

Using Virtual Worlds to Address Equity and Inclusion Issues in Educational Participation by University Students

Angelyn Spaulding Flowers
University of the District of Columbia

doi: <https://doi.org/10.21467/proceedings.148.7>

ABSTRACT

COVID-19 compelled students to participate in a curriculum delivery approach they did not voluntarily choose and therefore may have lacked the technological, logistical, or other capabilities to engage at the highest level. Equally as important, some students may lack comfort with their background surroundings leading to a consistent avoidance of the video option during class. Equity suggests that this should not be a deterrent to their class participation. The result however is often a faculty member teaching to a computer screen populated solely by black squares containing student names. Anecdotal evidence suggests that over time this can also lead to increased student disengagement, both deliberate and inadvertent. This article compares two virtual worlds, Second Life and Roblox, examining their potential for promoting student inclusion and compelling engagement in education. The article will highlight the differences between these worlds, as well as describe their utility as sites for a class activity. Actual curricular examples will be used to illustrate the use of these virtual worlds as a pedagogical tool. Situating a university class in a virtual world as distinct from a virtual classroom is not without its challenges. However, it offers several advantages in the universal effort to increase student engagement and participation coupled with addressing equity and inclusion issues in educational delivery.

Keywords: COVID, Virtual, Equity

1 Introduction

COVID-19 compelled students to participate in a curriculum delivery approach they did not voluntarily choose and therefore may have lacked the technological, logistical, or other capabilities to engage at the highest level. Equally as important, some students may lack comfort with their background surroundings leading to a consistent avoidance of the video option during class. Equity suggests that this should not be a deterrent to their class participation. The result however is often a faculty member teaching to a computer screen populated solely by black squares containing student names. Anecdotal evidence suggests that over time this can also lead to increased student disengagement, both deliberate and inadvertent. This article compares two virtual worlds, Second Life and Roblox, examining their potential for promoting student inclusion and compelling engagement in education. The article will highlight the differences between these worlds, as well as describe their utility as sites for a class activity. Curricular examples will be used to illustrate the use of these virtual worlds as a pedagogical tool that can also address equity and inclusion issues for university students.

The Crime, Justice, and Security Studies (CJSS) Program at the University of the District of Columbia (UDC) has had a presence in the Second Life virtual world for almost twenty years. The CJSS program at UDC presently includes two Degree programs: M.S. in Homeland Security and B.A. in Administration of Justice, as well as the Institute for Public Safety and



© 2023 Copyright held by the author(s). Published by AIJR Publisher in "The Impact of Technology on Equity and Inclusion in a COVID World: Challenges for Education and Employment". Organized by the University of the District of Columbia, USA on February 11, 2022.

Proceedings DOI: [10.21467/proceedings.148](https://doi.org/10.21467/proceedings.148); Series: AIJR Proceedings; ISSN: 2582-3922; ISBN: 978-81-961472-2-8

Justice, and the Homeland Security Research Lab. At the time of these initial ventures into Second Life, the program consisted of an undergraduate degree and was known as the Criminal Justice program. To avoid confusion, CJSS will be used in this article to refer to the program throughout its existence.

Second Life was launched in 2003 reaching a peak membership of over 1,000,000 residents by 2013. Presently its membership is estimated to be 800,000 – 900,000 with an active monthly membership of 40,000 – 50,000. Second Life features 3-D user-generated content. Its members, known as residents, move around the world and can interact with other residents, engage in individual or group activities, build, or engage in commerce trading virtual property and services. Second Life is not a game, it is an immersive world.

The CJSS program began its virtual world involvement with an initial course that was taught entirely in Second Life (Flowers, 2004). Subsequently, the program utilized Second Life as a component of its in-person instruction in four undergraduate Administration of Justice courses: Geospatial Analysis, Dynamics of Human Relations, Conflict Resolution and Mediation Techniques, and Corrections Administration. A Counseling Center was built on the site to accommodate the Dynamics of Human Relations and the Conflict Resolution and Mediation classes. A prison was placed on the site to enable the Corrections Administration students to demonstrate proper procedures. The ability to integrate Second Life into the curriculum at that point was facilitated by enhancement funding received from the Council of the District of Columbia to establish the Institute for Public Safety and Justice which included funding to establish a computer lab. The classes used the computer lab to access Second Life for classroom activities. The Geospatial Analysis course explored Second Life more broadly taking advantage of the numerous communities and cityscapes contained in the Second Life world. Second Life offered the advantage that once logged in, a participant could explore the entirety of the virtual world except for a few restricted areas.

