



## **Virtual Reality: Don't Just Learn English. Experience It.**

by [Teresa Cusumano](#) and [Elena Reiss](#)

Imagine the impossible. If you could go anywhere in the world, where would you go? What would you do? Who would you see? Would you swim with a whale or dive to a coral reef? Would you become a humanitarian and step into the shoes of refugees or truly experience what it is like to be homeless? Would you visit a castle or board a battleship? Maybe you would become part of science and travel through the human body as a cell?

Although these experiences seem like fantasy, virtual reality (VR) can make them a reality. Evolving technology offers students the opportunity to visit places, assume identities and roles, and participate in events that in the past were impossible, or at the very least not accessible to the vast majority. Virtual reality is an immersive, sensory language learning experience that increases engagement, encourages risk taking, and creates successful second language (L2) cognitive encounters that lead to increased language output.

## **Bringing the World Into the Classroom**

Upon entering American academic environments, many multilingual students struggle to express themselves in the host language; therefore, they are placed in ESL classrooms. Their challenges, however, go far beyond mere language issues. Prior negative language experiences, pressure to develop communication skills, homesickness, culture shock, and the rigor of the new academic setting inhibit language acquisition and inevitably overwhelm English learners (ELs). Making the situation worse, educational and socioeconomic differences limit their exposure to issues related to American social context, leading to a lack of social awareness and resulting in pedantic and superficial discussions. Therefore, it is vital to design safe, authentic language and cultural encounters that reduce anxiety and foster communicative competence.

Endeavoring to provide experiences that sustain motivation and develop reflective and metacognitive skills, we designed and implemented an inclusive, holistic VR-based curriculum, which has the following benefits:

- **Global Context:** It contextualizes global issues in interactive simulation, thus removing geographical boundaries and providing ELs with firsthand experiences.

- **Skill/Area Specificity:** It can be tailored for any language course and focused on specific skills (e.g., academic writing, presentation skills, communication) or a specific area of academic study (e.g., English for sciences, arts and humanities).
- **Interdisciplinary Adaptability:** It can be adapted for interdisciplinary projects because VR provides the multimodal approach that supports L2 learners in integrated and mainstream classrooms.

The possibilities are endless and continue to grow as technology advances.

## Transporting Global Issues to Local Writing Classrooms

To foster written and verbal fluency and social awareness, we created an integrated skills social justice-themed curriculum that culminated in a capstone e-portfolio showcasing students' newly gained language competence.

VR transports L2 users around the globe to witness social injustice and build students' empathy and pragmatic understanding. Many VR applications are intentionally designed to take users out of their comfort zones to establish stronger emotional connections with the issues, leading to

- increased investment with the topic,
- classroom participation,
- informed discussion, and
- critical reflection on the learning content.

These outcomes result in better spoken and written output.

### Visiting a Refugee Camp

VR enables personal interaction with the subject, as one student vividly describes in his reflection on [\*Forced to Flee\*](#), a 360° video that brings a Rohingya refugee camp to the classroom (see Figure 1):

In the video, they show everything around the village—the people, and the houses, and the dirt roads, and blood everywhere... The most shocking experience for me was that I could [see] the faces so close to me, almost like they [were] touching me. Everywhere I looked there were little kids and babies looking at me. I felt they wanted to tell me—help me, help me! And I wanted to touch their hands and take them, but I couldn't feel them. I wanted to cry because I couldn't help... I want to learn more after this VR experience and do something.

VR expands students' research, critical analysis, and understanding of the issue way beyond what is accomplished in print. Through VR, students not only learn language, they experience it. Another student describes how VR took her research and understanding of the refugee crisis to another level:

Throughout my research I've understood the struggles refugees go through; however, having the opportunity to use the Virtual Reality technology at Lehigh helped me have a first-hand experience with the issue. Now that I could do the VR experience I feel more passionate about the social issue.



Figure 1. Forced to Flee VR documentary.

## Becoming Homeless

Walking in the shoes of people around the world, students become impassioned and begin to look at issues from different perspectives, which requires them to formulate the language necessary to express their changing viewpoints. For example, one student describes his experience with [Becoming Homeless: The Human Experience](#), an app that places users in the position of a person who becomes unemployed and, as a result, homeless (see Figure 2):

I wanted to try to simulate an experience that would most likely affect your mental health in a real-life scenario in order to better grasp the concept and become more attached to the matter. I found myself diving deep into the experience pretty fast. The story itself was very realistic and it put you in plenty of uncomfortable situations that you would not find yourself in on a daily basis. It was very eye-opening realizing what many people in homelessness have to deal with in their lives.

