

Jisc Edtech Challenge

a virtual learning environment without a screen

The Student Body

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Description

Video link: <https://youtu.be/7xAsAAm6emU>

For this virtual learning environment (VLE), we are going to be looking at nursing students and a move away from the traditional computer/screen interface by placing the focus of learning solely on interactions with the patient and the 'body'.

Often, VLEs act as an interface between the student and the institution – where communication and collaboration are forced through the prism of academia (and things that academia has typically declared as important).

Instead, we believe that relationships between tutor and students; students and students; and students and patient are key.

VLEs

There is a significant disconnect between different the mediums used in the administration and environments that we learn. We might learn technique, theory and application using one medium, communicated and administrated with using another - and be assessed and receive feedback in yet another.

We sought to create a VLE that was particular to the personal experiences of the student. That overcame technical and cultural barriers to engage students of all types.

Our proposal is that all activities take place through the physical form of a patient.

The entire module run, its administration, the setting of assignments, assessment and feedback all use a mannequin interface.

WHAT WE PROPOSE

While simulation dummies are now common in many learning environments, they are currently designed as physical units for students to perform single routines or tasks on. They are bodies, devoid of lives lived and experience.

This approach treats the VLE as a patient and we suggest that ALL previously digital learning and course administration happens through the physical metaphor of the body. Over time (weeks, months, and years) a relationship develops.

The VLE, as a patient/body, learns and changes as the student learns and changes.

HOW DOES IT WORK?

Using sensors and wireless networks, they enable the triggering of events such as physical changes (limbs, temperature, position) and media (voice, sound, augmented video).

Students experience an augmented overlay (e.g. a wide range of lifelike patient faces, skin tone, age-related skin elasticity, visible wounds) through lightweight AR glasses.

They interact with the mannequin/VLE through a variety of sensing technology including active and passive RFID, Bluetooth, facial recognition, voice recognition/microphone and video camera.

Using these technologies, the mannequin is able to sense what time it is, where the student is, what they are near to, what the student has already done, who they are with and any sound in the room.

In time, natural language voice operated/delivering chatbot technology would interact with the student. These guided conversations will develop to more organic interactions - moving away from propose/response model to something more free flowing.

Triggered events also respond to rules and prompts dictated by the 'backend' of the VLE (e.g. assessment points throughout the year, ward opening hours etc.) as well as more 'lived' interactions with the student.

STUDENT CO-CREATION

The student is brought into the process at the very beginning, to help co-develop the measurement criteria over the run of the module. Perhaps they are concerned with important aspects of palliative care? Then the act of 'stillness', of being 'in the moment' with the patient, might be something they want captured by the sensors of the VLE.

A MORE INCLUSIVE LEARNING ENVIRONMENT

Students should feel empowered to affect the nature of the VLE, but they should also be challenged by it. By easily changing the augmented physical characteristics of the mannequins, tutors are able to address issues around preconceived perceptions.

Do the mix of students across a 'ward' recognise themselves in the 'patients' they are treating? What happens if we change the racial mix of those being treated?

With a varied cohort of students (typically older and less technologically confident for disciplines such as midwifery), this interface would feel 'knowable' and authentic – rather than as possibly a new labyrinthine navigation system of clicks and buttons.

ASSESSMENT

Assignments are not 'set' in the traditional manner, they 'occur'. A change in temperament, body temperature or mood can be the point at which a student applies their knowledge.

With sensors around the body recording and calibrating student behaviours, this would encourage a move away from the bottleneck cramming and anxiety of written exams towards continual assessment of in-practice care.

Stress will still be present (a 'life' may be in the balance), but it will be authentic stress, not artificially created by the demands of academic higher education.

This could help mitigate some of the mental health issues around anxiety and written exams.

SCALABILITY

A student may work with several different 'identities' over the course of a module. They may question the way they interact with them depending on their physical and mental characteristics - as well as how/if they should be defined by their physical condition.

RESULT

We have had anecdotal reports of technology creating barriers between nursing staff and real patients (e.g. tablets blocking eye contact as orderlies make their rounds) and this approach encourages a focus on 'softer' skills and the development of a professional and caring 'bedside-manner'.

This interface challenges some of our assumptions and requirements about a modern VLE. Students need to be with the 'patient' to interact with the course of study. They need to be present, talking, checking and testing. They will research away from the patient, talk to colleagues and debate outcomes, but, it is their relationship with the body that matters. Their physical interactions with the virtual identity are the drive of their learning and development of practice.