

Application Paper
Virtual Reality Devices: Education, Therapy and Training Exercises

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"On my honor, I have neither given nor received aid on this assignment, and I pledge that I am in compliance with the VCU Honor System."

Psychology 406
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Many people are familiar with the term Virtual Reality and the entertainment implications that go along with it, but what most people do not realize is that virtual reality is also used for therapy, military training and educational purposes. In today's world, we are inundated with new technologies that not only provide a sense of joy and excitement, but also provide an aid in teaching, healing and various training exercises. What was once thought of as purely a means of play time and an exciting way to pass the time, is now be contributed to helping people learn and to cure certain ailments.

Education

Virtual Reality is not a new technology, however its educational abilities and advantages have been recently viewed as a major learning tool in the classroom. Many of the subjects, such as science, are tough for young children to grasp, and to put it simply, virtual reality makes it easier. It presents complex information in a three-dimensional form with the student viewing the world from an immersed viewpoint, with the ability to interact one on one with the information. This style of presentation imitates the way that we human beings have been conditioned to interact with our physical world. Virtual Reality offers everything that a good computer program does, and even more. Well-designed Virtual Reality worlds engage more of a student's senses and innately appeal to different learning styles. Being able to control one's environment and interactivity are corner stones in Virtual Reality, and if the method of having students create their own world is utilized, significant intellectual gains and be achieved.

Although Virtual Reality has many advantages, it would be wrong not to mention the drawbacks that come along with this type of technology. There are ethical concerns that have been brought to attention, one of those being an issue of addiction. Although reports of this are rare, to ignore this would be irresponsible. Another issue from an economic viewpoint, is that this type of resource is not a cheap venture. It would be economically foolish to force this type of tool into a classroom when other

methods of teaching that are less expensive yield positive results. There are many subjects that Virtual Reality does not seem to benefit. For example, history is an important subject that relies on visualizations, but many of the visuals can be reliably captured by relatively cheap pieces of equipment. One of the biggest issues is a pretty straight forward one, some people just don't like it. Although a substantial amount of people love it, it is far from unanimous. Some children who are exposed to this type of technology are terrified while some feel safer than in the real world. Prior knowledge and first time exposure seem to have an influence on the liking of Virtual Reality. (Byrne, 1999)

Possible targets for future populations that could benefit from this venture are "at risk" students, students with learning disabilities, and gifted students in addition to mainstream "normal" students.

Therapy

Virtual Reality is mainly thought of as a means of entertainment, but little do people know of its healing powers. This "entertainment tool" has also been used to provide therapy for individuals suffering from PTSD (Post Traumatic Stress Disorder). It is currently found at over 60 sites, including Virginia hospitals, military bases, and universities. The Institute for Creative Technology's *Virtual Iraq/Afghanistan* expose therapy tactic has been shown to yield a significant reduction in PTS symptoms. (Rizzo, 2005)

This type of exposure therapy in which a patient, is guided by a trained therapist, confronts his or hers traumatic memory through a recapping of the experience, which is now being sanctioned as an "evidence-based" treatment for soldiers, veterans, and other war exposed individuals suffering from PTSD. What is interesting is that researchers added virtual art assets to this Virtual Reality based therapy that were originally constructed for Xbox games that dealt in combat tactical simulation scenarios. The current presentations involved with this type of therapy consists of a series of virtual settings explicitly