

Implementing Positive Education via Virtual Reality

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Abstract

This research proposal intends to integrate the Positive Education model and Virtual Reality to improve students' mental health. In this research, I am investigating whether Positive Education, when implemented via Virtual Reality, can reduce clinical rates of anxiety among students. To do this, I will write a VR educational application that implements the Positive Education model and conduct surveys to study its effects on students' mental health. I expect to find that students who learn through the Positive Education model will have higher levels of confidence and lower levels of anxiety compared to students who learn in a standard classroom environment. I believe that this research will contribute to the conversations of integrating the Positive Education model and Virtual Reality in education.

Introduction

With the rapid rise of technology, college students in the 21st century not only face the struggle of balancing school and social life, they are also burdened with worldly concerns such as global environmental crises and political turmoil in their countries. The constant stream of news via various forms of media, albeit making them more informed, is undoubtedly overwhelming for college students and can take a toll on their mental health. According to a survey conducted by the American College Health Association in Spring 2018, 88.1% of college students felt overwhelmed by everything they had to do, 42.9% of students felt so depressed that they thought it was difficult to function, and a whopping 64.3% of students felt overwhelming anxiety (2018).

During my 18 months in the Cambridge A-Level program in Malaysia, suicide cases were unfortunately prevalent at my college. The intensity of the program and the high expectations set by professors and parents drove many students to take their own lives. This is not a problem specific to my college nor to Malaysia— a survey conducted by the Association for University and College Counseling Center Directors (AUCCCD) reported that suicidal ideation is the fourth most frequently presented concern among college students (2017). What exacerbated the problem is commonly the lack of attention and dedication to students' mental health. In my college, safety nets were installed around school buildings to prevent students from committing suicide, but no effort were made to actually prevent students from harboring suicidal thoughts.

I believe that if more emphasis was put on the students' general well-being instead of their academic performance, we would be able to prevent most of these tragic suicide cases. This is where I believe Positive Education and Virtual Reality can come into play.

Background

Positive Education

Positive Education is, in general, the implementation of positive psychology in education. It can be defined as “an approach to education that fosters *both* traditional academic skills and skills for happiness and wellbeing” (Waters, 77). More often than not, the main reasons students feel overwhelmed at school are the societal pressure and peer pressure that prompt them to believe that they are not doing well enough academically. Education is meant to grow a student into a more informed person. Nevertheless, school, especially college, should also be a place where students can grow to become flourishing individuals who practice healthy behaviors and work well with the rest of society. The sole emphasis on academic performance can impede this important purpose. Positive Education is an education model that “works on the precept that the skills and mindsets that promote positive emotions, positive relationships and character strengths also promote learning and academic success” (Waters, 77). Therefore, Positive Education strives to promote the teaching of well-being at school to curb depression, increase students’ life satisfaction, and to provide better learning and encourage creative thinking (Seligman, Ernst, Gillham, Reivich & Linkins, 295).

In a few countries like Luxembourg, Positive Education has been implemented on a school-wide basis by multiple institutions (Gilbride-West, 2018). However, this education system has yet to gain worldwide traction because schools often have limited resources and they are usually pressured to enhance academic performance. Nevertheless, there are a number of institutions that have made significant progress in adopting and testing the Positive Education model. One such example is the Penn Resiliency Program (PRP) at the University of Pennsylvania, whose curriculum is designed to “increase students’ ability to handle day-to-day stressors and problems that are common for most students during adolescence” (Seligman et al., 297). PRP "teaches

resilience and could be considered a forerunner of positive education" (World Government Summit, 9). Seligman et al. reported 17 studies evaluating PRP that involved over 2,000 students between the ages of 8 and 15, making PRP one of the most widely researched programmes designed to prevent depression in young people (297). These studies found that PRP reduced symptoms of depression, hopelessness and anxiety, and its positive benefits appeared to be long-lasting (Waters, 81). Hence, PRP provides empirical proof that the Positive Education model is efficient in improving students' mental health.

Virtual Reality

Virtual Reality (VR) is a technological interface that allows users to interact with a computer-generated simulation of a three-dimensional image or environment in a seemingly real or physical way. VR has been increasingly used in the field of psychology; it is a powerful tool for the treatment of mental health disorders such as post-traumatic stress disorder and phobias because the patients' experience can be "consistently replicated, tested, and modified within a safe environment without compromising real-world applicability" (Maples-Keller, Bunnell, Kim & Rothbaum, 2). Maples-Keller et al. reported that VR has been used to treat social anxiety disorder by using computer-generated social environments, for example, classrooms, with virtual audiences (6). In fact, two randomized controlled trials found VR-based cognitive behavioral therapy to be as effective as traditional cognitive behavioral therapy and superior to control conditions (Maples-Keller et al., 6).

