

Using Virtual Reality to Prepare Our Students for Global Citizenship

by Benjamin M. James



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Today's students are growing up in an integrated global community more complex and connected than that of earlier generations of Americans. So, it is essential our students develop an awareness of this new reality. It is likewise important that social studies teachers guide students as they develop the new set of skills needed by the global citizens of tomorrow. There are new tools available to educators that utilize Virtual Reality (VR) to help students prepare for their future as global citizens.

Global Citizenship

This mission for global citizenship is underscored by the *History–Social Science Framework for California Public Schools, Kindergarten Through Grade Twelve* (HSSF). Published by the CDE in 2017, the HSSF provides some guidance in defining how schools and educators should approach the concept of global citizenship. Broadly, the HSSF serves to outline various changes in how California educators and students should engage with the his-

tory-social science content standards. One recurring element in these changes is an emphasis on global citizenship, specifically the desire for students to “recognize their responsibility as members of the global community to participate ethically and with humanity in their interactions with various nations, cultures, and peoples” (CDE, 2017, p. 15). To support this, the CDE calls for students to engage in a wide variety of inquiry-based learning experiences including opportunities for students to investigate “a wide variety of perspectives,” (2017, p. 15), “connections between events at home and abroad,” and “unresolved conflicts that continue to affect the world today” (2017, p. 6). Moreover, the CDE clarifies that the development of “a knowledgeable and engaged citizenry” at the local, national, and global level is ultimately the goal of the history–social science instructional program (2017, p. 16).

In addition to the HSSF, the CDE also released a report in 2016 entitled *Educating for Global Competency* further expanding on the idea of global citizenship and more specifically,

a concept they describe as global competence. Similar to global citizenship, the CDE (2016) defines global competence as “the ability to understand and take action on issues that matter in the world” (p. 2). In this report, the CDE offers a detailed list of recommendations for how California schools and educators can better prepare students for global citizenship and competency. These recommendations include a call to “identify, develop, and share effective strategies for integrating global education at all levels (class, school, district, county) and across all grades and subject areas to include models of effective interdisciplinary global education programs” (CDE, 2016, p. 9).

While both documents are wide in scope, outlining many other recommendations in how schools should approach teaching history and social studies, the CDE has made it clear that California educators need to prepare our students for global citizenship. Connecting our students with these global issues is “an educational equalizer and is imperative in the culturally, linguistically, economically, and politically interconnected twenty-first century” (CDE, 2016, p. 2). Failing to give explicit attention to global competency and citizenship in the social studies classroom may result in a statewide student population lacking the “knowledge and skills required to participate fully in a global society upon graduation from high school (CDE, 2016, p. 7). This is certainly not an easy task, requiring shifts in how educators and school administrators approach delivering the history-social science content standards. While technology is surely not a panacea for solving this complex challenge, new developments in mobile Virtual Reality (VR) technology offer an exciting conduit to better prepare our stu-



dents for global citizenship. Specifically, the use of VR in the social studies classroom can allow teachers to facilitate effective inquiry-based learning experiences for students to share their personal histories, engage with global perspectives, and make deeper connections to global events.

Virtual Reality

Virtual Reality (VR) is a fairly dominant element in the world of educational technology in 2018. Simply put, VR is a simulated audio/visual experience that immerses the user in a three-dimensional, digitally generated environment, typically while wearing a headset that covers the user’s eyes and headphones for sound. The user can move their head around 360 degrees to view the environment in all directions, and the headset simulates three dimensions, creating the illusion for the user that they are actually there. These environments are sometimes computer-generated, but the advent of high-definition 360-degree cameras has since spawned an ever-growing library of realistic VR experiences often filmed from a first person Point of View (POV) perspective. For a first time user, a well-designed POV VR experience can feel quite shocking and intimate. Objects feel as if you can reach out and touch them, mountains and buildings seem to stretch unfathomably high, and the hands of someone filmed across the globe can feel like your own. There are expensive computer-based VR sets like the HTC Vive or Oculus Rift that provide the most realistic VR experience, running upwards of \$600 for the headset alone, but smartphone based VR applications are an affordable and accessible alternative. There are a large number of VR apps available for Android or iOS devices,

many of which are free of charge. After installing the app on a smartphone, the user simply plugs in their headphones and places their device into any of the mobile VR headsets on the market. There are headset options compatible with both Android and Apple based smartphones, from the \$1.99 [Google Cardboard](#) to more expensive hands-free headsets like the [Zeiss VR One Plus](#).

