The Potential, Pitfalls and Promise of Multi-User Virtual Environments: Getting a Second Life

By Annette Lamb and Larry Johnson

I'm floating inside a tornado. Cool! I can’t believe I’m actually interacting with a best selling author. I’m re-enacting an event that took place over 200 years ago.

Educators often talk about actively engaging their students in learning through books, images, movies, and other information resources. However a new generation of technology tools provides the opportunity to psychologically immerse young people in multi-user virtual environments (MUVE). Three-dimensional worlds such as Teen Second Life provide a creative playground where learners create objects, test ideas, and collaborate with others.

The Potential

Unlike multi-user role-playing games like World of Warcraft, virtual environments like Second Life aren’t designed for particular types of activities. They simply provide a place where people can gather, communicate, and build interactive worlds. It’s up to users to design scenarios, simulations, and meaningful adventures and learning experiences. While some people choose to recreate specific locations such as the famous arch at St. Louis Island or the Eiffel Tower at Paris 1900 Island. Others create fantasy worlds filled with castles and unicorns. Using easy-to-use tools, each participant creates an avatar to represent themselves in these computer-based locations.
One of the best examples of this potential is a project sponsored by Suffern Middle School in New York. In 2006, school library media specialist Peggy Sheehy developed a Teen Second Life area known as Ramapo Island to promote meaningful applications of technology in learning. Since then, her students have role-played the journey through Ellis Island, held a mock trial after reading Of Mice and Men, explored concepts of body image for a health class, and organized literature discussions “in-world.”

Teaming with educational consultant Bernajeann Porter, these middle school students recently participated in a digital storytelling week with the task of finding their own visual parallel personal story while narrating a voice interpretation of Robert Frost’s poem, “The Road Less Traveled”. Students used dioramas for their storyboarding, recorded video in Second Life in a machinima format, and constructed three-dimensional “emotional spaces” called Storyworlds. The result is Ramapo’s Frost Storyworld, a powerful Second Life experience focusing on the choices we make in life. Porter found the young people engaged in the experience and the works of Frost. Speaking on a panel at a National Educational Computing Conference, a student noted that "I think for an old dead man – he (Robert Frost) really got how hard it is to be a teenager."
MUVEs in Teaching and Learning

Educators are beginning to explore the potential of these virtual spaces. For instance, the Second Life island of ROMA immerses visitors in the world of ancient Rome. To learn about how archaeologists discover information about ancient worlds, visitors are encouraged to participate in an interactive archaeological excavation using tools to uncover ancient artifacts (see Figure 1). These simulated environments provide students with authentic contexts for learning.
Figure 3 (roma.jpg). ROMA Archaeology.

As the environments and tools evolve, what kinds of teaching and learning environments will be effective, efficient, and appealing? Let’s explore a few possibilities across the curriculum. The following locations are available through Second Life. The Second Life addresses known as SLurls are listed at the end of the article.

English, Literature, and Language Arts

Literature comes alive when watching a performance of a Shakespearean play at the virtual Globe Theater on sLiteracy Island where actors from around the world come together wearing elaborate period costumes for a live event. Imagine the possibilities: young people could read their creative works in a virtual poetry slam or join an author in a virtual discussion. It’s possible to explore one person’s vision of Frances Hodgson Burnett’s “Secret Garden” at Imagination Island or Hogwarts from Harry Potter fame, but wouldn’t it be great to involve students in creating their own vision of a book setting from “Tuck Everlasting” or “Ender’s Game”?
Figure 4. (globetheatre.jpg). A production of Hamlet at the Globe Theatre.
Many of these opportunities are already available in *Second Life*. The key is building direct connections to curriculum and providing young people with easy ways to use tools and spaces. Imagine that they are reading a graphic novel set in the 19th Century Steampunk era. They could visit the *Independent State of Caledon* Island to get a sense for this world. If students are discussing issues related to censorship, be sure to visit *Bradburyville* for information and resources related to “Fahrenheit 451” and other books by Ray Bradbury.

