There are, however, limitations to this system that restrict introducing students to radiation therapy students. A fixed wall projection system generating images that can be viewed by a class in three dimensional mode or by one student in three-dimensional IVR. This provides several important contributions to conceptual learning for radiation therapy students and supports informing patients prior to undergoing radiation therapy. There are, however, limitations to this system that restrict introducing students to basic clinical motor skills for the alignment of patients, working in pairs, medical physics, treatment planning concepts and anatomical instruction.

Aim and Objectives
The aim is to develop and evaluate the usability of a head mounted portable immersive virtual reality (IVR) environment to facilitate teaching to radiation therapy students. The objectives are to develop IVR simulation that addresses the identified limitations of VERT and to explore the development of the virtual radiation therapy environment as a patient experience prior to receiving radiation therapy.

Methods
A linear accelerator (LINAC) IVR environment was created (Figure 2) that is viewed through head mounted devices and used as a proof of concept. This explored the use of multiple student views and the patient view (Figures 3 & 4), all in three dimensional IVR. This system also allowed an additional instructor view in two dimensions. Radiation therapy educators and students were invited to use this system and provide their feedback on their experience and the usability of the system.

Results:
Four radiation therapy educators and 11 radiation therapy students took part in the user evaluation. The results of the Likert scale questions are shown in Figure 5.

Discussion
There are significant variations how VERT is used by academic centres or may support comprehensive education and training that is aligned to an existing curriculum. Head mounted IVR simulation provides an opportunity to support radiation therapy educators, students and clinicians with new technology alongside existing technology. The technology can be modified and adapted to become more clinically realistic and assessed for acceptability by patients to experience the IVR LINAC environment.

Figure 1. In-situ training of radiation therapy students
Figure 2. Linear accelerator (LINAC) immersive virtual reality environment
Figure 3. Multiple student user view
Figure 4. Patient view

References