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A school field trip is a staple of students' educational experience. Many can recall his or her first field trip and the wonderful, beneficial experience it added to the curriculum one's fascination with the content. School field trips are a tremendous asset to student learning, however there are boundaries. Those include (but are not limited to) cost, financial burden, and student safety. There is an alternative to the traditional field trip and in many ways, can even be better than the "normal" trips. Infusing virtual reality into the classroom, especially in Social Studies and Science classes, would be a tremendous benefit to students' learning experience.

Description

Providing students with the opportunity to enhance their educational experience via virtual reality (VR) field trips will enhance students' engagement, knowledge, and comprehension of content. For example, students read texts and watch video clips depicting a particular time period in Social Studies class or an aspect of our environment in Science class. Reading the texts is, of course, important. This practice builds background knowledge and provides the comprehension skills needed for all classes that a learner participates in. However, that should be only one aspect of the learning. Providing a VR field trip would allow students to feel as if they are "in" the moment and/or environment that they are studying. Reading about the experience, albeit valuable, still does not allow students to fully experience what they are studying.

One anecdotal example would be a high school US History class. Students have learned and studied about the Revolutionary War. Students know its importance at the time and to our country's future. Texts have been read, videos watched, and primary sources dissected in an effort to learn about the significant time in history. However, a VR experience would significantly strengthen student engagement and comprehension. "Augmented reality (AR) and VR technology can make lectures more immersive and interactive" (Zimmerman, 2021).

Rationale

Imagine students "visiting", via VR, a battlefield to experience what it was exactly like during that war. The whizzing of bullets flying, the sounds of screams, orders being shouted - all of which is something that one could only experience with a VR field trip.

Having such an experience would allow students to fully grasp the magnitude of the war and what the soldiers were dealing with. This first-hand experience, albeit virtual, would drive home the point of the immense importance of this war.

VR field trips provide an excellent opportunity to differentiate instruction. In a class geared around lectures and reading texts, both primary and secondary, the content could be lost on students who learn better by being more interactive. To state the obvious, learners grasp information better via different mediums. Attention deficit disorder is a rising issue in schools. Educators are always searching for ways to meet the needs of every learner. VR provides that opportunity. "With virtual reality headsets, students are forced to interact with their studies by excluding all else, making the technology ideal for educators who work with kids who have varying levels of ADD/ADHD" (Zimmerman, 2021). These VR field trips allow all students, especially those with special needs, to obtain the content in a different way, thus differentiating instruction.

These specific types of trips are also beneficial to special education students. With traditional field trips, not every learner has the same opportunity to explore the experience of the first-hand field trip. VR field trips are a terrific opportunity for all learners because "(VR field trips) are still a major draw, especially with students who may need to stay on school grounds" (Zimmerman, 2021). This might be something that many people do not realize. Not all students are able to hop on a bus, go to the field trip site, and then experience everything first-hand. A particular experience will be presented in an upcoming section.

VR field trips also foster Social Emotional Learning (SEL) education. Instead of the traditional, in-person field trips that many learners are used to, VR field trips have different benefits. "Virtual environments can give students who require extra assistance the opportunities to build the skills they need to be successful in the classroom as their peers" (Zimmerman, 2021). A traditional field trip may provide anxiety for certain learners, those with disabilities or introverted learners, but the VR field trip enhances the individual experience and thus makes it beneficial to all learners.

Policy

VR field trips could and should be used to supplement the curriculum and learning experience. These field trips should not replace the traditional field trip. There are, of course, still benefits of visiting a site or museum in-person. Such trips should still be held with the factors, as presented above, taken into consideration. However, making field trips accessible to all learners via VR will significantly enhance engagement for students.

Infusing VR field trips will allow for more experiences, even if they are virtual, to be conducted. For example, a Board of Education allots a certain sum of money to be used for field trips. Oftentimes, that could be used in only one or two trips. With VR trips being far less costly, more trips could be included in a curriculum. Schools will not need to pay extra money for busing, admission, and chaperone fees. VR field trips do not require many of the expenses of a traditional field trip. The program/app would need to be paid for, but the cost will be far less significant than that of traveling to a site first-person.

State of the Field

There are school districts that have taken on VR field trips. These districts have seen the overwhelming benefits, albeit financial or educational, and implemented them into the curriculum. At a school in Milwaukee, a teacher realized that her special needs students could not attend an in-person field trip because the students were unable to leave school grounds. She did come up with a solution via VR. “Using VR headsets, she (Megan Rierdon) was able to give her students the same experiences their peers were having” (Zimmerman, 2021). This example further solidifies the idea that VR field trips open up opportunities to every type of learner, despite any disabilities or limitations. Ms. Rierdon saw this as a tremendous asset to her students. “‘Virtual reality is a really great opportunity for kids to travel and experience things that they otherwise wouldn’t have,’ Rierdon was quoted as saying” (Zimmerman, 2021).

Certain museums have begun to infuse VR field trips into their regular Educational Field Trip (EFT) experience. For example, Colonial Williamsburg began holding VR field trips in the 1990s. As of 2009, they produce seven virtual EFTs per year, with that number being on the rise in recent years (Stoddard, 2009). These EFTs

cover a significant part of the curriculum. Colonial Williamsburg has EFTs on “the life of a slave in colonial Virginia, colonial currency, the life of women in the colonial era, and behind-the-scenes episodes such as Jamestown Unearthed, which looks at the job of archaeologists and their finds at historical Jamestown” (Stoddard, 2009).

What makes the EFTs at Colonial Williamsburg especially effective is how they vary the resources used. Each EFT has content delivered in four ways - video (streaming video segments), curriculum & resources (readings and websites), communication (opportunities to email experts and a live call in), and online activities (live broadcast voting, interactive activities, and virtual reality) (Stoddard, 2009). By varying the resources, the museum allows all types of learners to experience and absorb the content that is being presented.

Assessment

The success of VR field trips to the learning environment can be measured by both quantitative and qualitative data. As for quantitative, students could take a pre-assessment on their knowledge of the experience they’d have via VR. This could apply to both a Social Studies class exploring a part of the world or going back in time to a particular era, as well as a Science class encountering wildlife or a cosmic setting. Following the pre-assessment and VR field trip, the students could take a formative assessment to test their knowledge of the content. The same process could be conducted with students, or those who are able to, attending a museum in-person. Then, the data could be analyzed to see if students attending field trips via VR scored better than if they went on an in-person field trip.

Qualitative can be used for this as well. As a pre-assessment, one can ask students what they think of in-person field trips. This could include, but is not limited to, asking whether or not they enjoy the trips, how much they learn, and if they left the trip with a different mindset/feeling on the content. The same process would be conducted on students following a VR field trip. With that data, the researcher could identify any differences between students attending field trips virtually versus in-person. This data would be very telling as students’ voices can and are very valuable tools in educators’ monitoring and adjusting their practices.

Conclusion

Implementing virtual reality field trips into schools' programs of studies would enhance the educational experience of students. These VR trips are more cost-effective, more engaging, and use up fewer instructional hours. More importantly, these VR field trips open up the world to all students, despite any disabilities or limitations.

References:

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