Case Study: The use of video game construction to bridge hearing and deaf students in Trinidad and Tobago

Introduction

There has been limited inclusion of differently-abled students into mainstream schools in Trinidad and Tobago at secondary level. Students who have been included have reported feelings of isolation (Peters, et al., 2015). This case study investigates the use of M-Tech as a problem-based project to foster inclusion of hearing-impaired and deaf students into mainstream schools.

Background

Educator: Janadi Gonzalez-Lord
School: BAHSIC is an all-girl’s secondary school for students aged 10 to 16. BAHSIC strives to be a leader in the use of technology in education in Trinidad and Tobago. There is school-wide wireless access, six computer labs, and a staff to computer ratio of 1:30.

Content/Subject Areas: Integrated Science
Topic: The Solar System
Age/Grade level: Form 3 (ages 16 to 18)
Number of students: 175
Problem at school: Lack of consideration for deaf student and deaf auxiliary member of staff

Objectives

The main objectives of this case study were to allow students to:
1. Learn about the Solar System
2. Understand and appreciate the differently-abled
3. Gain cross-cultural understanding

Methods

The project had three (3) phases, all implemented by the students. The project extended over a three (3) week period.

Students were given a project outline which allowed each of the five (5) classes to subdivide into groups of five (5). Each sub-group was responsible for implementation of a different part of the Project as follows:
1. Creation of the presentation and conducting the presentation four
2. Creating game using Unity
3. Creation of web-based assessment using hotspots
4. Video documentation of the process of game creation
5. Video Documentation of the process of web-based assessment using hotspots

The group then underwent two (2) weeks of deaf culture sensitization with members of the deaf community. This included an introduction to how the deaf view the world, an overview of Trinidad Sign Language (TSL), and assistance with interpreting the games from the deaf point of view.

At the end of the period, each class had to showcase their game and web-based assessment using their laptops for assessment by both deaf and hearing peers. This included the presentation tour which was created using Microsoft World Wide Telescopes.

The following results were recorded:
1. Peer assessments of the games created
2. Peer assessments of the web-based assessments created
3. Peer assessments of the presentation tour
4. Student performance in final assessment
5. Video journals for the group

Results

Assessment of content knowledge:
75% of students achieved >60% average in terms of overall content. A high percentage of students achieved >70% in the areas of analysis, knowledge and application.

Conclusions

The study suggests that allowing students to create games may slightly increase analytical skills and build cross-curricular competencies. Allowing students to create games for a deaf audience serves to bring a greater awareness of deaf culture to the hearing. Future investigations should be explored on deaf and hearing impaired students being more directly involved in these types of problem-based projects especially in terms of second-language (English) development, crafting knowledge across curriculum areas and social interactions with the hearing world.

References

by Janadi Gonzalez-Lord