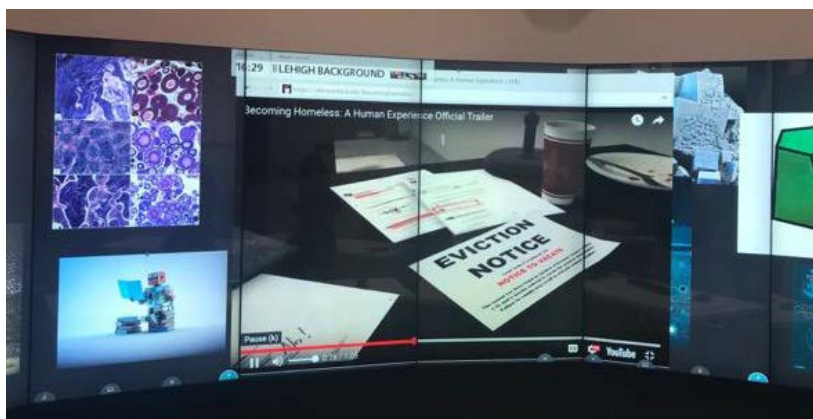


Figure 2. Becoming Homeless–Student experience in Lehigh’s Visualization Lab.

As students witness social injustice, they become increasingly aware of the complexity of these issues, expand their critical analysis of the issue, and interact with the topic they are researching in a much more intimate way, which inspires personal commentary and results in more authentic writing.

### Gaining Speaking Confidence Through Virtual Reality

VR applications create safe, risk-free environments that increase speaking confidence. Unlike real-life situations, VR experiences rarely lead to negative scenarios that result in fear of speaking. On the contrary, they encourage even the most reluctant speakers to talk.

#### Virtual Navigation and Exploration

One such application is [Google Earth VR](#), which allows students to “fly” over the Earth and “land” in their native towns (see Figure 3). [Google Street View](#)’s lifelike qualities inspire confidence and ease as students act as guides, giving directions and virtual tours, explaining cultural concepts, discovering new vocabulary, and sharing exciting narratives of their homes and cultures. As ELs navigate virtual environments through proprioceptive systems, they experience both physical and mental immersion (Sherman & Craig, 2003; Chen, 2016).

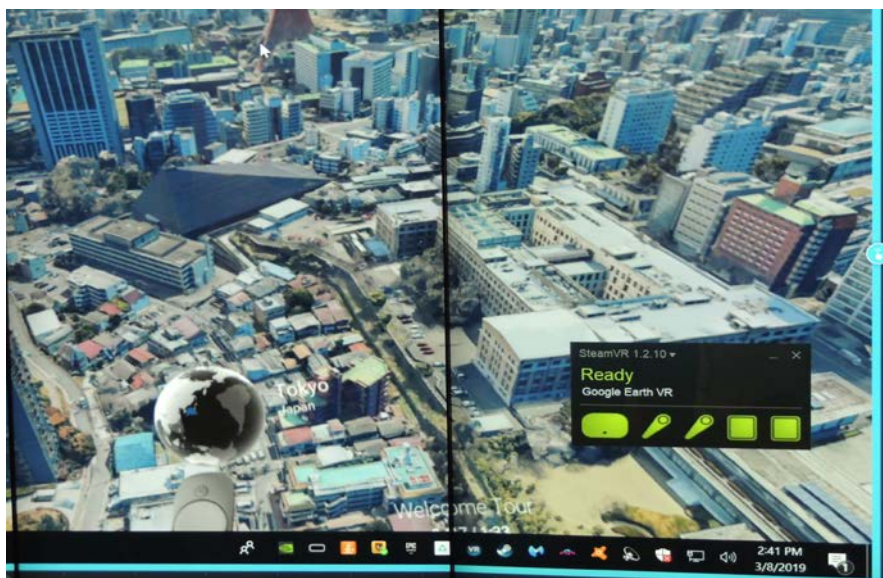


Figure 3. Screenshot of Google Earth VR.

Virtual tours of historic landmarks allow students to travel the world without leaving their classrooms. Fringe benefits of such tours are that they can be viewed on affordable VR devices and do not require difficult setup or technological support. Exploring historic sites and museums, L2 learners not only experience cultural immersion but also acquire new vocabulary as words materialize in corresponding contexts. Rather than memorizing new vocabulary, L2 learners associate high-frequency words with tangible items and explore them in syntactic patterns (Chen, 2016). By providing interaction with authentic cultural artifacts, this contextual learning experience

- reduces speech anxiety,
- enhances language acquisition, and
- promotes multiculturalism (Aldosemani & Shepherd, 2014).

