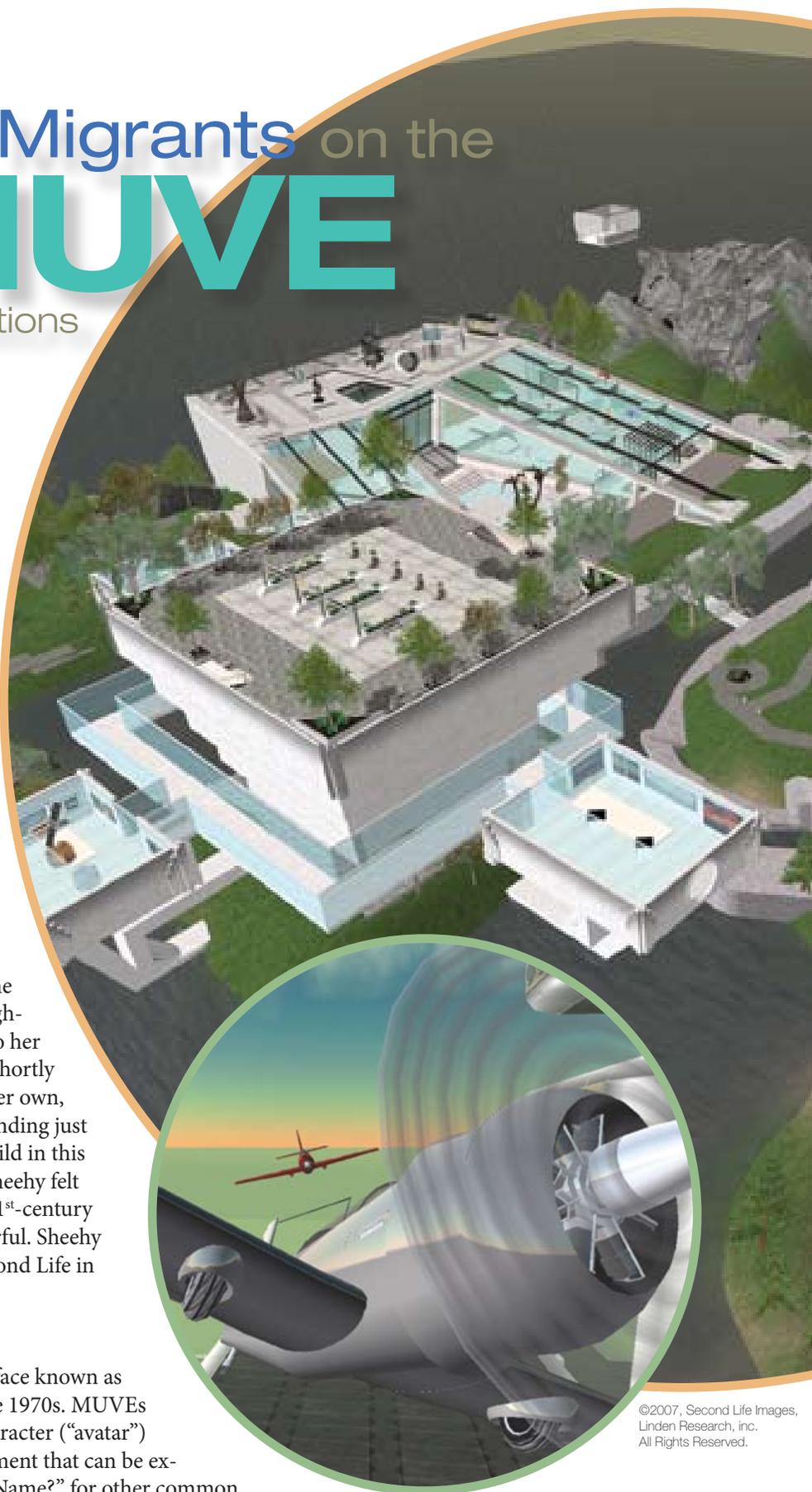
acronyms for virtual environments.) Virtual worlds evolved from text-only to graphical interfaces showing interaction among avatars, virtual landscapes, buildings, and objects. The expansion of broadband networks combined with affordable computers that have high-end graphics and processing capabilities means that the new generation of virtual worlds is rapidly garnering a wide audience. Some online role-playing games—or MMORPGs, such as World of Warcraft—are projected to have a user base of between 5 and 7 million people.

Second Life, a MUVE created by San Francisco-based Linden Lab, has generated a great deal of media attention in recent months. This attention has attracted hundreds of thousands of new users ("residents"), including a growing population of educators who, like Sheehy, are seeing all kinds of possibilities. Dozens of universities and colleges are using the main grid to teach both traditional and distance learning classes. A growing number of middle and high school educators are focusing their attention on the Teen grid, designed specifically for students age 13–17 and educators who have been approved by Linden Lab.

