Introduction

My study is primarily descriptive in nature while also correlative because it attempts to describe an already studied phenomenon (virtual reality and its potential effect on the social communication skills of autistic students) while also discussing the theoretical and historical aspects of virtual reality and autism spectrum disorder theories. In regard to the correlational aspect of my study, I will be attempting to identify, clarify and decipher the possible relationships between these two sets of multi-dimensional variables. Virtual reality and autism spectrum disorder theories will also further illuminate the potential relationships between these two variables by providing the framework through which the data collected on these topics will be analyzed. Viewing these theories and proposed ideas from a particular, pre-specified framework will also help me compartmentalize the data in correspondence with the design of my proposed research study.

Problem Statement

Autistic individuals typically experience difficulty in social interactions and have trouble communicating their thoughts or feelings with others; however, researchers have been investigating whether computer-mediated, role-playing virtual reality technologies could be suitable for treating autistic individuals who struggle with communication-related distress on a daily basis.
Therefore, my research question includes the following: How can virtual reality (VR), in the form of computer-assisted, role-play technologies, assist autistic students in developing better social communication skills and applying those skills in real-world human interactions?

**Purpose Statement**

The purpose of this concept paper is to propose a theoretical study that investigates the possible correlation or relationship between virtual reality programs and the improvement of the social communication skills of autistic students and their applicability of those skills in authentic, real-world human interactions outside the classroom. For this particular study, I am interested in the more theoretical background of virtual reality therapy treatments and autism and how this specific type of treatment could help autistic students in improving their social communication skills and applying them in everyday interactions with others.

**Background**

**Literature Review**

All of the secondary research I have located thus far are scholarly, peer-reviewed articles from credible journals. These journals include, but are not limited to, the following: *Computers in Human Behavior*, *Journal of Computer Assisted Learning*, *Journal of Intellectual Disability Research*, *Journal of Autism and Developmental Disorders*, and *Cyber-psychology, Behavior, and Social Networking*. Currently, these articles focus on important issues in regard to the newly birthed relationship between autism spectrum disorders and the incorporation of virtual reality as a form of treatment, ranging from the level of immersion that must be achieved in order to see improvements in the social communication skills of autistic students to assessments of the prominent theories that dominate both virtual reality and autism. Although I have found at least 10 credible secondary sources for my study, I would like to conduct more research to find more
peer-reviewed articles of case studies where virtual reality was used as a suitable treatment for trying to improve the social communication skills of autistic students and their applying of those skills in practical, human interactions outside of the classroom. I have found a few peer-reviewed articles that focus on illustrating the complexities of the theories (i.e., theory of mind) that dominate each respective field of study, but I would like to find more that break down these theories even further so that I can better assimilate the information for incorporation into my own study. Nonetheless, I have found a myriad of peer-reviewed journal articles that discuss the more interactive aspects of virtual reality and how role-playing could simulate real human interactions in a non-threatening, readily adaptable environment for autistic students. Psychological and possibly some sociological research (apart from theological research) will be incorporated into this study since I will be studying how virtual reality could be used as a treatment for autism as a developmental disease.

**Operational Definitions**

- **Virtual reality (VR)**: a specialized software that immerses users in a simulated environment via computer programming for the purposes of treating a developmental disorder
- **“computer-assisted, role-play technologies”**: pre-programmed, interactive, artificially intelligent interfaces that allow users to assume the role of an online character/avatar in a simulated environment
- **“assist”**: to provide support or help in achieving a certain objective or goal
- **Autistic students**: although autistic students exhibit signs of this developmental disorder in different ways, these students generally experience difficulties during social interaction and are often very routine-oriented in nature
- **“develop”**: to grow or to expand upon one’s abilities in a certain area, such as skills in communication
- **“better social communication skills”**: to improve upon and gain confidence in one’s face-to-face interactions or experiences with others; this includes both verbal and non-verbal communication
- **“applying”**: to put certain skills or knowledge to action; to put certain skills to practical use outside of the classroom
- **“real-world human interactions”**: practical, non-synthetic verbal and non-verbal communication encounters with people outside of the classroom
Methodology

The overall purpose of my study is to more thoroughly investigate the theories behind both autism and virtual reality and how virtual reality could be identified as a suitable treatment option for helping autistic students improve their social communication skills in real-world, human interactions outside the classroom. More particularly, I am interested in how these theories could influence or even dictate how virtual reality can be used to accomplish this particular goal and whether or not virtual reality and its propensity for immersive, role-playing environments could be effective treatment formulations for autistic individuals in the first place.

