Nursing students can teach their peers by developing e-learning resources

Richard Windle, Helen Laverty and their colleagues describe a project that assessed the benefits of sharing student-generated educational material.

IN 2009, the National Network for Learning Disability Nurses (NNLDN) conference was challenged to ensure that the poor standards of care highlighted in reports from the Health Care Commission (2006), the Disability Rights Commission (2006) and Death by Indifference report (Mencap 2007) were never repeated.

Much of the poor care that exists stems from institutional discrimination, complacency and the attitudes or lack of education of healthcare professionals themselves (Joint Committee on Human Rights 2008, Michael 2008). These are now being addressed in healthcare training, and the rapid growth in use of computers in education (Childs et al 2005) has opened up new avenues for tackling the issues and involving students in the process. The opportunities that technology offers to simulate practice scenarios through the use of images, video, animations, audio and interactive exercise, are particularly relevant at a time when the practice-based experience that many healthcare students get in learning disability-based settings is being reduced or lost altogether.

Despite this potential, much is written about the digital divide between those who have grown up with the internet, so-called digital natives, and those who have come to technology later in life, known as digital immigrants. Students increasingly represent the former and are confident, or even prefer to work, socialise and study, in the online environment. Many lecturers fall into the latter category and, even though they may be technologically competent, are not fully at ease with this new digital culture.

There appear to be fundamental differences in the approaches and preferences of these two groups when it comes to educational technology (Prensky 2001). If online resources are to be effective in informing and challenging learners about the rights and needs of individuals with a learning disability, perhaps the students themselves and not their lecturers are best placed to design them. Here we describe a project in which a group of learning disability nursing students designed and developed relevant learning resources for their peers.

Reusable learning object

Although there has been increasing interest in the role of students as content providers, many of the resources generated tend to be used in a limited manner for individual assessment or for sharing in a small peer group. There are few examples where these learning resources have been more deeply embedded in and more widely shared between courses (Sener 2007). Many of the issues surrounding the creation and use of such materials remain unstudied and this project sought to investigate them. We chose a small multimedia learning resource format known as the reusable learning

Summary

Nursing students from seven different universities are designing e-learning resources for use by their peers and other health professionals. This article explores the use of reusable learning objects designed by students themselves on the premise that they would be better placed to understand the learning needs of their peers. The authors explain the process of capturing student-generated content and the development of that content into usable resources that are proving popular and effective.

Keywords

Education, learning disabilities, reusable learning objects, student-generated content
object (RLO) for content creation and delivery. There are many differing definitions for RLOs (Wiley 2000, Muzio et al 2002, Duncan 2003), but most agree that the core concepts of accessibility, empowerment of the learner and sharing underlie the popularity and effectiveness of RLOs in many areas of education.

We have used this format for a number of years for tutor-led e-learning creation (SONET Educational Technology Group 2010). Our RLOs are small, self-contained resources, typically representing 10 to 15 minutes’ worth of learning interaction. They are each focused on a single learning goal and do not require the learner to access information from other sources in order to fulfil this goal.

This decoupling and cohesion design makes RLOs very accessible to the learner (Boyle and Cook 2003) and has proved effective and popular with students in health care (Wharrad et al 2001, Gresty and Cotton 2003, Lynn et al 2008). Students particularly value the control they have of the learning process (Farrell 2006, Windle et al 2010). It appears that, together with the ability to self-test, learners derive a sense of ownership over their learning which is vital to effectiveness (Childs et al 2005).

Our RLOs generally incorporate a mixture of images, animations, photographs, video, audio and interactivity. The visual elements appear to be particularly valued by nursing students (Lynn et al 2008, Windle et al 2010) and can be used to add engagement and authenticity to the learning process. These elements of control and ownership of learning, engagement and authenticity are likely to be central to the success of resources aimed at informing and challenging the attitudes and practice of learners.

Community of practice approach
Unlike more traditional e-learning resources, RLOs are often developed by a community of practice (Windle and Wharrad 2010), where groups of tutors and other stakeholders work collaboratively to develop the content of a resource, and are supported by instructional designers and media developers. In line with the theoretical framework provided by a community of practice approach (Wenger 1998), the process helps individuals to share their unique knowledge, viewpoints and expertise, and to work with others. It is a model that has proved highly effective in unlocking areas of content that were traditionally unavailable to technological media (Cook et al 2007) and also in producing content that is aligned to real-world learning needs. It is therefore an ideal medium with which to explore the issues surrounding the creation of student-generated content.

The Supporting Health Occupations Understanding of Learning Disabilities (SHOULD) project was developed as a collaboration between the Centre for Excellence in Teaching and Learning for Reusable Learning Objects (RLO-CETL) (2006) and the Positive Choices Conference Consortium (Positive Choices 2010). The RLO-CETL is one of a number of projects established by the Higher Education Funding Council for England in 2005 in an attempt to improve the quality of learning and teaching in higher education.