The *Alliance Virtual Library* on Info Island is the place to find online resources for literature and other information. While exploring Info Island, learners can visit the *Sci Fi and Fantasy Portal* as well as *Mystery Manor* for author and book information, along with opportunities to join virtual book discussions.

**History**

Re-creations of historical sites provide an opportunity to travel back in time. Explore a replica of the *Temple of Isis* from Ancient Egypt or visit Mexico’s *Chichen Itza*. *Renaissance Island* provides insights into life in Europe during the 14th to 17th centuries. Imagine young people reading a historical fiction novel and researching the time period, then immersing themselves in the time and place. Participants can
shop in the historical town, ride a horse, role-play a blacksmith, attend a jousting event or music concert, or explore everyday activities during the Renaissance era.
Whether walking in the shoes of a Confederate soldier during the American Civil War or baking bread in the middle ages, history is brought to life through virtual re-enactments. Educators can recreate a famous day in history or an average day in the life of a pioneer. What would you have traded on the Silk Road or taken on the Santa Fe Trail?

Not only can you re-create actual events and situations, but you can explore "what-if" scenarios. What would it be like to dine with authors or scientists from the past? Who would you be? Who would you invite?

Bernie Dodge at San Diego State University has been working on ways to incorporate the WebQuest approach into the Second Life environment. While it’s currently time consuming to produce materials with the current tools, you can get an idea of the approach by exploring the pioneer, mission, Puritans, and Chinese Immigrant areas at Second Life Pioneers. Participants wear period costumes and
have discussions around a virtual campfire. A *Meet the Immigrants* WebQuest serves as a companion for the Second Life environment.

***Figure 7 (oregontrail.jpg). Pioneers at Second Life Pioneers.***

**Culture and Language**

Whether practicing Spanish in a Mexican market or recreating a Japanese Theater performance, young people can immerse themselves in culture and language. Right now, it's possible to stroll Japanese gardens. What if a warehouse of customizable costumes and props were available to young people? What if volunteers from various cultures worked together to provide information and resources to bring authenticity to these experiences? Interacting with native speakers, discussing local customs, and dispelling myths are only a few of the possibilities.

**Economics and Public Service**

Non-profit organizations are finding ways to raise money in *Second Life*. Many virtual libraries provide donation boxes where users can contribute. *WaterPartners Village* is the virtual home of a non-profit organization providing safe drinking water and sanitation for people in developing countries. They provide a virtual
exploration of the water crisis in India, Honduras, and Ethiopia and collect donations online through Second Life and their website.
***Figure 8a and Figure 8b (water.jpg & water2.jpg). WaterPartners Village.
Some developers create and donate virtual objects that are sold in marketplaces. Money from these virtual sales supports real-world projects.

Using this model, young people could learn about both real-world economics and public service in an environment they create. They could even build their own virtual marketplace where objects could be created and sold to support real life school and community service projects.

Social activism is a popular activity in virtual environments. Organizations raise money through virtual walks, marathons, and concerts.

**Math and Science**

From exploring the spread of viruses to examining the physics of moving objects, virtual worlds provide a safe environment for learning and applying scientific concepts. Explore natural wonders, space exploration, and underwater adventures.

NASA’s *Spaceport Alpha* allows participants to take a virtual tour of the International Space Station and *Explorer Island* encourages users to launch a Mars Airbag or ride a Mars Dust Devil, while NOAA’s *Science on a Sphere* provides demonstrations of glaciers, ocean life, tsunamis, tornado, and hurricanes. At *Weather Channel Island*, visitors can ride a bike, try the ski lift, and surf in the ocean.
A number of Islands such as Second Nature focus on creating artificial ecosystems to study the interaction and growth of plants and animals. For instance, the Island of Svarga features plants, insects, and birds living in a fully functioning ecosystem. What if young people could design their own ecosystem by creating virtual plants and animals that could interact with each other? They could learn what happens when predators and prey become unbalanced and make comparisons to situations found in the real world.

