

A co-operative, connected and distributed approach to developing digital literacies

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Abstract

In 2011 the Centre for Enhancing Learning through Technology (CELT) was established at De Montfort University. The aim of the CELT team is to work with staff and students to transform their learning and teaching experiences through the situated use of technologies.

This case study offers an overview of the ways in which the CELT team seeks to realise its aims in relation to the use of digital technologies for enhancing teaching and learning. In particular, it focuses on how they utilise a simultaneously co-operative, connected and distributed model for staff development in seeking to bridge the gap between digital know-how and the effective pedagogic implementation of digital technology as part of a curriculum.

Key elements of the CELT strategy and the team's on-the-ground approaches to catalysing engagement and driving innovation in the use of digital technologies for teaching and learning will be detailed. This will include a series of situated examples of developmental projects that have sought to enhance student learning through the use of digital technologies.

It is hoped that the case study will be of value in terms of highlighting effective practices and broader strategic approaches towards developing digital literacies for staff and students.

Keywords: professional development; digital literacies; co-operative; collaborative; enhancing learning through technology; situated technology.

Introduction

Student engagement with digital aspects of their learning depends on teaching staff being knowledgeable, able to model and take the initiative to integrate technologies into their teaching processes in creative ways, as Beetham et al. (2009) suggest. Staff and student digital literacies become connected through learning and teaching experiences. By supporting teaching staff, the CELT team, albeit indirectly, work to enrich the student experience and innovate across varied curricula. This system of support is complex and at times difficult to assess the direct impact of support networks (Sharpe et al., 2013).

Given its mission of 'the transformation of learning by staff and students through the situated use of technology', the CELT team engage a range of practices and technologies to encourage meaningful and pedagogically-grounded digital literacies. In the context of higher education, being digitally literate is being:

able to make informed decisions about the appropriate situative use of technology in all areas of one's professional and personal activities (Atkins and Kaur, 2014).

The scope of this paper is to share strategies, which have proved useful in bridging the apparent gap between abstract technical 'know-how' and pedagogy, through a model which has evolved as simultaneously co-operative, connected and distributed. Here we

focus on two core strategies that we have adopted; scoping processes and co-operative dialogues.

Scoping processes

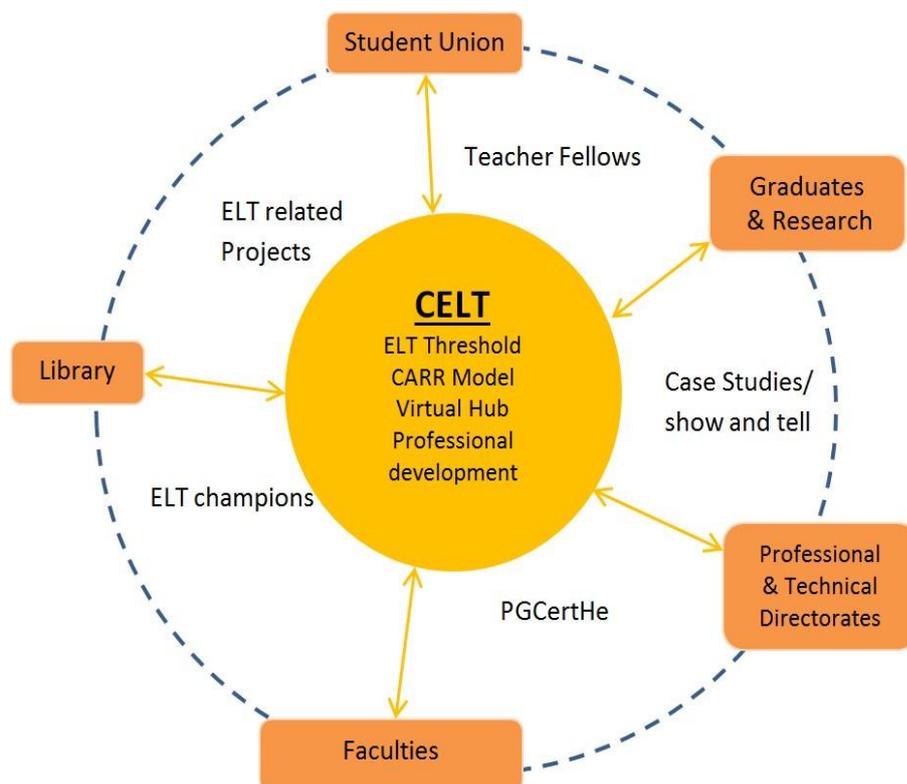
A core assumption of our work is the understanding that both student and staff communication, learning and teaching extend beyond the university. This has led us to develop a scoping approach and framework that incorporates horizon scanning as well as local practice awareness. A visualised model is used to help signpost and communicate a range of pedagogic practices and technologies that have potential teaching and learning application. Beyond this, where appropriate, identified potentials are trialled; this can happen as formal project-based trials that are owned by one or more of the CELT team, or less formal explorations of potentials that are carried out by individual team members and escalated to the whole team should the potential be judged to be worth further formal trialling. For formal projects we tend to work using a buddy pair system with one of the pair being the project lead. This approach is important in terms of resiliency in that, should one of the team leave, there will be at least one other member who has detailed knowledge of a specific technology and its teaching and learning application. The results of our scoping processes are articulated where appropriate through the various networks and media that constitute our co-operative dialogic approach.