At its peak, it was estimated that approximately 300 Universities had campuses or conducted research in Second Life (Michels, 2010). Southern University, located physically in New Orleans, Louisiana, built an entire replica of its campus in Second Life, complete with a musical background. As part of the UDC's first Scientific Leadership Award for Minority Institutions from the Department of Homeland Security, a joint faculty-student team researched terrorist groups in Second Life (Jeter & Taylor, 2012). A subject that was then of concern to the Federal Bureau of Investigation (FBI).

Second Life is an adult-only platform requiring participants to be at least 18 years of age. Individuals between the ages of 13 and 17 can use the site with some limitations. Individuals between the ages of 13 – 15 are allowed to access the site of a sponsoring institution. Furthermore, only approved avatars are permitted on that site. Those who are 16 – 17 years of age are allowed access to certain areas that have a "general" maturity rating. As an adult platform with user-created content, Second Life uses a rating system so that individuals can avoid content that may be offensive. Despite that, one older Administration of Justice student did wonder about what could be considered a virtual "red light" district and refused to enter Second Life again, citing its conflict with their religious values. It is still unclear as to how the student managed to enter that district since all such areas are clearly marked. As in any city, the parameters of those types of districts are visible and caution is required when you roam.

The CJSS program paused its use of Second Life when the courses in which it was primarily used were moved to the District of Columbia Community College and as a result were no longer taught by the Administration of Justice program. The COVID-19 closures fueled an effort to identify innovative pedagogical strategies with which to engage students. In addition, to resuming the use of Second Life, a new virtual world environment, Roblox was also introduced to the program.

Roblox was launched in 2006 as educational software intended to teach children how to create games. In 2022 it had an average daily player count in excess of 20 million with almost 200 million active players globally in a month (Active Player, 2022). Rather than being a single game, Roblox promotes itself as offering users the ability to create games, which other users can then play. Subsequent monetization in Roblox has led to what can be considered the “dark side” of Roblox. (Parkin, 2022) argues that Roblox exploits its child game developers who as minors work without contracts, work excessive hours, and are paid less than they would be by other sites. Most of the games developed in Roblox however are non-monetized. Roblox offers the ability to create games in 2-D or 3-D. Since Roblox was designed to engage children in coding, its avatars are blocky Lego-like-looking characters. As distinct from Second Life which is essentially a single world where you can then transport from site to site without leaving the world, in Roblox, each game must be entered separately.

Concurrent with the re-introduction of Second Life and the addition of Roblox as a second virtual world experience, the CJSS program expanded its virtual foray into virtual worlds to also include virtual reality with the introduction of Virtual Reality (VR) Headsets in the Administration of Justice Introduction to Critical Infrastructure course. This article limits its focus to the use of the two virtual world platforms, Second Life and Roblox. These virtual worlds are examined not just for their pedagogical utility, but also for the extent to which their use promoted equity and inclusion during pandemic-related closures.

2 Methodology

Second Life was used to conduct immersive exercises, and Roblox was used to simulate experiences. They were compared using a combination of technical characteristics/support variables and application/use variables. The technical variables examined were ease of access, useability on a range of devices, unified world or platform, and requirements for frequent mandatory upgrades. The application/use variables compared were individual space or property ownership, the sophistication of appearance, support for educators, required fees, and chat function. Both platforms were compared on use in the Capstone class in the graduate program in Homeland Security at the University of the District of Columbia. In Capstone students demonstrate mastery and broaden their understanding of the cumulative program content in the homeland security program through an applied problem-solving approach coupled with intensive and frequent written submissions. These problem-solving exercises take a variety of approaches but typically involve case studies, tabletop exercises, and simulations.

