

VIRTUAL REALITY FIELD-TRIPS WITH DISCOVERY-VR/ DISCOVERY EDUCATION

Overview

At Stanford Children’s Hospital we are growing. In 2017 the hospital will nearly double in size offering 361 beds for children undergoing medical treatment. With that growth we are seeing highly acute patients who need to be isolated for various issues, who are too sick to leave the hospital and/ or whose families are financially strained and are unable to travel, have family vacations or experiences outside of the hospital.

Using a Virtual Reality (VR) the Certified Child Life Specialists (CCLS) will be able to offer 1:1 Virtual Reality field trips for pediatric patients and their families. We will utilize Discovery Education to break down barriers to exploration and to increase patient satisfaction.

Analysis

Assessment

Pediatric patients are individually assessed by CCLS in the following four categories according to Association of Child Life Professionals Standards.

Child Variables	Family Variables	Illness Variables	Medical Experiences
Temperament	Parental anxiety and distress	Chronic vs. Acute illness	Exposure to invasive procedures
Coping Style	Family characteristics	Length of hospitalization	Previous hospitalizations
Age	Socioeconomic status		
Gender	Parental presence and involvement		

Learning Purpose

Patients will not need any previous knowledge on Virtual Reality field-trips. The CCLS will provide developmentally appropriate learning opportunities to meet one of the following goals.

- Provide an innovative positive experience as a family or with friends in the comfort of their own room.
- Provide opportunities for engagement for patients in isolation.
- Provide distraction as non-pharmacological pain control, for invasive procedures and tests.
- Provide educational opportunities to learn about their bodies or complete school assignments.

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Scope

Time allotted for virtual field trip will depend on purpose. All field trips will last between 15 minutes-30 minutes.

Topics Covered

Topics provided by Discovery Education Virtual Field-trips (<http://www.discoveryeducation.com/DiscoveryNow/vr.cfm>) including but not limited to:

- VR Virtual Experiences- Students can use VR to virtually experience events and perspectives that they've never seen before.
- VR Virtual Exploration - Use VR to explore new destinations, places, and people.
- VR Compare/Contrast- Use VR video to compare and contrast different places, experiences, and events.

Design and Development

Desired Learning Outcomes

- Patients will have engaging and innovative virtual experience.
- Patient will successfully be distracted from difficult procedures and painful experiences.
- Patient will be able to use the application of the inquiry based learning approach where information is converted into useful knowledge.
- Provide valuable qualitative and effective learning experiences which will encourage deeper thinking about the location of virtual field trip.
- To be exposed to the cultures and locations that they would not normally be able to experience in person.

Resources and Media

- Oculus Rift VR - a virtual reality headset developed and manufactured by Oculus VR
- Gaming Laptop
- Discovery VR applications - (<http://www.discoveryeducation.com/DiscoveryNow/vr.cfm>)

Structure and Sequencing

Patients and their families will work directly with a CCLS to discuss learning purpose. Once purpose has been established the patient will pick a developmentally appropriate topic for use. Once a virtual field-trip has been chosen the patient will use the Oculus Rift to view field trip.

Assessment of Learning

Because the virtual field trip is a 1:1 self - directed intervention, verbal cues and patient reactions will be monitored closely. Patients will be asked to share their experience with their CCLS at the end of the session.

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Implementation plan is as follows:

- Train CCLS team on the following:
 - Oculus Rift
 - Appropriate virtual reality programs
 - Create a trip planner for self-directed experiences
 - Qualitative evaluation.
- Create plan for:
 - Storage
 - Cleaning
 - Upkeep
- Patients will be scheduled for a 1:1 session with CCLS.
- Patients will be presented and offered the following:
 - VR orientation: description of experience, what to do if they don't feel good, how the system works.
 - Choice of topic: *See topics covered*
 - 15-minute session to 30-minute session depending on experience.

Evaluation

Patients will be asked to share their experience. Then given the qualitative evaluation of program which will be used as an ongoing evaluation to change and revise program to align with program goals.

Qualitative questionnaire:

1. Describe for me the Virtual Reality session you experienced?
 - Do you know what a virtual reality experience is?
 - What were the benefits / challenges using virtual reality?
2. How did you feel after the session, what was helpful, not helpful?
 - Do you think having virtual reality would be helpful to other patients?
 - Would you recommend to other families?
3. How did it feel to wear the headgear?
 - Was it too heavy? Uncomfortable?
 - Any recommendations to improve?