Some schools have made investments in sets of affordable smartphones and headsets for the express purpose of tapping into the wealth of mobile VR apps on the market. At schools I have previously worked at without sets of smartphones, I have resorted to using my personal device and headset at a guided station or even calling on parent volunteers who generously provided their own devices for students to use in the classroom under my guidance. Certainly with the prevalence of some schools implementing a bring your own device program for students, older students could even use their own smartphones with the right support and access to a few inexpensive headsets.

Global Perspectives and Personal Histories

After gathering the necessary hardware, there are a number of iOS and Android apps that teachers can use to get the most out of the mobile VR experience. With the ability to transport the user to distant locations and immerse them into new perspectives with just a smartphone and headset, mobile VR is an excellent medium for promoting global citizenship. In the social studies classroom, VR offers exciting opportunities for students to investigate different global perspectives as well as share personal histories and culture. The Google Expeditions app ([iOS](#) or [Android](#)) serves as a good starting point, allowing teachers to “guide” a

group of VR headset wearing students through virtual journeys in various locations around the world. As the teacher guides users through any number of cultural or historic landmarks, students can look around 360 degrees to get a much better sense of scale and perspective at each location. For first time VR users, Egypt by AirPano and the Burj Khalifa Expeditions are two particularly dramatic experiences.

Second grade teachers at the International School of Monterey (ISM) have used the Expeditions app as a provocation to start a social studies unit exploring family histories. With the students wearing VR headsets, teachers used the app to take the students on virtual trips to India, Germany, and other countries and locations that had personal significance to the students and their families. Students were able to virtually visit the different countries their classmates were born in, and for some, it was the first time to see their home country since arriving in America. In the Spanish classroom at ISM, some of the Spanish teachers use the app to share their own personal histories and immigration stories in VR as a way to make personal connections with their students (Figure 1).

To foster deeper student-led inquiries into global citizenship, the next step would be to invite students to take over as the guide, using the Expeditions app to guide their peers through their personal histories and share culturally significant locations in VR. Students from immigrant families could have the opportunity to embrace and share their own heritage with pride, and their classmates would have a unique opportunity to engage with a different perspective by virtually traveling to their home country. While the Expeditions app itself features a built-in search function, [this interactive map](#) offers a more dynamic view of all the lo-

cations available on the app. Other apps like Google StreetView ([iOS](#) or [Android](#)) offer a

rent events, often told through a first-person POV perspective. One such mini documentary,

“The Displaced”, provides an intimate look at the migration process through the eyes and ears of three refugee children, ideal for a middle or high school unit on migration. The eleven minute documentary, available in VR or [360 video](#) (non-VR), follows an 11-year-old boy from eastern Ukraine, a 12-year-old Syrian girl, and a 9-year-old South Sudanese boy at different stages of their migration journey (Silverstein, 2015). The VR documentary begins in the remains of a bombed-out classroom in the Ukraine. The user



Figure 1: Sra Fabry uses the Expeditions app to guide her Spanish class through locations in her home country of Guatemala in VR.

