The O$_3$ Project - Implementing Support For The Transition To Distance Learning

Stephen White, Chris Low
The University of Huddersfield
Huddersfield, UK
stephen.white@hud.ac.uk, c.low@hud.ac.uk

Abstract—This paper describes design and implementation of an institutionally supported initiative to convert Continuing Professional Development courses for health and social care professionals, from traditional face-to-face, to an online delivery method. E-learning specialists are used to mentor subject specialists, in producing effective, high quality online courses. Processes and tools have been created to promote staff development, for long-term sustainability of the initiative. Evaluation of both staff and student experiences will take place once the initial courses within the project have completed.

Keywords - Online learning; Distance learning; e-Learning; Higher Education; HE; Institutional change.

I. BACKGROUND

Health and Social Care professionals within the United Kingdom are expected to maintain the currency of their skills and knowledge through a process known as Continuing Professional Development (CPD).

The term 'CPD' is commonly used to describe a concept also denoted as Lifelong Learning, Continuing Professional Education, Continuing Vocational Training, and Post Qualification Development [1,2]. CPD has been defined as, *'a process of lifelong learning for all individuals and teams which meets the needs of patients and delivers the health outcomes and healthcare priorities of the NHS and which enables professionals to expand and fulfill their potential'* [3].

Courses that facilitate this process are provided either within the individual's workplace, or by an external provider; this is usually a Higher Education (HE) institution, where the courses are delivered at postgraduate level, and are credit bearing.

However, increased workload pressures from the clinical environment are making attendance at external activities increasingly difficult [4,5]. This requires institutions to consider alternative methods of delivery to provide CPD.

This paper begins by describing a system that has been implemented to promote wide-scale transition from traditional to online delivery of CPD courses within a HE institution. An overview is presented of the potential benefits within the system and issues that may be encountered. The paper concludes by confirming that future evaluation of the implementation will be undertaken.

II. INTRODUCTION

Online learning (used synonymously with e-learning in this paper) has the potential to "*improve the quality of learning, improve access to education and training; reduce the cost of education; and improve the cost-effectiveness of education*" [6]. However, these factors should not take priority over the quality of the process, and importantly, research comparing online and on-campus education tends to find few significant differences in outcomes and satisfaction ratings between on-campus and off-campus learners [7-14].

This project, named O$_3$ (**O**nline, **O**ff campus, **O**ut of hours), is based on an institutional teaching and learning strategy that includes a vision for e-learning. This is important, as institutions have been shown not to have overall foresight or a cohesive approach to e-learning; and if they do, many people are unaware of it [15]. The broad aim of the project is to facilitate the long-term sustainability of quality online delivery of CPD courses for health and social care professionals. In promoting sustainable development, teaching and learning in HE organisations can be transformed [16]. However, sustainability of e-learning initiatives is a common challenge, regardless of the scale and focus of the project [15, 17].

Adopting online delivery and its related technology requires an investment in faculty time and resources [18]. Many academics report being too busy to prioritise exploring new approaches to teaching and learning, with its associated problems in finding and learning how to use related resources [15]. Sait et al. [19] also identified that some tutors are against using technological methods as a replacement for face-to-face instruction, which is a type of internal resistance that should be taken into consideration. As a way of resolving this, supportive leaders are cited as a positive influence, although this tends to be based on personal relationships rather than determined by policy or institutional practice [15].

Teaching and learning online also requires a different pedagogy and unique set of skills from that of the traditional classroom [20-25]. Despite awareness of this, it is widely acknowledged that most development work in this area is currently being done "*by faculty with no formal training in [...] any of the related e-learning fields*" [26]. Academics using online delivery methods "*are faced with new pedagogical issues surrounding student interactions, course content design and delivery, multiple levels of communication, defining new types of assignments and performance expectations, and different assessment and evaluation techniques*" [26]. The result is courses being prepared and delivered with a "*systemic lack of awareness*" in appropriate uses of technology for online education [24].

For a programme to be online in design, not just delivery, there needs to be an intentional, informed approach to instructional design. Therefore, any system that establishes a framework that could be used to guide the process, will greatly simplify the task of implementing online learning.

III. THE O_3 PROCESS

The principle behind the O_3 project is to utilise academic staff with expertise in e-learning, to mentor subject specialists in the process of moving their traditionally taught courses online. This may not, at first glance, appear to be an innovative approach, however, the institutional investment to the process, is what sets it apart. This support took the form of resource allocation and workload accounting, with the mentoring activity being recognized within the roles of the individuals concerned, demonstrating institutional commitment to the activity. A supportive organizational structure has:

- *an overall teaching and learning strategy that includes a vision for e-learning with accountability measures at both management and practitioner levels; and*
- *a vision for e-learning that is relevant, coherent and shared* [15].

