

Benefits of Immersive Instruction Practices and Virtual Reality Technologies for EFL and ESL Instruction

Jonathon Townsend

Abstract: EFL (English as a Foreign Language) courses sometimes struggle to bring the authenticity of language to their students. Similar circumstances can occur in situations with ESL (English as a Second Language) students that return to a home that does not speak English. Some countries attempt to remedy this by bringing in native English speakers to co-teach EFL classes. Immersive education functions at its best when students are able to interact with their peers in a low-stakes environment. At the University of Toledo, there is a program in place where Japanese exchange students can interact with native English speaking students during a lunch period. Virtual reality headsets could be used to recreate this program without having to travel overseas.

Introduction

EFL/ESL students today walk into their foreign language classrooms, crack open old textbooks that are barely holding themselves together and repeat words or phrases with their teachers. EFL students are completely isolated from natural English sources, having to rely on audio files or teachers to provide authenticity. Some teachers incorporate a little more life into the classroom, speaking in a target language to the young, eager learners. Others bring in gifts, trinkets, and other various objects to let students see, touch, and taste aspects of a foreign culture. Or, perhaps, a teacher might display pictures, slideshows, or videos for their students to see and hear the people using language in a natural environment. These teachers are desperately trying to bring immersion to the classroom, trying to get their students to form mental connections and boost their learning.

But what if teachers were able to bring the people, culture, and language to the students in a much more interactive way? One day, students might walk into the classroom and be greeted with a very different setup. They might walk to their designated space, strap a virtual reality headset to their face, pull it tight, and stumble around reaching for their controllers. Once they have everything together, the student presses a single button and suddenly they are transported to England, where research traces the origins of the English language. The students are standing in the streets, looking around, watching as virtual people go about their daily lives and listening to their small talk.

Suddenly, the teacher transports their class to a small room. The young, smiling learners begin to notice that there are more people than just their classmates in the room. All of the students get jittery with excitement and eventually the teacher introduces the class to the main activity for the day: speaking, interacting, and playing with students through virtual reality from a school in England.

Many teachers recognize the importance of immersion when learning a new language, some might even recommend moving to countries that use the target language on a daily basis. Immersion is supposed to keep the brain constantly thinking about the language that it is attempting to learn. If someone moves to a country that speaks Spanish as the primary language, then they will be consistently experiencing the language visually, auditorily, and conversationally. The problem is that some EFL (English as a Foreign Language) and ESL (English as a Second Language) students are not able to benefit from immersion. ESL students might go back to a home where English is not spoken at all, and they are left with the challenge of learning a language that is only used at school. EFL students have an even more difficult time because they live somewhere that does not use English as its dominant language.

By learning to use virtual reality technologies in the classroom, other languages, peers and perhaps even some culture can be brought to students in a much more controlled, cheaper, and convenient manner. Using virtual reality headsets will allow the students who have been deprived of language immersion to begin having those experiences without the inconvenience of traveling. Virtual reality is becoming more and more accessible as time progresses, with one model reaching as low as \$300 per unit, including both the controllers and the headset. This is competitive to the Chromebooks that almost every student received during the COVID-19 pandemic, which sell for around 250-300 dollars as well.

What Is Virtual Reality?

Before explaining the opportunities presented with virtual reality, what virtual reality is will be established so that ESL and EFL educators have a basic understanding. Virtual reality headsets are basically small screens that are worn on the head. The headset could be thought of as a tiny computer screen strapped to the face. The ‘screen’ is actually a pair of lenses, much like goggles or glasses, that the user looks through. By using these lenses, headsets are able to give the impression that someone is visually present in a virtual space. Beyond just being able to look around, the user can also walk around in virtual reality. This allows them to walk through a virtual town or walk around a room, giving the illusion that the user is actually maneuvering the virtual world. The last important piece of virtual reality is the controllers. While wearing a headset, the user can utilize controllers to grab objects or interact with things as if they were hands. The controllers also have a thumb stick that can be used to move your avatar around in the virtual space or you could physically walk around, but you generally do not have a lot of space, that is why thumb sticks are preferred for movement. So, in short, all of these things combined let the user walk around, look around, and manipulate objects in a computer-generated world.