Co-operative dialogues

Acknowledging that technological skills do not lie solely within our small group (CELT), dialogic engagement with colleagues across the university is vital. Through our role we raise awareness, seek feedback and establish and maintain networks with teaching fellows, enhancing learning through technology champions and through the PGCertHE and pedagogical projects (see Figure 1). However, as the ALDinHE baseline survey suggests, independent engagement with technological skills is still common place, with 91% of survey respondents noting that they developed their competencies in digital technologies through self-teaching (Hagyard, 2011, p.6). For this reason, the development of a pedagogically-inspired online hub, a one-stop shop, has helped to foster day-to-day practical engagement (<http://celt.our.dmu.ac.uk>). However, the hub cannot work without being relevant to local contexts; this can happen through dialogue with staff encouraging

them to make decisions and take initiatives regarding their own and team teaching. Thus, as a way of integrating face-to-face, online contact, just-in-time support and self-help approaches, the hub enables staff to see case studies in a range of media formats (<http://celt.our.dmu.ac.uk/effective-practice/elt-case-studies/>).

Figure 1. CELT co-operative approach for bridging skills and pedagogy



Our approach to sharing practice is stimulated by working from examples that others can replicate, sharing lessons learnt and highlighting the student voice; in other words modelling and demonstrating what colleagues have already done, or are doing to enhance the student learning experience and incorporating that as part of our approach to staff development. In order to exemplify snapshots of this practice we present the following four situated examples: distance learning in technology; the creation of a virtual high street in nursing; a training needs analysis for research students; and student ePortfolio development.

Distance learning

Distance Learning (DL) is one area where our teaching and learning focused approach is enabling the university to engage with a wide variety of student cohorts through matching appropriate technological enablers to a diverse set of curricula. Working across faculties via our sharing and dissemination ethos, once small, isolated pockets of DL-related practice have been documented and adapted across campus. For example, a whole MSc programme in the Faculty of Technology moved to DL enrolment in 2012. Through conversations facilitated by embedded networks, including those already teaching blended DL and attending cohorts, and based on an analysis of teaching styles and student needs, we were able to identify and support the entire MSc teaching team in designing and rolling out a roadmap for engaging with DL students for the first time. In addition, our expertise and grounding in teaching and assessment techniques has enabled the production of a distance learning support strategy that provides examples of models, good practice and guidance for individuals, teams or subject groups who are teaching DL students, which aims to increase flexibility and enhance the student experience. With this in mind, technology can be used to stimulate innovation in the curriculum, ensuring that the DL students are included in virtual collaboration spaces and that assessment activities are consistent across the cohort. In turn, this can help with retention and progression as DL students' needs and motivators for learning are often different to those of campus-based students, as Osika (2006) described in development of the Concentric Support Model. Student feedback suggests that by using innovative techniques (such as live capture to create rich, student-voice enhanced, study resources and collaborative tools to enable DL students to work with each other and their campus-based peers) can add value to the whole student experience, whether that be at a distance or in a classroom.

The virtual high street project

The virtual high street project is an example of our collaborative, project-based approach towards the development of innovative teaching and learning resources. We work directly with teaching staff to prototype innovative digital teaching and learning resources. 'High street' is a virtual, fictional community created to support and enhance teaching and learning for students on the BSc Nursing programme: built in the core virtual learning environment (Blackboard) it provides a space within a recognised online teaching and learning environment in which teaching staff can create, develop and explore the use of scenarios for teaching and learning.

In brief, the high street consists of residences, which include pertinent health related information about the residents; and various key services, such as the high street health centre which contains the medical records of all residents. Teaching staff author all of the content in these spaces in relation to their teaching and learning requirements, and then integrate this content into their teaching and learning activities. As high street is an open/shared resource, teaching staff are able to use each other's resources as required.

The collaborative hands on development of such resources carries with it an inherent enhancement of digital literacy for those staff involved in the collaboration. Through the sharing practice model that we employ, other staff can be catalysed to engage with similar innovative developments and hence the enhancement of digital literacy can spread, in a less formally contrived manner than that of structured workshops.