At the same time, VR's unique immersive aspect has proven useful in the field of education. Immersive education has been implemented via VR through applications such as Google Expeditions, which allows teachers and students to go on a virtual field trip together, and Nearpod VR, which incorporates 360 panoramic images in its lessons. Scientific studies have

linked virtual technologies with improvements in students' academic performance and motivation, students' social and collaborative skills, and students' psychomotor and cognitive skills (Gutiérrez, Mora, Díaz & Marrero, 478). VR's ability to allow autonomous exploration promotes decision-taking and increases students' engagement; at the same time, it is possible to interact collaboratively in a VR environment, so VR can also boost collaboration among students (Gutiérrez et al., 479). Furthermore, the use of VR allows students to visualize abstract concepts and interact with virtual objects, which can be advantageous in STEM subjects such as Computer Science and Electrical Engineering where experimentation with real-life systems may not be as easily accessible.

For my research, I intend to combine the efficacies of both the Positive Education model and VR in improving mental health and bettering education. My research question is thus: Can Positive Education, when implemented via Virtual Reality, increase confidence and reduce clinical rates of anxiety among students? To answer this question, I propose to integrate the Positive Education model into a VR educational application and study its effects on students' mental health.

Methods

To answer my research question, I will first visit the two pioneers of Positive Education— the Penn Resiliency Program and the Geelong Grammar School in Australia, which has trained over "10,000 educators from over 600 different schools and organizations around the world" (World Government Summit, 15). During my visits, I will conduct interviews with the educators and coordinators of these programs to see how they have integrated Positive Education into their classes and workshops. My questions will focus on the "implicit" teaching of Positive Education: "the infusion of well-being concepts into pre-existing subject areas" (World Government Summit, 16). Furthermore, my visit at Geelong Grammar School will include sitting in one of their classes in order to really have a sense of their classroom and peer environment.

With the information that I have gathered from these interviews, I will write a VR educational application based on a pre-existing lesson from a standard classroom environment, perhaps a 75-minute lesson on some Computer Science topic, that would culminate in an assessment. This VR application will apply the Positive Education model in its implementation of the lesson. I will then have 60 students take the same lesson— 30 in the classroom and 30 via the VR application. After the class and prior to the assessment, I will conduct a survey with the students to evaluate their confidence and anxiety levels.

Expected Results

From the survey that I will conduct with the participating students, I expect to find that students who took the lesson via the VR application and learnt through the Positive Education model will have higher levels of confidence and lower levels of anxiety than those who took it in a standard classroom environment.

The tangible product of this research will be the VR educational software that integrates the Positive Education model. Upon the completion of this research, the software will be made available to colleges in the Southern California region at my discretion.

Conclusion

Empirical research and evidence have increasingly suggested that "by focusing on the whole child, we will in fact increase academic performance in the process" (World Government Summit, 40). It is apparent that Positive Education is an important model in the effort to educate students who can not only attain academic success, but also have a happy, fulfilling life. By introducing the Positive Education model in their classes via a Virtual Reality application, educators are able to test-drive the model without changing their entire syllabus and witness first-hand its impact on their students. Ultimately, I believe that my research can contribute to the increasing integration of both the Positive Education model and VR technology in education.

References

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Budget and Timeline

Budget

VR equipment (including VR headset and laptop): ~\$2500

Roundtrip flight to Melbourne, Australia: ~\$900

AirBnB in Corio, Victoria (3 nights): ~\$300

Roundtrip flight to Philadelphia, Pennsylvania: ~\$400

AirBnB in Philadelphia (2 nights): ~\$200

Total: ~\$4200

Timeline

Week 1: Conduct interviews.

Day 1: Take a flight to Melbourne, Australia and travel to Corio, Victoria. Rest.

Day 2: Visit the Geelong Grammar School. Conduct interviews with the headmaster and a few teachers. Sit in at a class.

Day 3: Compile notes and brainstorm ideas for VR application. Rest.

Day 4: Return to Los Angeles.

Day 5: Take a flight to Philadelphia, Pennsylvania. Rest.

Day 6: Visit and conduct interviews with the coordinators of Penn Resiliency Program at University of Pennsylvania.

Day 7: Compile notes and return to Los Angeles.

Weeks 2 – 5: Write the VR program.

Week 6: Have 60 students take the class (30 via the VR application, 30 in a standard classroom environment). Conduct survey and evaluate results.