Virtual reality headsets do not stop at just visual and physical elements. The majority of headsets include built in microphones and either speakers or earbuds. Speakers and earbuds allow users to hear whatever virtual environment they are connected to. Microphones are used to speak to other users over the internet. When using a program that supports communication, users can speak while wearing a headset and the built-in microphone will pick up their voice. It will then be played back to every other user connected to the virtual space, much like a group phone call or virtual meeting. If a headset has speakers, the voices of other users will play

through the speakers. Otherwise, the user may need to plug in earbuds to the designated headphones jack to be able to hear the virtual environment and the users connected to it.

The Benefits of Immersive Instruction

When teaching English to any student, there are three general areas that they need to become proficient in: Reading, writing, and speaking. Traditional forms of teaching focus primarily on the reading and writing aspects, often because the students who are being taught have the opportunity to communicate in English on a daily basis. But for students who are ESL or EFL learners, sometimes the opportunity to speak does not exist outside of school. For students in those situations, they can become less and less confident in their English skills. This is due to the fact that they do not have immersion, like native English speakers, to take advantage of. Virtual reality headsets are technological devices that entirely focus on boosting immersion, which makes them a strong candidate for remedying this deficit.

A study performed by Aaron Jones (2018) studying the impact of immersion on Korean Individualized Education Plan (IEP) students found “that students who have graduated from the IEP program were more likely to have a boosted level of self-confidence in speaking English” (p. 669). Motivation and levels of engagement have direct impacts on the learning outcomes of students. Having students transition from having little or no confidence to being able to comfortably hold conversations with their peers will have a tremendous impact on their overall English ability, primarily in spoken English. Jones (2018) goes on to state that “evidence suggests that by the time students come out of the IEP program, they are much more willing to engage others in English and social interaction” (p. 669). This program took students who initially felt like they were incapable or low performing to being comfortable enough to initiate conversation. When the students were questioned about what factors led to this change, the results were substantially in favor of immersion strategies over engagement strategies. The statements on the questionnaire both current and post IEP students agreed most strongly with concerned speaking with native English speakers, living with Americans, interacting outside of school with native speakers, and interacting with American culture outside of school (Jones, 2018, pp. 670-671). Students had to select how strongly they agreed with the statement’s impact on their learning.

While the study did not span into determining how much immersion strategies made it easier to study English, the motivation, whether intrinsic or extrinsic, derived from immersive education practices led to significant improvements. The author states, “Students may not have found it any easier to study English in immersion settings, as the research did not explore the ease of study, but students most certainly had a motivation for using English in immersive settings and found that it increased their efficacy to do so” (Jones, 2018, p. 672). So even if being immersed does not directly improve learning, it does indirectly boost the motivation of the learner, and motivation has a direct connection with the efficiency of learning English.

The part where virtual reality connects with the goals of immersive education is bringing students in contact with their peers. Jones (2018) states, “participants

noted that partaking in the weekly Conversation Partners program, where Americans come every Friday to the IEP program and spend an hour talking about any subject with international students, helped them to utilize their English-speaking skills” (p. 672). This is where virtual reality can truly shine. By bringing students, in areas where it is normally not possible, in direct contact with native English speakers in a low-stakes environment. Students are given an activity where they can practice using their English in a realistic situation, one where the activity is not being graded or scrutinized by educators. Having this chance to converse freely is something that can be accomplished through virtual reality. Students from a school learning English can directly connect with an American, Australian, Canadian, or any other native English-speaking country and obtain the benefits of immersive education.