Health resources such as HealthInfo Island are abundant in Second Life. While the Virtual Hallucinations project is designed to help visitors understanding schizophrenia, the Heart Murmur Simulation allows participants to visit six virtual patients and listen to their heart rhythms. On Genome Island, students can take part in virtual experiments related to genetics.

The Arts

Whether showcasing a digital painting, performing a virtual ballet, or playing the trumpet in a jazz band, virtual performances are a way for young people to share their skills and talents with an authentic audience. Virtual worlds provide a venture for all kinds of performances as well as museums to showcase works of art.
What if the coolest objects and easy development tools were available to teachers and young learners in a free, sheltered environment? What world would you create?

The Pitfalls

*Teen Second Life* provides a safe, nurturing place for young people (ages 13 to 17) to build and explore. Unfortunately, it’s not a place where young people can interact with adults or easily collaborate on educational projects without special arrangements and expensive virtual space.

The main grid of *Second Life* is designed for adults and reflects the best and worst of society. Although there are rules governing behavior, there are many places and activities that are only appropriate for mature audiences. From nudity and adult theme clothing to war games and sexual activities, one of the pitfalls of *Second Life* for educators is that mature content is scattered throughout the world making it an inappropriate tool for kids. This open atmosphere is what draws some people to the environment, but it’s also a cause of frustration for educators who would love to be able to take students on virtual field trips and immerse their students in resources available in *Second Life*, but not *Teen Second Life*. While it’s possible to record virtual experiences in *Second Life* to replay for students or lead a tour that students can watch in *Second Life*, it’s not a place where young people are currently allowed.

Another concern is bandwidth. Many schools don’t have the infrastructure to support multi-user environments. In addition, it can be time consuming to develop the learning environments that might be the most useful to young learners.

Unfortunately, no single tool addresses all of these concerns. Although *Second Life* is the most popular adult tool, other MUVEs such as *Active World* and *There* also have a following. *Google Lively* and *Metaplace* take a slightly different approach and may gain in popularity as they evolve.

Besides *Teen Second Life*, there are a few other environments designed for young people including *Whyville*, *Zoey’s Room*, *Club Penguin*, *Minyanland*, and *Webkinz*. Unfortunately, these environments don’t have the flexibility of the adult environments.

The Promise

Given the potential and pitfalls, Multi-User Virtual Environments promise to provide a wonderful world for teaching and learning. The key is matching the promise of technology with the creative minds of educators and their students. For instance, the *Global Kid’s* project has established an island in *Teen Second Life*. Their *Holy Meatballs* blog features articles, along with videos by teens sharing experiences with
Teen Second Life. Partnering with institutions such as the U.S. Holocaust Memorial Museum, the group sponsors live, “in-world” events for youth.

Scoolaborate is a global project using a wide range of technologies including virtual worlds to connect young people from around the world.

The Kidz Connect project involves young people in collaborative projects with students in other countries. For instance, a series of events are planned for the Henry Hudson 400 Festival, which will celebrate the 400-year-old bond between the Dutch and Americans that started with Henry Hudson’s founding of New York in 1609. Second Life will be used to recreate 17th century Amsterdam and New York.

Virtual Worlds and the Teacher Librarian

Many opportunities are available for professional development in Second Life. For instance, Book Island sponsors many book and author activities. Organizations like the American Library Association at ALA Island provide ongoing resources such as the Terabithia Storytelling area, as well as special events in Town Square like Banned Book Week activities. Consider joining professional groups in Second Life so you can receive notifications of upcoming events and activities.

The International Society for Technology in Education’s resources at ISTE Island are a great place for newbies to learn about and experience Second Life. There’s a new entry point for educators wishing to explore Second Life. Supported by ISTE, the website and Second Life entry point is made easy. Go to <http://secondlifegrid.net/slfe/education-use-virtual-world> for more information.

ISTE and other organizations are working with Second Life to develop educational opportunities and virtual spaces that will be safe for young learners, yet available to their teachers. Use resources such as the Second Life Education Blog and SimTeach to track the progress of these innovative programs.