From Possibility to Practice

After clearing the requisite hurdles, Sheehy and her colleagues established three "islands" in Second Life and began revising curriculum to include experiences in the MUVE. She shared that she did not want to be too demanding on colleagues, so she simply brainstormed with them on projects and assessments that made sense in a networked, 3-D environment. Some examples included:

1. Construct a time line about events of World War II rather than do an electronic presentation.
2. Create Ellis Island, complete with a museum and even a math lesson on geometry.
3. Use peer tutoring to help new classes of students learn essential in-world skills.
4. Reenact scenes from history or from works of fiction.

Second Life is among the few virtual worlds in which users can build literally anything by using the client interface. Select the box icon and build a

3-D box. No need for specialization in 3-D modeling or rendering software; no need to upload complex code. To make the box look like a brick wall, simply add a texture (one can upload JPG and TGA images). The box can then be twisted, hollowed-out, stretched, and so on. Other shapes are also available. Just a few interactions with building allow students to think about how real-life objects are made, how different parts connect, and how ratios of sides affect design. The near-3-D feel of the environment allows one to build to scale in relation to an avatar's height.

So now, a project that requires students to put together a time line about World War II, for example, is no longer a repetition of facts or animated slides. In addition to learning about history, students are also engaged with geometry, project management, visual design, and numerous other skills. Students might work on a team representing aviation technology evolution. Another team might use imaging software to create textures for uniforms that avatars can wear; others might undertake the somber task of recreating a prison camp. As they learn themselves, they teach other students in-world skills that help the team cooperate. A time line of the war can now include representations of objects and places that students, in real life, may never see. As avatars, they can navigate the virtual spaces, role play, and ask questions of how their peers came to certain design decisions. Each project requires a good deal of research, communication, and creativity.
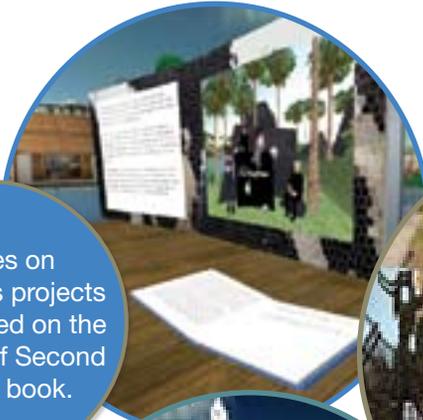
Teachers are buying in. "With this latest project, I am feeling encouraged and validated. The eighth grade teachers at Suffern Middle School have embraced it. Some are young and are on the fringes of being digital natives themselves, so this was not a giant

leap for them," said Sheehy. "But others (like me) are definitely digital immigrants. Although they don't personally subscribe to everything, they are insightful enough to realize that this is where the kids need to be!"

Effect on Learning

As exciting and as new as it is for teachers, the students are the ones taking real ownership, states Sheehy, whose students include a dozen eighth graders labeled as severely learning disabled. According to her, these students are "developing self-esteem off the charts." Whereas they were previously disengaged with material, the virtual environment helps focus their attention, leading to better retention and better performance. (Sheehy is still in the process of collecting data related to achievement.) The tool's many different kinds of skills and interactions appeal to a broad spectrum of learner intelligences. Researchers involved in the River City project, established seven years ago and led by Dr. Chris

Dede of Harvard University, have published studies that relate students' use of MUVES to greater self-efficacy and motivation. They have also found them to be an effective means of assessing inquiry-based science learning (*Editor's note:* See "River City, the MUVE," *L&L*, April 2006, p. 31).

As director of online leadership for Global Kids, a non-profit organization located in New York City, Barry Joseph works with teenagers in various public schools to provide them with opportunities for civic and global engagement. Joseph describes an "Aha!" moment from the summer Camp GK 2006:

Mercury Metropolitan was our summer intern. He was a member of Teen [Second Life] like anyone else, we just put him in a different role. He actually helped us run the camp. What he did was take what he learned about using the development model in [Second Life] from us and applied it in the setting, then took it in [directions] we never would have imagined … he knew how to use digital media. And it was a great experience for us to see that not only could he have such a powerful learning experience as an intern, and learn to do what we do, but then he, as

Updates on Global Kids projects are displayed on the main grid of Second Life as a book.

Projects such as "Camp Darfur" in Second Life help raise awareness of geopolitical issues.

The International Space Flight Museum on the main grid in Second Life is an example of projects students could build.

a young person, who is native to this digital world could then leverage to use it as a medium for education in ways that only natives would identify.

Six months after the end of camp, Joseph and his team asked the participants to reflect on what they learned. "Lucky Figtree" wrote, "Since the first Camp GK in Teen Second Life, I can say with confidence that I have gained many social skills. I can hold out a meaningful debate, and I learned tons about important world causes ... I think I can type A LOT faster!" Another student wrote, "During my time in Camp GK, I learned so much about the world around me that I never knew about. Using the knowledge given to me, I was able to educate my peers and even teachers about issues around the world."

