Abstract

E-learning pedagogies are flexible, self-directed, interactive, engaging and can reliably expose students to the desired number and variety of clinical cases. This project aims to develop a “How to Guide” for teachers to create, develop and evaluate adaptive e-learning tutorials and assessment modules. The Biomedical Education Skills and Training Network (BEST) will be used to create a series of modules, which allow “simple” case based tutorials to be delivered in courses early in the program evolving to quite complex clinical scenarios in the later years, encouraging the development of clinical reasoning and ensuring vertical integration across the veterinary program.

Introduction

E-learning pedagogies allow the use of multimedia in adaptive interactive lessons which can provide immediate guided feedback to students. In the pre-clinical years of the veterinary program, virtual laboratories can be created for students to practice and perfect skills such as microbiology, cytology, anatomy and clinical pathology. In later years, virtual patients can be designed to mimic clinical practice. The use of virtual patients allows students to translate and apply theoretical knowledge to clinical cases, and develop clinical reasoning skills in a safe and controlled environment.1,2

The BEST network uses the Adaptive eLearning Platform (AeLP) from Smart Sparrow to create and share courseware and Slice, a tool to display and annotate biomedical images. Students are provided with personalised feedback tailored to current and past choices, resulting in an individualised learning experience. Analytics allow teachers to identify which concepts have been mastered, misconceptions, and areas that need improving, informing the concurrent delivery by more traditional teaching methods.

Methods & Materials

The BEST Network will be used to develop (process overview in figure 1) a minimum of 3 modules which will vertically and horizontally integrate into the Bachelor of Veterinary Science (BVSc) program.

Each module will consist of 5 units (cases), one for each year of the program (figure 2).

For each of these units aims, learning objectives, and the links to BVSc courses in which the underlying content is delivered, has been identified. “Storyboards” are now being created and resources (images, videos) necessary for each module developed. A concept map for “Oscar” year 3 is shown in figure 3.

The project team and students are being trained to use Slice and the AeLP. During training a Tick Integration tutorial was developed. This tutorial integrated material from parasitology and animal productions systems and has been delivered to the 3rd year BVSc students (figure 4). Students perceptions of the tutorial were collected (UNSW Human Research Ethics: HC15140).

Results

Creation, development and evaluation of the e-learning lessons continues. Survey responses from the 3rd year students who completed the adaptive e-learning tick tutorial were positive (figure 5).

One of the students who is working on the project and is a 3rd year BVSc student commented: “I heard a few comments and discussions among the other students saying it was so good to get a tutorial that finally integrates ideas and concepts across multiple subjects - the general feeling seemed to be that this is just what we need to get us thinking the right way”!

Discussion

Students are demanding universities take advantage of new technologies to complement traditional methods of teaching and to allow more flexible modes of study. In 2006, E-Learning for veterinary students is flexible, self-directed, interactive, engaging and personalised. It also allows students to be exposed to a number of varied cases in a safe, controlled and very cost effective manner. Academics and students collaborating on the development of the lessons ensures that they are created with a student learning focus. The tutorials will complement rather than replace traditional teaching methods and will be used for student self-assessment and assessment in the future.

References


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