The different characteristics of Second Life and Roblox suggested their use for different types of activities, but the student’s initial introduction to both was similar. Prior to the scheduled date for the exercise or simulation, students had to create an account, create an avatar, and practice moving around. Accounts in both virtual world platforms are free.

However, in Second Life the opportunity for premium membership exists which for a monthly fee entitles the resident to buy property, referred to as estates, and provides a weekly allotment of Linden Dollars, which is the Second Life currency, named after the owners, Linden Labs. All accounts are free in Roblox and include the ability to build or create multiple games each on its virtual site. Roblox offers a subscription where for a monthly fee the subscriber receives a certain amount of Robux, the Roblox currency. Students were provided with a link to get to each of the meeting sites. For Second Life, the students would remain at that site. For Roblox, the site served as a central place to provide an overview of the activity prior to giving directions on how to enter the simulation.

This article utilizes tabletop exercises and simulations to examine the utility of two virtual worlds in enhancing equity and inclusion during enforced virtual learning. A Tabletop Exercise occurs around a table, where the participants talk through the unfolding scenario from the perspective of their assigned role. In the simulation, an event occurs within the virtual world which requires the individual (through their avatar) to engage in some virtual physical action. Second Life was primarily used for Tabletop Exercises Roblox was used to permit the students to engage in Simulations. Unlike previous uses of Second Life in the CJSS program, these sessions did not take place in the University's computer lab but took place off-campus on the student's device.

2.1 Tabletop Application

In a Tabletop Exercise, participants are presented with an emergency scenario and given assigned roles to play in that scenario. They meet in an informal, classroom setting to discuss their role and responses to the emergency (U.S. Department of Homeland Security, 2021). To accommodate the Tabletop Exercises the Instructor constructed a Homeland Security Command Center on the CJSS site in Second Life. This site also hosts a lecture hall and a small building. A link to the Command Center was sent to the students. Clicking on the link took the students to the site. The Tabletop Exercises conducted in Second Life were possible because of the voice capability that Second Life now possesses. The students were able to talk to each other and see a visual representation (avatars) of each other. This enhanced the Tabletop Exercise beyond what would have been possible in a virtual class session with blank squares. Even if the students' faces had been visible in their square boxes, there is a value-added component to having a group in a circle or seated around a table appearing to face each other as they work their way through the emergency scenario.

For these Exercises, each student was assigned a role that they maintained for the duration of that Exercise. It was their responsibility to address the unfolding events consistent with the role they occupied. For the fall 2020 semester the tabletop exercises dealt with emergency management issues such as hurricanes or wildfires; or national security issues such as developing plans to respond to credible threats to polling places on election day or responding to efforts to seize ballot boxes from state election counting sites. Depending on the Exercise, the roles included: Mayor, Police Chief, Director of the Office of Homeland Security and Emergency Management, Fire Chief, Medical Director, Elections Official, School Superintendent, Emergency Shelter Director, Medical Director, etc. Considering the events that subsequently occurred on January 6, 2021, as well as the recently revealed discussion of plans to seize ballot boxes, these scenarios turned out to be disturbingly relevant. Since the

Second Life experiences occurred on private property, the students were the only ones on the site who facilitated communications.

2.2 Simulation Application

The Roblox *Disaster Response Simulation* was utilized to provide the students with an opportunity not to manage a crisis, but to experience a simulated crisis. This simulation involves an unknown disaster, such as a hurricane, earthquake, fire, etc. which occurs with minimal time to implement the proper response. If the participants managed to engage in the correct behavior in the time allowed, they survived. Otherwise, they died. Each student participated in 5 – 8 simulation runs. This was followed by an analytical research paper on the impact/role of crisis-induced anxiety. Roblox also includes related experiences in homeland security, emergency response, riot, and insurrection, to name a few. Disturbingly in the initial weeks following January 6, 2021, Capitol insurrection, the instructor found in Roblox a “Capitol Insurrection” simulation, complete with weapons. Unlike the normal appearance of structures in Roblox, this game contained the most chillingly accurate representation of the U.S. Capitol building, complete with statues, pictures, and the names of elected officials on office doors. This simulation was gone several weeks later.