The broader aims of the high street project, beyond its implementation as a teaching and learning enrichment resource for nursing, are to create and establish a resource that acts as a catalyst for teaching staff to explore and engage with a broader palette of pedagogic approaches; where necessary and relevant in terms of the curriculum. The hope is that high street will:

- spark dialogues around the potentials of scenario-based approaches to teaching and learning, beyond the school of nursing;
- be a key component in articulating the role that digital technology can play in developing pedagogically focused resources that enhance and enrich teaching and learning;
- demonstrate the extent to which close collaboration between academic teaching staff and learning technologists can result in the development of pedagogically relevant teaching and learning resources that enhance the student learning experience.

Training Needs Analysis

The original Training Needs Analysis (TNA) document was in paper format, it was lengthy and information was not succinct. Completion of the TNA enables PhD students to identify weaknesses in their skill set and to subsequently select university training courses to strengthen their skills.

Creating a new resource involved co-operation with a wide range of practitioners. Re-designing the TNA online required alignment with the current 'Researcher Development Framework'. We investigated various online survey programmes, however none of them allowed students to view submitted answers. The university's virtual learning environment was used to create the resource, making it cost effective. Initial mapping of the available training courses was made to the Researcher Development Framework wheel quadrants (Vitae, 2014). Thought was given to the diversity of the PhD student users including international students; those with a first language other than English; diverse digital literacy skills of mature students and varied cultures and backgrounds. Design and development of the TNA included theories of human computer interaction; four surveys with colour co-ordinated text representing the four Researcher Development Framework domains; clear and precise question language, making it accessible to all; hyperlinks within each question that open a colour co-ordinated document listing appropriate training; dedicated space where 'how to' guides are available in both visual and written format, which provide detailed instructions.

The online TNA tool has proved to be a valuable resource. Students have expressed the flow and succinct format is easy to follow. The most significant impact is where students are using the surveys for personal development planning. By completing the surveys each year they can monitor development of their skill set. Furthermore, we are exploring the potential to adapt the tool for early career researchers.

E-portfolio for Biomedical Science students

Our expertise in working closely with course lecturers was key in enabling the development and deployment of an ePortfolio utilising wiki technology through the virtual learning environment for the BSc in Biomedical Science programme. The project involved analysis of technological options which would best meet the situated requirements of the compulsory Professional Skills course module. The project involved open dialogue and professional development for staff so that skills were transferable. It is testament to the success of the ePortfolio that it has continued to be used, now with a third cohort, and that the development model has been used to establish ePortfolio solutions in other courses. The portfolio was designed so that students can present reflective logs and evidence of achievement about a variety of learning activities in a systematic manner. Evidence of learning is based on reflective accounts and questions set by the lecturer and employs a

template which was developed for the ePortfolio. The benefits of the ePortfolio over the previous paper-based format in terms of the practicalities for the lecturer included student progress checking, feedback, marking and accessibility. There were also benefits for students who had to demonstrate skill sets and apply deeper active learning through reflective writing in an online setting, thus making the process more enjoyable.

Coincidentally having students maintain an ePortfolio supported responsible student professional skills development (research/scientific skills) and demonstration of applied learning required as evidence for professional bodies. Having an online portfolio allowed students a holistic view of their portfolio and enabled them to work through sections which suited their learning and commitments and facilitated good practices in developing digital literacies. Once again this project demonstrated a mutual focus on pedagogy, technology and expertise between the learning technologist and the academic lead, so enabling a positive outcome.

Summary

In this case study we have attempted to demonstrate ways in which the CELT team applies a co-operative, connected and distributed model, based on the strategies of co-operative dialogue and scoped processes, with the aim of grounding technological skills and rendering them relevant and meaningful to staff and students. We have demonstrated how such processes are often cyclical, working between the local context, documented cases and adaptation to new situated scenarios.

This case study represents some of the successes of our approach in terms of bridging the gap between digital know-how and the effective pedagogic implementation of digital technology as part of a curriculum. However there still remain challenges in terms of the broader recognition of the positive potential of digital technology for enhancing teaching and learning across the institution and the subsequent adoption of digital technologies. For the most part, we find that it is those staff and students who are already switched on to the potentials of technology who tend to be the first to walk through our door – the early adopters. Through our sharing practice strategy their endeavours do have some impact on those staff and students who may be less technology aware, from a pedagogic perspective. Still it appears that a key barrier to engagement in many cases is a lack of confidence in terms of individual digital literacy. Given this, our challenge is to continue to

explore, experiment and discover ways in which to support staff and students in the development of their digital literacy towards the effective situated use of digital technologies for teaching and learning.

Going forward in this respect, we aim to enhance our staff development programme through the implementation of a structured, yet flexible framework with which staff can develop their personal digital literacies. This framework will be based on that which has been developed as part of the DigitLit Leicester project (Hall, Atkins and Fraser, 2014; Atkins and Kaur, 2014).

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Author Details

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The team consists of a strategic team lead, six educational developers/project officers (embedded in faculties, the Graduate Research School and university library) alongside a researcher in digital literacies.

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