Virtual Reality and its Benefits

All of the functions and capabilities of virtual reality headsets could be applied to a small group conversation program that brings students together for interaction in a casual setting. Such a program could be scaled up internationally in classrooms with virtual reality headsets to connect people anywhere. In a study determining the usefulness of augmented reality and virtual reality, Nesenbergs et al. (2020) found that “in all interventions where engagement was measured, the engagement increased [which leads them to] speculate that novelty of technology usage has a direct positive impact on engagement” (p. 8). They admit that they are unsure whether the usage of virtual reality improved engagement solely because of it being a novelty or if the usage boosts engagement via other methods. These are strong initial signs for the application of virtual reality in an educational environment. If the boost in engagement is solely because of novelty though, then the applications of virtual reality may be limited in scope. Longitudinal studies will have to be performed to determine if it is due to it being perceived as a novelty.

Additionally, the researchers believe that “These technologies might improve social contact, which in turn improves overall outcomes” (Nesenbergs et al., 2020, p. 8). A major function of any language is to enable social contact. More studies will need to be performed to verify this claim, but these beliefs align with immersive education. The study also found that “in every study that showed increase of performance or engagement, the course was well-designed and teachers had good qualification to use benefits of AR/VR for learning purposes” (Nesenbergs et al., 2020, p. 8). This shows that, with proper training, virtual reality can be a powerful tool in the arsenal of an educator. But, teachers should make sure that they are actually being trained before using such technologies to avoid hindering the learning process instead. To support adoption of virtual reality headsets there will need to be support systems and training programs put into place for those who are unfamiliar with the technology.

Another article by Matt Bower and Morris Siu-Yung Jong (2020) states, “IVR using HMDs were found to have a greater impact on K-12 learners” (p. 1981). The terms IVR and HMD stand for Immersive Virtual Reality and Head Mounted Displays. Head Mounted Displays are the form of virtual reality headsets that are being referred to in this manuscript. Bower and Jong (2020) go on saying that this impact comes when “offering simulation or virtual world representations and when

compared to lectures or real-world practices.” (p. 1981). These findings demonstrate the primary strength of virtual reality headsets: bringing realistic and interactable environments to the learner. Most schools would have to bring the students on a field trip in order to acquire a truly authentic experience. Virtual reality instead brings the experience to the classroom. For English educators, this means that instead of talking about a skit or a play, the students could actually live in the described moments. In EFL and ESL classrooms, students can take field trips to America and experience the culture more directly. These activities could be used to boost both authenticity and engagement at the same time.

Conclusion

For English educators, especially in ESL or EFL, virtual reality can be a powerful tool to support immersive classroom environments. Studies and educators agree that “enjoyment was seen as potentially improving student engagement knowledge retention” (Bower et al., 2020, p. 2227). Engagement and enjoyment are known factors when it comes to retention, a student who wants to learn and enjoys the process will obtain better growth rates than an unwilling student who hates the process. Besides using enjoyment for retention, virtual reality also benefits users by “offering unique opportunities for experiential and situated learning” (Natale et al., 2020, p. 2024). These benefits can be used in typical English classrooms and EFL/ESL classrooms to various degrees. For example, a teacher in a typical English classroom could have students research the author of a book. Part of that process might involve the students virtually visiting the place where the author grew up. More studies need to be done, but the initial findings have been incredibly positive for this emerging technology.

Of course, virtual reality headsets have a long way to go as well in terms of development. But as time progresses, headsets are becoming more affordable and practical in nature. If given another 5-10 years, virtual reality headsets could become a widely adopted tool. Should an English educator wish to employ this exciting tool in their own classroom, be sure to seek out proper training to avoid detrimental effects. Like any piece of technology, the user must know how to use the device correctly to obtain any value out of it. However, just because a tool requires training to use, that does not mean educators should be afraid to adopt it. One day students and educators might have a much more global presence than they currently enjoy.

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About the Author

Jonathon Townsend has an individualized bachelor's degree with a focus on English education. He is currently a graduate student at the University of Toledo and a student teacher at Leverette Elementary. Jonathon aspires to teach English overseas in Japan as an EFL instructor.