The simulations that were utilized in Roblox were public and therefore simultaneously used by any number of other persons. There were approximately 20 – 30 people running around in each simulation run. Since none of the students had enabled voice chat, they would not have been able to communicate with each other or with the instructor during the simulation. Initially, Roblox only had text-based chat. Within the past two years, it has added voice-chat capabilities. But in Roblox, the voice chat function is only operational if you are 18 years of age or older. Age verification through uploading a photo of a state-issued identification document is required. The instructor has voice chat capabilities in Roblox. Since many people are understandably leery of uploading a copy of their driver’s license to a game site this is not a requirement that seemed reasonable to impose on students. Minors sidestep this restriction through the simultaneous use of Google Chat or Discord to voice chat while in Roblox. These are VoIP social message apps enabling users, among other things, to have group voice chats. To avoid extending the learning curve, it was determined not to attempt either of these solutions and to instead rely on the text chat. As a practical matter, this limited the uses to which Roblox could be put. With a minute or two to think and then execute a response, there is no time to type in a text message, wait for it to be read, and have a response returned.

In this type of environment, questions or technical difficulties such as being inadvertently ejected from the simulation could easily arise. To accommodate for this likelihood, the instructor had a Roblox proficient volunteer remain at the meeting site to provide technical support for the duration of the experience. Students were directed to return to the initial class meeting site if they had trouble. This was simply because the student merely had to click on the link in the email. One student returned twice for assistance. A late-arriving student received directions to the simulation.

3 Results

Second Life and Roblox were compared to evaluate their utility in the promotion of equity and inclusion in virtual learning during COVID. Overall, each platform has its advantages and

disadvantages. The comparison is not intended to rank the two worlds, rather it is intended to highlight the implication of their characteristics in relation to the use of the particular virtual world.

3.1 Technical Variables

Table 1 Second Life and Roblox: Comparison of Technical Variables		
Characteristics	Second Life	Roblox
Ease of Access	Yes	Yes
Useable on Range of Devices	No	Yes
Single Unified World	Yes	No
Frequent Mandatory Upgrades	Yes	No

The differences identified in Table 1 can be largely attributed to the demographics of the target audience. These characteristics are also closely interconnected. Both Second Life and Roblox are user-friendly and if they have been downloaded to a device are easy to access. Since Roblox was designed to teach game development to children, it is easier to build in Roblox, than in Second Life. It is in the precursor to accessing the system where the most significant difference among the technical characteristics present, namely their useability on a range of devices, presents. Second Life has sizeable memory requirements when downloading and it can only be installed on a computer or laptop. This presents the biggest barrier to its use by students. It cannot be used on a cell phone. This is a very real hindrance in that on occasion a student would not be at home and would want to log in on their cell phone. The digital divide is still very much present. Some students still access the internet via their cell phones. Roblox in contrast has a downloaded app allowing its use on cell phones.

Second Life is a single unified world where the resident can move from one location to another location without logging in or out. In Roblox, each game, each activity, and each experience is entered separately. They are each distinct environments. In Second Life as you move from one space to another, it is possible to see the adjoining locations. In Roblox, a participant's vision is limited to that specific experience. Second Life requires frequent mandatory updates for improving the experience, eliminating bugs, etc. This has been raised as a challenge by educators using Second Life on University computers who typically must wait for their Information Technology units to download the changes.

3.2 Application Variables

Table 2 Second Life and Roblox: Comparison of Application Variables		
Characteristics	Second Life	Roblox
Individual Space (Free)	No	Yes
Sophistication of Appearance	Yes	No
Support for Educators	Yes	No
Required fees	No	No
Chat Function	Yes	Yes/No

Unlike the interconnection of the technical variables, the variables or characteristics related to the use of these two virtual worlds, as seen in Table 2, are more self-contained. But, like the technical variables, their differences are linked to the nature of their target audience. Roblox was designed to encourage children to develop games. Therefore property, or space to create those games is provided for free. Second Life requires purchasing a premium membership to have the ability to own property.