can look around the rubble in the classroom in 360 degrees, listening as a boy writes on the chalkboard across the room and tells his story. Next, the viewer is fleeing with a boy across a swamp in Sudan, navigating crocodile-infested waters in a narrow wooden boat. Finally, a young Syrian girl offers the user a tour of the refugee camp where she now lives in Lebanon, running with other refugee children between the dilapidated tents in the camp. All scenes of the documentary are presented from the point of view of the refugee children entangled in the different conflicts, filmed from their perspectives and narrated in their voices. While watching the documentary, the user can view the children’s living conditions in 360 degrees, hear their surroundings in stereo as they travel and work, and listen to the harrowing accounts of each child’s journey as a refugee. Unlike reading a news article or even watching a video report, experiencing the stories in VR provides a profound way for students to engage with global perspectives on a more personal level and begin to make connections to their own lives. In this sense, students can begin to engage with the personal re-

more pared down VR experience with 360-degree photos of locations all over the world that have been uploaded by other users. A more exciting feature however, is the ability for students to use the StreetView app to create their own 360-degree photos with just a smartphone camera, which can then be shared with other students. This offers another way to prepare students for global citizenship, allowing them to document, share, and engage with their own personal histories and the perspectives of others from all over the world.

Connecting with Events Abroad

Furthering the idea of engaging with global perspectives, there are a number of VR apps that support students’ investigations into global events and conflicts abroad. The VR news app, NYTVR by the New York Times ([iOS](#) or [Android](#)), provides a unique medium for students to engage with current global events and perspectives on a mobile VR platform. The app curates VR-compatible news stories and mini documentaries offering a 360-degree look at different cur-

sponsibility, humanity, and empathy needed for global citizenship.

While “The Displaced” does not show any graphic content, the stories told are certainly mature in nature. One child recalls the loss of friends and family members, another weighs the slow death by a crocodile attack against murder at the hands of rival fighters. With this in mind, viewing the documentary through the more intimate medium of VR deserves careful planning from the teacher. A well-organized VR experience with appropriate preparation before and discussion after viewing can prepare the students emotionally to engage with mature topics like war and provide the opportunity for students to connect with global conflict in an entirely new and more personal way.

I like to use a variation on the [circle of viewpoints](#) thinking routine from Harvard Project Zero as an engaging way to structure the discussion after viewing the documentary. In this activity, a large circle is drawn on a sheet of butcher paper. The topic is written in the center (in this case, “refugee crisis”) and the circle is then divided into four equal sections. Each section is labeled with a different perspective on the topic. For “The Displaced” three of the sections are labeled with each refugee child’s name and the final section is labeled “me”. The paper is then placed on a desk with room for students to freely move around the surrounding area. After experiencing the VR documentary, students stand around the paper in front of one of the four sections on the paper. From here, stu-

dents take on the perspective of that person, writing comments and questions from that perspective in the corresponding section on the paper. Some sentence frames are helpful to scaffold writing as needed:

1. **From my perspective... / I think...** describe the topic from that perspective.
2. **A question I have is...** ask a question from this perspective
3. **I wonder why / who / what / where / when / how / if...**

After they comment and question from one perspective, students then rotate freely around the paper to write, read, and respond to the comments and questions written by the other students in the other perspectives, including their own (Figure 2).