The ability of students to gain some level of autonomy and control over their own learning is exactly what those calling for education reform have long sought. MUVEs do not inherently cause these revelations for students and teachers, but when used properly, they can facilitate the application of constructivist (and constructionist) principles.

Other MUVEs

How programs specifically differ changes with each new iteration of software. Rather than compare specific features, we offer links to each site (see page 20), and include a list of questions educators can use to compare the applications' features in their own instructional contexts.

Educators interested in using a MUVE in their classroom should carefully consider pedagogical and logistical factors before selecting one based on popularity. Regarding MUVEs, Dr. Bernie Dodge of San Diego State University cautions that new programs can capture excitement for a time, but eventually that fades. "Teachers should be aware of the nov-

elty effect," said Dodge. "When using something new, both teachers and students are energized just because it's different. You can't depend on that energy to continue forever, so the uses have to be designed well educationally to be sustainable."

What makes a MUVE well designed for education? How can teachers be assured that all their time and effort will go into something that will last longer than the current fad? The following list should help teachers prepare a comparison between the various MUVEs as they look for connections to existing infrastructure and curriculum:

User Capabilities/Affordances. Within the environment itself, how much autonomy does a user have? Can he or she chat by typing and/or by voice? Can users create objects without special training or knowledge?

Software, Hardware, and Networking. Does the program require constant maintenance? Does the school require different computers to run it? Is the network robust enough to handle it? Do firewalls prevent certain parts of it from being useful?

Costs. Initial user accounts may be free, but do they remain so? Must the school pay monthly or yearly fees?

Goals and Standards. Does the use of the MUVE make clear sense in a curriculum that may be bound by strict adherence to state instructional standards? Will goals for science, language arts, and math classes be met using the selected MUVE?

Legal Considerations. What protections are in place for student users? If a teacher creates content,

who owns that content according to the MUVE's terms of service?

Meeting Special Needs. How can students who are visually impaired or who have motor skill difficulties be accommodated?

Time and Training. How steep does the learning curve appear to be for either teachers or students?

Closing Thoughts

More important than any other skill a good teacher develops is the ability to connect to students—helping build on their passions, and intuitively meeting their need to express their personality, socialize, and think critically about the world. Like Sheehy and Joseph,
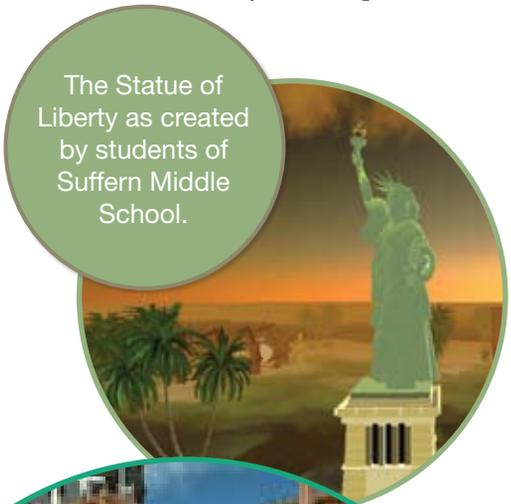
The Statue of Liberty as created by students of Suffern Middle School.

Network with other educators through ISTE's office on EduIsland on the main grid of Second Life.

MUVE	AGES	OS	URL
Active Worlds	13 & older	Win	http://www.activeworlds.com
Quest Atlantis	9–12	Win	http://atlantis.crlt.indiana.edu
River City	13–19	Win	http://muve.gse.harvard.edu/rivercityproject/
Teen Second Life	13–17	Win/Mac/Linux	http://teen.secondlife.com/
There	13 & older	Win	http://www.there.com
Toontown (Disney)	7–13	Win	http://play.toontown.com
Whyville	8–15	Win/Mac	http://www.whyville.net/smmk/nice

educators seeking to use MUVEs will be excited by their ability to foster interactivity, exploration, collaboration, and creativity. Integrating virtual environments that allow for students' autonomous control and communication is entirely feasible, but it requires knowledge and vision, both by teachers and administrators. Decisions made in the real world.

Resources

The Digital Space Commons:
   http://www.digitalspace.com
Global Kids: http://olp.globalkids.org
Prensky, M. (2001). Digital natives, digital
   immigrants. Available at http://www.marc
   prensky.com/writing/.
Second Life tagged pages: http://del.icio.us/
   secondlife/press/
SimTeach: http://www.simteach.com/wiki/
Suffern Middle School in Second Life blog:
   http://rampoislands.blogspot.com
Virtual Worlds: http://library.thinkquest.
   org/23138/hwelcom.htm
Virtual Worlds Review: http://www.virtual
   worldsreview.com

Ross A. Perkins, PhD, is a senior project associate in the School of Education at Virginia Tech. His research interests include context in instructional design, technology integration, and teacher education. His Second Life avatar name is Milosun Czervik.

Cathy Arreguin, MAEd, a former elementary teacher, designs educational media and consults from Northern California. Her interests include teacher training and applying principles of instructional design to MUVEs in education. Her Second Life avatar name is Mari Asturias.