

Contextualised learning of the clinical and basic sciences with virtual patients

The importance of integrated learning of the clinical and basic sciences, emphasised in the guidelines of Tomorrow's Doctor by General Medical Council, and the needs to increase students' encounters with patients in the undergraduate medical course led the School of Medicine at University of Southampton to develop virtual patients for their curriculum. In 2006 and 2007 as part of requirements capturing conducted were questionnaires, interviews, evaluation of other institutes' virtual patients and group activities of creating virtual patients. Prior to these studies, the aim was to develop one virtual patient model with which the School could facilitate the learning of year 1 to year 5 students. Three key requirements were captured from the studies, and they were interactivity, visual demonstration of doctor-patient consultations and clinical process, and presentation of content in a clear and logical structure. However, the results also showed a difference in the activities that years 1 and 2 students, and years 3, 4 and 5 students would like to be engaged. Whilst years 1 and 2 students would like to have visual presentation of clinical demonstration and test their knowledge of basic science in the context, years 3, 4 and 5 students preferred to take more active part in the clinical process - more of role-playing in the clinical process and decision making. To reduce the complexity of the project, it was decided to explore two virtual patient models instead of one – one for years 1 and 2 students, and the other for years 3, 4 and 5 students.

The School of Medicine is one of the partner Universities of the International Virtual Medical School (IViMEDS) and has an access to their virtual patients as well as other learning objects developed by the IViMEDS and its partner Universities and. Having considered the importance of reusing existing learning objects as well as availability of accessible and open resources, the first approach to the virtual patients project was to investigate other institutes' virtual patients and identify ones that met the students' requirements as well as the teaching staff's. However, due to the difficulties of finding ones that met the requirements the School decided to develop its own virtual patient model. A prototype - one virtual patient interactive case was developed for Gastro Intestinal course. The case has been designed to be as engaging and realistic as possible. 3D animation of the patient, doctor consultations and examinations are combined with formative assessment exercises. The questions in the case are linked to nine learning objectives and students receive individualized feed-forward information on how to improve their knowledge against each of the learning objectives. This case can be used either a self-directed learning resource or a tutorial material that allows students to test their knowledge.