Together with the VR documentary, the circle

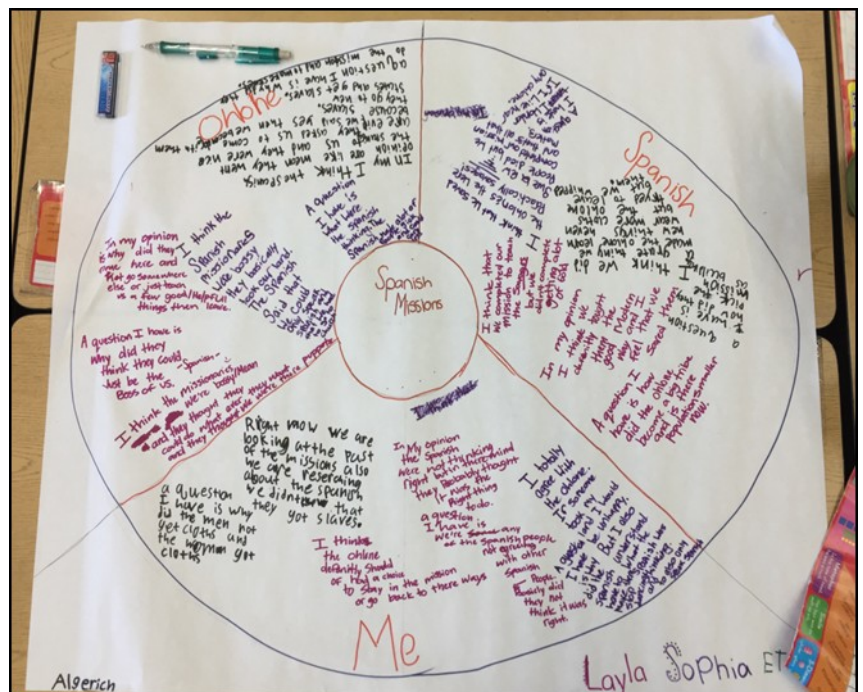


Figure 2: A "circle of viewpoints" example from an investigation into the Spanish Missions using three perspectives (Spanish colonists, The Ohlone, and me).

of viewpoints activity pushes students to not only

engage with a challenging global issue first hand, but they are also challenged to view it from the many perspectives of the people involved. The final perspective, “me”, asks the students to make comments and questions on the issue from their own perspective, pushing them to make connections to their own lives. In my experience, sharing these VR experiences and subsequent discussions with students has led to students having more meaningful conversations about global issues, demonstrating a stronger sense of empathy, and making deeper connections between global perspectives and their own lives.

In addition to “The Displaced,” there are a number of other VR news stories on the NYTVR app; each would work well in the social studies classroom. There is also a growing number of VR news and storytelling apps that curate similar mobile VR content (see links below), providing a library of rich VR content that teachers and students can explore and discuss to address the challenges of global citizenship.

VR News/Storytelling Apps

CronkiteNews VR: [iOS only](#)

The Guardian VR: [iOS](#) or [Android](#)

NYTVR: [iOS](#) or [Android](#)

USA TODAY: [iOS](#) or [Android](#)

WITHIN: [iOS](#) or [Android](#)

As teachers, we sometimes struggle to keep students engaged, and technology can often feel like a gimmick, taking an otherwise unremarkable learning experience and repackaging it with unnecessary bells and whistles. It is our responsibility as educators to provide honest learning experiences that facilitate student learning and growth in meaningful ways, with technology serving as a conduit when appropriate. The CDE has made it clear that California schools need to engage with concepts related to global citizenship more deeply, and it is my belief that Virtual Reality can provide appropriate learning experiences for our schools to do so. From sharing personal histories to engaging with the perspectives and struggles of others across the globe, VR offers a unique and effective way to explore these concepts.

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- Circle of Viewpoints:
http://www.visiblethinkingpz.org/VisibleThinking_html_files/03_ThinkingRoutines/03e_FairnessRoutines/CircleViewpoints/

[CircleViewpoints_Routine.html](#)

CronkiteNews VR app iOS: <https://itunes.apple.com/us/app/cronkitenews-vr/id1098844365>

The Displaced 360 video: <https://www.nytimes.com/video/magazine/100000005005806/the-displaced.html>

Google Expedition app iOS: <https://itunes.apple.com/us/app/expeditions/id1131711060>

Google Expedition app Android:

<https://play.google.com/store/apps/details?id=com.google.vr.expeditions>

Google Expeditions map: <https://awesome-table.com/-KDtucCxQnu3tOmTdWmL/view>

Google Streetview app iOS: <https://itunes.apple.com/us/app/google-street-view/id904418768>

Google Streetview app Android:

<https://play.google.com/store/apps/details?id=com.google.android.street>

Google Cardboard: <https://vr.google.com/cardboard/get-cardboard/>

The Guardian VR app iOS: <https://itunes.apple.com/gb/app/6x9/id1099086012>

The Guardian VR app Android: <https://play.google.com/store/apps/details?id=com.guardian.gvr>

NYTVR app iOS: <https://itunes.apple.com/us/app/nyt-vr/id1028562337>

NYTVR app Android: <https://play.google.com/store/apps/details?id=com.im360nytvr>

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[id=com.shakingearthdigital.vrsecardboard](#)

Zeiss VR One Plus: <https://www.zeiss.com/virtual-reality/home.html>

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