As might be expected from its target audience, the avatars and the creations in Roblox resemble Lego or Minecraft creations (See, Figure 1). In contrast, the avatars and other creations in Second Life, have a more sophisticated appearance (See, Figure 2). Second Life has a more realistic appearance than Roblox, but it is also a more difficult world in which to build. Second Life is characterized by a robust marketplace where not only clothing and accessories, but homes are available for purchase. In Roblox, the items for sale tend to be in the nature of clothing, accessories, or weapons. There are dozens of educator groups in Second Life that provide networking and information sharing among educators using or desiring to use Second Life. One group even provides free space for educators teaching or researching in Second Life. This is an asset for educators. While neither virtual world has a fee for membership or participation as previously noted, Second Life does charge for the ability to be a property owner. Despite the no-cost-to-access feature, both Second Life and Roblox have lots of options for participants to voluntarily spend money in the world.

Figure 1: Roblox Avatar Example**Figure 2: Second Life Avatar Example**

It is the chat function that makes these virtual worlds the most useful. Both virtual worlds have chat functions. However, the chat function in Roblox has limited those participants 18 years of age and older. Because Roblox has fewer barriers to access, it was originally planned to use Roblox as a location for class meetings and discussions with small break-out sessions. However, the additional hurdles required to access the chat feature meant that most students did not activate it. On the other hand, because of its built-in chat feature Second Life was also used for Case Studies and regular class discussions during COVID. Unlike the Tabletop Exercises, the value added to the discussions did not outweigh the difficulty encountered by students in accessing the platform.

4 Conclusions

To return to the original question regarding the ability of virtual worlds to promote educational equity and inclusion during COVID mandated virtual learning several important conclusions emerged. The use of these virtual worlds served to eliminate student discomfort with their background surroundings while using video. Rather than a few students with their screen on while the majority were off, the students were on an equal footing in that they all had visible avatars. It also eliminated the tedium of staring at black squares with white letters for hours when all the students had their cameras off. Most importantly, using the virtual worlds re-directed student engagement towards the class activity because they had to pay attention to the actions of their avatar, and it gave everyone something at which to look during the class session. The differences among the two virtual worlds examined in this article reflected a complementary nature rather than a competition. Student response was uniformly positive with the Roblox simulation receiving the most enthusiastic response. It is unknown whether that is because the students preferred Roblox as a platform, or because they preferred the action of the simulation to the discussion of the Tabletop Exercise. Situating a university class in a virtual world as distinct from a virtual classroom is not without its challenges. However, it offers several advantages in the universal effort to increase student engagement and participation coupled with addressing equity and inclusion issues in educational delivery.

5 Declarations

5.1 Acknowledgements

A special thank you to A.K.G. for providing Technical Support services to the Capstone class during the Roblox Simulations.

5.2 Publisher's Note

AIJR remains neutral with regard to jurisdiction claims in institutional affiliations.

How to Cite

Flowers, A. S. (2023). Using Virtual Worlds to Address Equity and Inclusion Issues in Educational Participation by University Students. *AIJR Proceedings*, 62-70. <https://doi.org/10.21467/proceedings.148.7>

References

- Active Player. (2022). *Roblox Live Player Count and Statistics*. <https://activeplayer.io/roblox/>
- Flowers, A. S. (2004). Teaching Critical Thinking Online: A Case Study. *Academic Exchange Quarterly*, 8(1), 139–144. <http://rapidintellect.com/AEQweb/ab2559.htm>
- Jeter, S., & Taylor, D. (2012). Terrorist presence in virtual worlds: Using second life as a case study. *International Journal of Interdisciplinary Social Sciences*, 6(10), 1–6. <https://doi.org/10.18848/1833-1882/CGP/V06I10/51553>
- Michels, P. (2010, July 27). *Universities Use Second Life to Teach Complex Concepts*. Center for Digital Education. <https://www.govtech.com/education/universities-use-second-life-to-teach.html>
- Parkin, S. (2022, January 9). *The trouble with Roblox, the video game empire built on child labour* | Games | *The Guardian*. The Guardian. <https://www.theguardian.com/games/2022/jan/09/the-trouble-with-roblox-the-video-game-empire-built-on-child-labour>
- U.S. Department of Homeland Security. (2021). *Exercises*. Ready. <https://www.ready.gov/exercises>