The e-learning specialists are the enablers within the system, and sit at the centre of the process, as can be seen in Figure 1. The process begins with meetings between them and the subject specialists, where the current course curriculum, timetable, materials and methods of interaction are identified and discussed; at this point they form what could be termed an O_3 working group. This activity, in itself, has identified a previously 'invisible' outcome to the process, whereby the subject specialists have found themselves challenging and questioning what they have already been doing, in the traditional delivery of the courses.

At these meetings, the materials and processes that can be immediately transferred online, with little or no change, are identified, and a technical support team carries this out, as directed by the e-learning specialist. The remaining elements of the course form the foundation for discussions between the members of the O_3 working group, with the e-learning specialist providing suggestions on possible online alternatives, but it is the subject team who ultimately make the decision regarding which of these are used. This partnership approach aims to achieve a balance between the priorities of the project and the autonomy of the subject team to define the direction this emergent e-learning course will take, resulting in less potential for the 'not invented here' syndrome to occur [27].

Rapid authoring software (Rapid Intake eLearning Studio) is used as the vehicle to produce and present the course materials. The files exported from this tool are SCORM compliant, which enables them to be embedded within the institution's Virtual Learning Environment (VLE). Both the VLE layout, and the course delivery interface that is produced by the rapid authoring software,
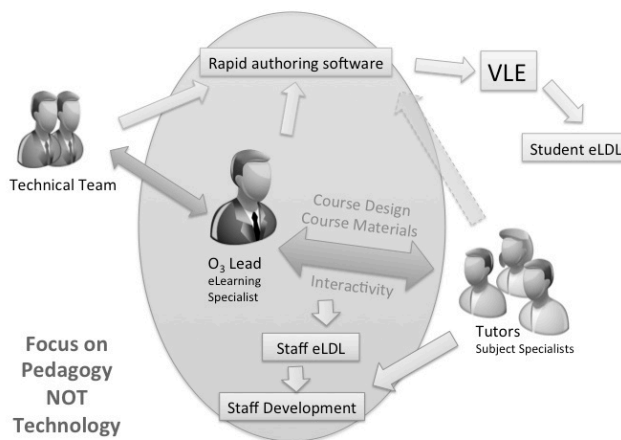

Figure 1. O_3 Structure

are the same for all courses produced within the O_3 process. This aims to promote automaticity in its use, so that students do not have to focus on how to use the technology when they should be devoting their attention to what they are expecting to learn. This prevents students from cognitive overload, which may decrease learner motivation by inhibiting their attention to the actual instructional material [28, 29]. This is consistent with the assertion that motivation is adversely affected when students feel overwhelmed by the mental effort necessary to learn [30], and that cognitive overload contributes towards high attrition rates in the first few weeks of online courses, especially for students undertaking them for the first time [31]. The same, although in a slightly different context, applies to the academic staff, where familiarity through repeated use of the same interface promotes confidence in its use.

In the early stages of the O_3 programme, the e-learning specialist and technical support team carry out the production of the materials within the rapid authoring software. By doing this, they are relieving the subject specialists of this added burden on their already full workload. It is, however, anticipated that over time, the subject specialists will develop the skills to do this, and will produce resources specifically for online delivery, rather than converting materials originally created for face-to-face delivery. The partnership process is facilitated by this software, through an online interface that allows the subject team to review the course materials in their 'new' format, and provide feedback; again, allowing them to retain control of their course and its associated materials.

As the transition discussions develop, methods and tools for online interaction are usually identified that the subject team are unfamiliar with, or have little or no experience in using; these are noted, and become the focus for staff development sessions. Professional development that teaches tutors the strategies of online teaching have been cited as beneficial in helping faculty members overcome difficulties encountered in adopting new teaching and learning strategies [32]. It has also been suggested that

universities need to investigate how to better support faculty in acquiring the knowledge, skills, pedagogical strategies, and dispositions that are needed for building more effective, interactive, and multi-modal online learning communities [33]. Further, it is essential for the faculty to be able to deliver online as comfortably as they do in a face-to-face setting. Such comfort with the use of e-learning tools and methods will ensure effective execution of pedagogy for enhancing learning, ensuring the focus remains on the teaching role [34].

Researchers argue that online delivery increasingly demands a shift for tutors to take on roles such as mentors, coordinators, and facilitators of learning rather than conveyors of information [21, 35]. As such, the tutor provides students with experiences that challenge their higher-order cognitive skills "*as opposed to simply transferring content to them*" [21]. A change in roles, such as this, can be a challenge for many faculty members who typically rely on lectures to engage and instruct students [24].

