Short Communication

Exploring the affordances of e-learning technologies for dietetics education and training

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The problem

Lecturers in health science education programmes wear many hats. Their undergraduate training prepares them to deliver healthcare services as clinicians. They may enter academia as clinical educators and then advance to become classroom-based teachers. It is frequently assumed that they are equipped to fulfil the role of teacher. This was certainly the route that I followed. As a digital immigrant, my standard teaching tools were lectures supported by text-laden PowerPoint presentations. The realisation dawned that this approach was failing to meet the expectations of digital-age students – it not only favoured student passivity, but was also a missed opportunity to demonstrate responsible use of technology for communicating information to colleagues and clients in the workplace. The communication skill set is an entry-level competency for dietitians[1] who must apply this extensively in the development of information, education and communication tools for the purpose of health promotion and patient education.

A keenness to improve e-learning confidence and competence led to registration for a Cape Higher Education Consortium (CHEC) course titled 'Design for learning with technology'. Inadvertently, this was also my first and rather overwhelming introduction to the language of pedagogy.

The approach

The CHEC blended-learning course consisted of contact sessions facilitated by experts in instructional design, augmented by small-group work in the virtual space. Careful consideration of e-tool affordances and the alignment of these to learning outcomes are a key principle for designers of blended or online modules.[2] The brief for the course assessment was to explore the affordances of a range of e-learning tools that could address an identified learning and teaching challenge – I chose to focus on the low student participation rate in the classroom.

While ambivalent of my own understanding of the concept of affordances at the offset, I hit the Google Play Store with the enthusiasm of one who had won an all-expenses-paid shopping spree. Having downloaded one of each educational application that seemed vaguely appealing, I spent countless hours exploring and brainstorming e-tools that could improve

Table 1. Affordances of a sample of e-tools for the dietetics educator

Selected e-learning tool	Application for lecturers/teachers	Application for students
Concept maps (Coggle, MindMeister, LucidChart)	Allows use of text, images, videos, audiorecordings and hyperlinks Allows easy navigation between different media from a single screen May be presented as a slide show, focusing on areas of interest by various navigation techniques Makes explicit the links between concepts addressed under a particular content area May be accessed by students May be shared with co-teachers for collaborative editing	May be used as a method of studying Students can be taught to build their own maps to 'see' links between theoretical content of different modules in the curriculum (e.g. medical bioscience and nutrition science) Supports concrete learning as opposed to rote learning
Infographic software (Piktochart, Canva, LucidChart)	Uses a combination of minimal text, images and charts to present ideas May be used to summarise key points of a chapter Popular for presenting information to patients/clients Can support information sharing when language barrier exists	Students can be taught to design patient information, education and communication materials using templates provided
Animation software (Powtoon)	Allows for creating a story board using theoretical content (e.g. clinical signs of micronutrient deficiencies) Allows for selection of images, text and audio to showcase content Video-file can be shared with students for accessibility and repeatability	To create information, education and communication materials To create presentations for submission for online assessments
Screen-casting software (Screencast-O-Matic)	Can record a computer screen display along with narration to demonstrate a particular action (e.g. how to navigate data sets or create formulas in Excel (Microsoft, USA)) Created files can be downloaded and shared with students as reference sources	Students can create screen casts to demonstrate mastery of particular skills

student engagement/participation. Through this exploration, I discovered Powtoon for animation, LucidChart for organograms/graphics, Coggle and MindMeister for mind map-styled presentations.

Outcomes

Recognising the potential of these e-tools has certainly stimulated my creativity as a teacher/instructional designer. While by no means an exhaustive account of available tools, the affordances of a sample of e-tools with particular relevance to dietetics and nutrition training are presented in Table 1.

Introducing new media for class presentations has been an impetus for improved student participation. Traditional, text-laden PowerPoint presentations have been revitalised with animations and graphics; LucidChart assists students to link the different concepts, thereby aiding their organisation of ideas, which in turn supports deeper learning. Short, humorous animations are used to package messages which, when efficiently designed, can circumvent language barriers.

Even though the language of pedagogy was intimidating to me – a clinician-turned-teacher – CHEC course facilitators created a supportive environment that allowed participants to be fully engaged learners. Furthermore, technology infusion has had a positive impact on the students in my class, and participation in the course ignited a desire in me to expand professional development in the area of learning and teaching.

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