### Practicing Presenting

Newly gained speaking confidence prepares ELs for exploration of another application—[Speech Trainer](#), which bridges informal speech with academic language. Students become accustomed to public speaking while presenting their PowerPoint presentations to a realistic, nonjudgmental, virtual audience. Thus, as motivation increases and anxiety decreases, VR enhances fluency, vocabulary, syntactic knowledge, discourse knowledge, and metacognition.



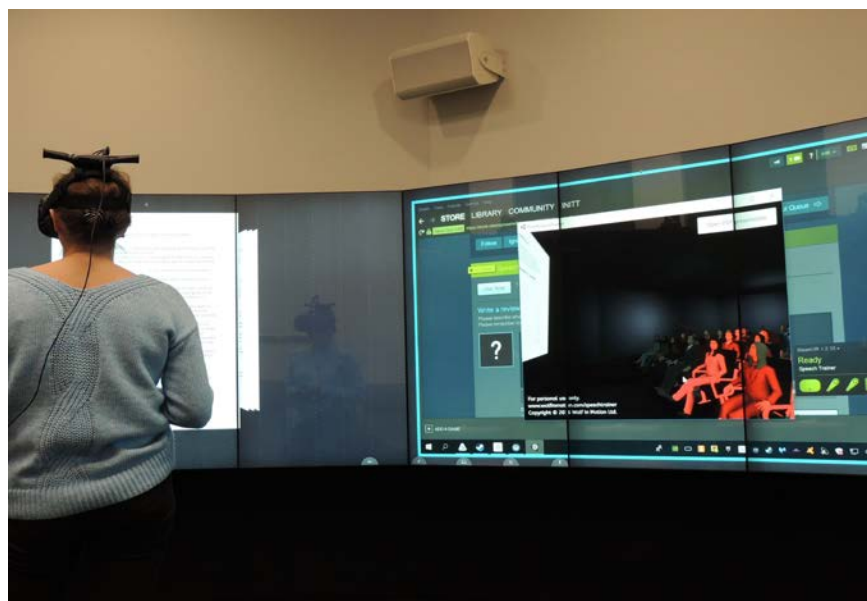


Figure 4. User interacting with Speech Trainer.

## Virtual Exploration for Engaged Reading

Sometimes, assigned academic readings cover topics that students are not interested in or familiar with, and L2 reading challenges, such as vocabulary limitations or slower reading pace, increase frustration and lower motivation. These feelings are further exacerbated by lack of relatability, knowledge of the topic, and contextual gaps, making it nearly impossible to keep students engaged with the text. Facing this obstacle with two mandatory freshman readings, [\*The Underground Railroad\*](#) by Colson Whitehead and [\*No Apparent Distress\*](#) by Rachel Pearson, we used Google Earth VR to travel virtually to locations in the books. Both novels contain significant cultural, historical, and geographical references with which most ELs are unfamiliar. L2 students were further challenged by topic-specific vocabulary, idiomatic expressions, and complex syntactic structures.

By virtually visiting Galveston and other flood zones in Texas or by exploring routes traveled by slaves fleeing along the Underground Railroad, students were better able to empathize with the characters and plots referenced in the books. As a result, they became more engaged with the readings. VR experiences transformed students from reluctant readers to readers with increased ability to infer information, distinguish between facts and opinions, use context clues to expand vocabulary, decipher symbolism, and organize main ideas and supporting details.

## Conclusion

Taking subject matter and learning concepts off the page and bringing them to life via virtual reality inspires ELs to become active class participants and explore the language in a more authentic and engaged way. This language immersion results in more informed rhetorical choices and a willingness to take risks with the use of language as learners express their ideas and opinions. Improved language output creates positive learning experiences, removing internal barriers, increasing confidence, and fostering curiosity toward further language development.

The following list suggests applications that can be used for a variety of learning objectives in an integrated skills classroom:

1. [Discovery VR](#) (Discovery)
2. [Forced to Flee](#) (Viveport)
3. [Google Earth VR](#) (Google)
4. [InCell VR](#) (Steam)
5. [Speech Trainer](#) (Steam)
6. [theBlu](#) (Steam)
7. [YouTube VR](#) (YouTube)

## References

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