Positive Choices runs an annual conference for learning disability nursing students from across the UK and Ireland. A key aim is to build a strong community among students which will be continued after their qualification into the professional group. The student community and student involvement have been central to the RLO-CETL project, and extensive network analysis has shown the importance of the role of students in the RLO-CETL community (Morales and Carmichael 2007). The same strong emphasis on the student voice from Positive Choices and the RLO-CETL made their partnership ideal for the project.

Storyboard development
The framework adopted for the project represents a modified version of the RLO-CETL’s community of practice approach to RLO development (Boyle et al 2006). It began with a one-day workshop at Edge Hill University in April 2008. This workshop was attended by 35 nursing students from seven higher education institutions in the UK and Ireland. Students were divided into multi-institutional groups, and each group was asked to develop a theme that would help to inform other healthcare profession students about working with people with a learning disability.

For the remainder of the day, groups designed and presented storyboards around these themes. Initial storyboarding was carried out using large A0 poster boards. The exclusion of computers or technology at this stage was deliberate, to allow the focus to be on the creative process without restrictions, and also not to disadvantage those who were less comfortable with such technology.

After the workshop, each storyboard was developed in detail so that it could be used for media development. This was an iterative process.

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over several months. A tutor from one of the participating institutions was appointed as mentor to each group. As the groups were multi-institutional, there were multiple methods of communication including email, a website (SHOULD 2008) and social networking websites, to allow the groups to communicate, share ideas and review resources.

Face-to-face meetings allowed students to work with instructional designers and media developers on their ideas. Some students were given the opportunity to attend residential workshops run by the RLO-CETL with tutors, media developers and instructional designers. The final storyboard specification outlined not only the content, but also the ways to present information, the media to use and the methods of engaging the target learners who the students wished to include.

**Evaluation**

The RLO-CETL promotes a robust quality assurance process involving a series of reviews of the materials being produced. For this project, the first review was conducted on the completed specification before starting media development. It concentrated on the validity and accuracy of content.

Reviews were sought from independent learning disability and other nursing tutors. After revision of content, media development started. Although the resources passed into the hands of the media developer at this stage, the students were encouraged to continue discussing ideas and reviewing media as the process developed, contributing their technical and graphical skills. After media development a second, similar review was undertaken, concentrating on usability and media representations. At this stage, opinions were sought from independent students, service users, carers and practitioners. Finally the resources were released for user evaluation.

**Five designs**

It was evident that students had clear ideas about the areas in which they could support their peers to gain a better understanding of working with people with a learning disability. Five new RLO designs emerged, focusing on respect, communication and rights (see example in Figure 1, which is available along with other RLOs at http://sonet.nottingham.ac.uk/rlos/learndis).

Analysis was based on the IMS Global Learning Consortium learning design (IMS 2005), which looked at the resources in terms of design of the learning environment, the intended roles of the learner and the planned activities (Windle *et al* 2007), and showed that the students had created pedagogically rich and appropriate designs. Particular emphasis was given to interactive learning and building on the prerequisite knowledge of the intended users.

Figure 1 shows the original storyboard from the workshop and screenshots of the completed ‘My house, my rights’ RLO to show the transition. The intention of this group was to highlight areas of oppressive practice or ‘careless care’ that can occur...
when working with people with a learning disability. They chose a journey through the supported living environment of a client, where learners can visit each room and interact in instances of poor care. For example, in the kitchen a carer has thrown away a service user’s eggs that have just passed their use-by date, but without asking first. In the living room, a noticeboard displays rules, fire regulations and other paraphernalia, giving an institutional feel.

The group decided that, rather than photographic images, realistic illustrations would provide intimacy with the situation, while maintaining the sense that these were merely examples. A selection of RLOs has been released as open educational content for anyone to use. A feedback form sent with the RLOs allows us to track use and user feedback which, to date, has been overwhelmingly positive.

Impact

This study clearly shows the potential of student-generated content and the enthusiasm of students to become involved as a means of extending their role to educating their peers and improving care for their client group. It also shows that the RLO format and development process captures good student-generated content. The next step will be the embedding of the resources and evaluation of their effectiveness in changing behaviour and attitudes.

Although the development of resources for this project did have some cost implications associated with the development of the media, their level of use and reuse in different contexts suggests that the resources are cost effective. In addition, a number of tools are now available that allow the creation of e-learning content without specialist technical expertise. Indeed, one of these, known as Articulate Presenter, was used for the RLO on sexuality that was developed as part of this project.

One of the major advantages of RLOs is their ability to be shared beyond the original target group. Content authors derive a sense of ownership of the resources and a willingness to promote and share them (Bond et al 2008): students are recommending them to their peers, clients, practitioners and others, including staff in catering and hospitality industries.

The most important outcome from this project will be evidence of impact on the lives of people with a learning disability through improved attitudes and care, and future research should assess this.

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References