To support this transition towards online learning, two e-learning driving licenses were created, one for faculty, the other for students. The student license is designed to act as both institutional induction, and as a tool to develop familiarization with the online systems that are being used. The staff license provides information on the pedagogy of online learning, and explores the many tools available to facilitate this. A self-assessment by the tutor also informs awareness of which staff development sessions may be required.

As indicated earlier, staff development activities were carried out primarily, but not exclusively, aimed at those methods that have been identified for use within the course, thus developing the tutors' knowledge and understanding of them prior to actual implementation. It is of note that these sessions are facilitated through the medium that they are developing, e.g. forums are used for staff development sessions on 'how to use forums'. Researchers agree that interaction increases learning satisfaction in online courses [18, 36, 37]. Zhao et al. [38] found that low tutor involvement resulted in less positive outcomes, and similarly courses where limited interaction with others takes place have been described as being less helpful than those courses that were more interactive and incorporated the use of multimedia [33]. One of the greatest challenges for online courses is to "*provide a sense of community [...] with feelings of friendship, cohesion, and satisfaction among learners*" [24], because building a community of learners where students cooperate and learn together can become a "*powerful motivator and a powerful mechanism*" for extending learning [39]. For this reason, the staff development sessions particularly focus on helping the subject team to redefine their facilitation skills, to promote effective interactions with off-campus learners [40].

Significantly, the O₃ process also ensures that the new online mode of delivery has the same learning outcomes, as the previous face-to-face course, to ensure that it maintains the quality and standards that it previously did. The O₃ system has also been reviewed against recognized educational Standards for e-learning, which are clearly met, as indicated in Table 1.

TABLE I.   O₃ PROCESS MAPPED AGAINST THE QAA 'CODE OF PRACTICE FOR THE ASSURANCE OF ACADEMIC QUALITY AND STANDARDS IN HIGHER EDUCATION: COLLABORATIVE PROVISION AND FLEXIBLE AND DISTRIBUTED LEARNING (INCLUDING E-LEARNING)' [41]

QAA code precepts		O₃ compliance
B1	'students need information ***before they start their programme*** of study to enable them to make appropriate preparations for an FDL approach' (p.58)	✓ - Students complete an e-learning driving licence which is available through the institution's website ***before enrolment*** which introduces them to the online approach used in the O₃ system.
	'study materials, whether delivered through…web-based or other distribution channels, meet ***specified expectations***' (p.59)	✓ - Staff developing online materials are ***supported to meet specified expectations*** by specialist academic and technical staff. Key to this is the supported use of a common format across all modules. Therefore students will NOT suffer an additional cognitive burden when navigating on-line provision.
B2	'FDL study materials are subject to the same ***rigour of quality assurance*** as the awarding institution would use for any of its programmes of study' (p.60)	✓ - This institution's validation process is ***more rigorous*** for online delivery than traditional programmes as it requires scrutiny of all course materials by an external assessor. In addition materials are scrutinized through O₃ ***pre-submission*** to this external assessment.
B3	'Prospective students whose only experience of learning is through directed teaching… may need some introductory support, possibly involving ***access to on-line learning environments prior to the start of the course***' (p.61)	✓ - Students complete an e-learning driving licence which is available through the institution's website ***before enrolment*** which introduces them to the online approach used in the O₃ system.
B4/ B5	Learning support	✓ - These precepts outline requirements that are standard practice within the institution e.g. clarity of expectations about learner support; student experience feedback mechanisms
B6	'Staff who provide support to learners on FDL programmes ***have appropriate skills, and receive appropriate training and development***' (p.64)	✓ - O₃ process diagnoses staff skill deficits through a staff e-learning driving licence, which leads to ***specific training programmes*** focused on the needs of their own course delivery. ✓ - The e-learning specialist provides the necessary pedagogical expertise and through the partnership process of exploring the course design, this is developed in the subject specialists
B7	Assessment	✓ - This precept outlines requirements that are standard institutional practice e.g. statements of criteria to be used in assessment; timeliness of formative and summative feedback

IV. CONCLUSION AND FUTURE WORK

Combining the specific skill set of the e-learning specialists, with those of the subject specialists, facilitates a process that produces high quality, effective, pedagogically focused online courses. Transparent and realistic institutional support encourages faculty members to adopt online learning. This in turn will promote confidence in using new methods and tools, positively influencing the delivery approach.

Whilst currently implemented for health and social care courses, this model is not exclusive to these subjects. Grounding in the e-learning pedagogy is an important design feature of the O_3 process; initiatives such as this should be considered as exemplars in institutional capacity development initiatives.

Initial informal feedback from both tutors and students currently involved in courses being delivered within the O_3 system, is very positive; formal evaluation will be undertaken and published, once the courses have been completed.

Expressions of interest for collaborative development of the distance learning provision at other HE institutions have already been received, and others would be favourably considered.

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