Subject Selection

Instead of identifying and recruiting human participants for my study like I would for a more empirical research design, the “subjects” of my research study will include the secondary sources or texts that I choose to investigate and analyze throughout the study. This set-up is appropriate, especially since the primary objective of my study is to describe the research studies that have already been conducted on this topic and how the predictions/outcomes of these prior studies could serve as a springboard for predictions and outcomes of future studies.

Data Collection Methods

Concerning the more theoretical side of my study, correlational research is also highly dependent on a solid theoretical foundation, where any future predictions or outcomes of a proposed research study are primarily based in the predictions or outcomes of previous research initiatives. My research study will then primarily focus on interpreting and evaluating secondary sources of data, such as research studies, case studies or peer-reviewed journal articles that have already attempted to investigate and more adequately determine the relationship between virtual reality treatment and the improvement of autistic students’ social communication skills and their
application of those improved skills in natural, human interactions. My study is also based heavily in methods of scholarly inquiry, which according to Goubil-Gambrell, is more of a text or document-based approach to qualitative research.

Possible sources of data that I would locate and utilize in this particular research design would include primarily secondary sources of written documentation, such as literature reviews, case study reports and general peer-reviewed journal articles on the theories of virtual reality and autism. One of the most important aspects of qualitative research I will need to adhere to is the triangulation of data, particularly theory triangulation. Triangulation encompasses collecting data from a myriad of sources so that the concepts and ideas of a research study can be viewed from a range of different perspectives and viewpoints. In respect to my proposed research study, theory triangulation involves reading, understanding and analyzing different theoretical perspectives from different angles so that a researcher can view concepts from a much broader, intuitive scope than before. Since qualitative designs cannot determine cause-and-effect relationships, these studies can only suggest possible correlations between variables, not causations between variables. In my proposed research design, I will only be able to suggest a possible correlation based on secondary research data between virtual reality treatments and the improvement of autistic students’ social communication skills and their applicability of those skills in human interactions.

**Data Analysis Methods**

Goubil-Gambrell suggests that the credibility, transferability, dependability and confirmability of a qualitative research design must be established for ethical reasons. First, even though my research design is not experimental, I still need to establish the credibility of the theoretical nature of my study. I need to assure my readers I have adequately understood the different theories that are involved in my study and that I have appropriately applied them to the
concepts presented within the secondary research I will analyze. Second, I will need to demonstrate the transferability of my research study, or its ability to be understood and possibly adopted by other researchers as secondary data in their studies. This involves ensuring I have judiciously understood the data I incorporated into my own study and have made appropriate future predictions via that data at my study’s conclusion. Since my work is primarily focused on secondary research, I will more than likely code the journal articles and other documentation I will incorporate into my study. This means that I will need to set episodic boundaries for my coding strategy and determine that the scope of my data analysis process is accurate for my research design. I think that coding the journal articles paragraph by paragraph would prove most effective since I will need to understand what the authors are saying in relation to over-arching ideas that are woven throughout each text. I may also make some projections for future research initiatives in the conclusion of my study based on the ideas presented in the data I discuss.

Third, I must account for the dependability of my study, making sure that it reliably and realistically represents the data that is reflected in my own research study and doesn’t inflate or improperly conjecture from the original ideas inherent in said theory/secondary data. Similar to establishing credibility, I finally need to document the confirmability of my study, determining that the findings or evaluations present in my study could be confirmed or agreed upon by other researchers. Confirmability should be assured in qualitative designs so that other researchers will want to peer-review one’s research and possibly consider it a part of the literature of a specific field of study.

Conclusion

Thank you for taking the time to read this concept paper on my proposed research study. I would like to respectfully ask for feedback on the information provided in this document.