For the past several years, we’ve been visiting and collecting Second Life locations of interest to educators and librarians. We’ve also established a list of virtual locations for use in Second Life tours. Learn more at http://slurl.wikispaces.com/

Second Life SLurls

ALA Island <http://slurl.com/secondlife/ALA%20Island/118/102/29>

ALA Island’s Town Square
<http://slurl.com/secondlife/ALA%20Island/203/55/61>

ALA Island’s Terabithia Storytelling Area
<http://slurl.com/secondlife/ALA%20Island/28/103/21>
Alliance Virtual Library at Info Island
<http://slurl.com/secondlife/Info%20Island/111/104/33>

Book Island <http://slurl.com/secondlife/Book%20Island/213/224/37>


Chichen Itza <http://slurl.com/secondlife/Visit%20Mexico/77/95/36>

Genome Island <http://slurl.com/secondlife/Genome/137/87/29>


Healthinfo Island <http://slurl.com/secondlife/Healthinfo%20Island/102/190/24>

Heart Murmur <http://slurl.com/secondlife/waterhead/130/37>

Hogwarts <http://slurl.com/secondlife/Liquid%20Heat/240/81/67>

Imagination Island
<http://slurl.com/secondlife/Imagination%20Island/80/216/25>


Island of Svarga <http://slurl.com/secondlife/Svarga/7/124/22>

ISTE Island <http://slurl.com/secondlife/ISTE%20Island%202/78/115/23>

Mystery Manor <http://slurl.com/secondlife/Info%20Island/181/160/33>

NASA International Spaceflight Museum
<http://slurl.com/secondlife/Spaceport%20Alpha/47/82/23>

NASA’s Explorer Island
<http://slurl.com/secondlife/Explorer%20Island/183/151/22/>

NOAA Science on a Sphere <http://slurl.com/secondlife/Meteora/145/131/28>

Paris 1900 Island <http://slurl.com/secondlife/Paris%20Island/128/128/0>

Ramapo’s Frost Storyworld
<http://slurl.com/secondlife/Eduisland%206/36/224/21/>

Renaissance Island
<http://slurl.com/secondlife/Renaissance%20Island/99/91/26>

ROMA Archaeology
<http://slurl.com/secondlife/ROMA%20Transtiberim/20/56/28/>

Sci-Fi and Fantasy Portal
<http://slurl.com/secondlife/Info%20Island/188/118/33>
St. Louis Island <http://slurl.com/secondlife/St%20Louis%20Island/183/128/30>
Temple of Isis <http://slurl.com/secondlife/Themiskyra/72/241/35>
Virtual Hallucinations <http://slurl.com/secondlife/Sedig/27/44/22>
Weather Channel <http://slurl.com/secondlife/Weather/113/5/26>

**Website Addresses**

Active World <http://www.activeworlds.com/>
Club Penguin <http://clubpenguin.com/>
Global Kids’ Holy Meatballs blog <http://www.holymeatballs.org/>
Kidz Connect <http://www.kidzconnect.org/>
Meet the Immigrants <http://www.lubbockisd.org/webquests/MeetImmigrants/>
Metaplace <http://metaplace.com/>
Minyanland <http://minyanland.com/>
SimTech <http://simteach.com/>
Skoolaborate <http://www.skoolaborate.com/>
Second Life <http://www.secondlife.com/>
Second Life Education Blog <http://www.sl-educationblog.org/>
There <http://www.there.com/>
Teen Second Life <http://teen.secondlife.com/>
Webkinz <http://www.webkinz.com/>
Whyville <http://www.whyville.net/>
World of Warcraft <http://www.worldofwarcraft.com/>
Zoey’s Room <http://zoeysroom.com/>

**Note:** Portions of this article were adapted from a panel presentation prepared for the *K-12 Online Conference* <http://k12onlineconference.org/>. The entire panel discussion is available on *Voicethread* at <http://voicethread.com/share/8878/>.