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Open Doors to the Arts: Community-Engaged Immersive Learning for Students with Disabilities

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Abstract. Students with emotional and behavioral disorders and Autism have limited exposure to the arts and community. Their disability-related behaviors such as their inability to focus for extended periods of time and social skills deficits often create barriers to accessing and navigating the arts. These students also struggle to make connections and lack background knowledge necessary to extend their curiosity for the arts. Current applications of VR in educational settings often include immersive content presented to students through individual headsets. This practitioner contribution project aims to use a shared immersive learning format to foster student interest in the arts through exposure to 360 degree immersive content in a space designed for groups of students to collectively experience content. Immersive content will be presented to the students via an Immersive Learning Center (ILC) where 360 degree content wraps around three walls of a room to create a shared learning experience. The 360 degree and 3D immersive content developed in partnership with a local university's undergraduate students will allow K-12 students from the specialized school to access and deepen their connection to the arts while preparing them for successful participation in community-based art experiences. Ultimately, the content from the 360 library will be shared with schools around the world to help provide guided exposure and expand interest in the arts.

Keywords: Immersive Learning, Virtual Reality, Arts Education.

1 Introduction

Students with emotional and behavioral disorders and Autism have limited exposure to the arts and community. Their disability-related behaviors such as their inability to focus for extended periods of time and social skills deficits often create barriers to accessing and navigating the arts. These students also struggle to make connections and lack background knowledge necessary to extend their curiosity for the arts. Current applications of VR in educational settings often include immersive content presented to students through individual headsets. This project aims to use a shared immersive learning format to foster student interest in the arts through exposure to 360º immersive content in a space designed for groups of students to collectively experience content. Immersive content will be presented to the students via an Immersive Learning Center (ILC) where 360º content wraps around three walls of a room to create a shared learning experience. The 360º and 3D immersive content developed in partnership with a local university's undergraduate students will allow K-12 students from the specialized school to access and deepen their connection to the arts while preparing them for successful participation in community-based art experiences. Ultimately, the content from the 360º library will be shared with schools around the world to help provide guided exposure and expand interest in the arts.

2 Purpose and Objectives

2.1 Purpose

The purpose of this project is to expose students with disabilities to the arts through immersive technologies. Undergraduate students with an interest in the arts or immersive technologies will create 360º and 3D virtual tours of art galleries. As students with disabilities are exposed to the arts through immersive learning experiences, their interest, desire, and skills needed to participate and interact in community arts experiences may expand.

2.2 Objectives

1. Provide opportunities for students with disabilities to experience the arts within a safe, supportive learning environment.
2. Create immersive learning experiences related to the arts designed specifically for students with disabilities.
3. Curate and distribute immersive learning experiences related to the arts to other school entities.

3 Learning Experience Design

The Open Doors to the Arts project will bring together undergraduate students and experts from the local university's art gallery staff to design immersive learning experiences for students with disabilities. The work to design and implement these immersive experiences will be part of a seven stage project.

- Stage 1 - A team of undergraduate students will learn the technologies to capture footage using a 360º and 3D camera as shown below (Fig.1). The students will also learn how to import this footage into software and edit to provide deeper learning experiences with additional video footage.
- Stage 2 - Undergraduate students will observe students with disabilities in the ILC to determine how students currently interact with content related to the arts. The undergraduate team will summarize these findings to determine how to design and create meaningful immersive learning experiences.
- Stage 3 - The undergraduate team will investigate the local university's art gallery from the perspective of K-12 students experiencing art.
- Stage 4 - The undergraduate team will study best practices for activating prior knowledge of students with disabilities.
- Stage 5 - The undergraduate students will capture 360º and 3D content of the local university's art gallery and create supplemental video content to support K-12 students' learning and curiosity for the arts.
- Stage 6 - K-12 students will access and experience the immersive content related to the arts while preparing them to participate in community-based art opportunities.
- Stage 7 - Present curated immersive learning content related to the arts to other school entities who have a shared immersive learning space.

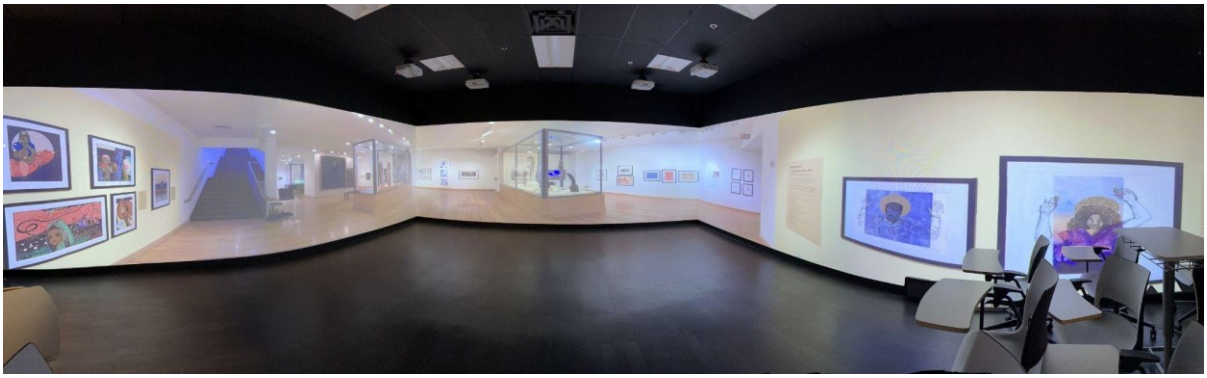

Fig. 1. 360º footage of the local university's art gallery in the Immersive Learning Center.

4 Educational Significance and Impact on Advances in the Field

Current applications of VR in educational settings often include immersive content presented to students through individual headsets. This project will use a shared immersive learning format to foster student interest in the arts through exposure to 360º immersive content in a space designed for groups of students to collectively experience content.

The current focus in the literature related to supporting individuals with emotional and behavioral disorders centers around the efficacy of behavioral and academic interventions. There is a dearth of research examining how individuals with emotional and behavioral disorders experience the arts. The findings from this project will inform the field and add to the limited body of existing curated resources for individuals with disabilities.

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