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Creating a Culture for Critical and Situated Technology Use Through Effective Learning Design

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The purpose of this concise paper is to propose, with evidence gathered through a systematic evaluation of an academic development programme in the UK, that training in the use of new and emerging learning technologies should be holistically embedded in every learning and training opportunity in learning, teaching and assessment in higher education, and not only as stand-alone modules or one-off opportunities. The future of learning in higher education cannot afford to allow Universities to disregard that digital literacy is an expected professional skill for their entire staff.

Keywords: learning design, professional development, reflective practice, situated technology use

Introduction

The Postgraduate Certificate in Professional Practice in Higher Education (PGCPP) is organized through the Centre for Learning Innovation and Professional Practice at Aston University in the UK. Like other similar programmes across the UK it provides the opportunity for new academic and academic-related staff to obtain a nationally accredited award which is of value for professional development and career progression. Until the last academic year, the use of new and emerging learning technologies within the process of studying the particular programme has been somehow been limited in that it promoted the use of institutionally supported learning technologies as a mechanism to develop the necessary technical skills to operate tools such as the virtual learning environments (VLEs – also known as learning management systems in Australia) and the e-portfolio platform. However, participants did not feel particularly empowered to experiment with new technologies in their own practice as a result of their participation in the programme. This appeared to be because of few opportunities and incentives to integrate new technologies in a context where workloads are full and research productivity is the priority (Gunn, 2011). The programme team decided, therefore, to revisit and restructure aspects of the core modules for 2011-2012 delivery, while resisting the temptation to introduce a specialised module on learning technologies. The new learning design aspired to provide a variety of learning tasks and extended practice opportunities for the participants to most effectively develop as critical users of learning technologies in their own disciplines (Beetham & Sharpe, 2007). The paper presented here briefly describes the learning design and presents the preliminary findings from the first year of its implementation using evidence gathered through a systematic evaluation from two cohorts of participants.

A brief note on the underpinning learning principles

In the context of good professional practice academic and anticipating future challenges, development programmes, such as the PGCPP, should empower participants to move beyond the development of Information Literacy to the creation of Critical Digital Literacy (Wenger, White & Smith, 2009). In practice this means that teaching and support staff will be offered opportunities for personal and team activities that help them understand the affordances of learning technologies (Gibson, 1977) and translate technology-enhanced learning concepts and ideas into practical and workable solutions for use with students and staff (Gunn, 2011). It also means that participants will move from '*learning before doing'* to '*learning while doing'* with the use of technology (Cowan, 2006). This situated learning opportunity is the most effective way in which participants can achieve higher order thinking, which in turn is the differentiator for future successful organisations (Strattner & Oblinger, 2008) and sustainable futures. This latter point is an important one to keep in mind, given that many institutions often offer a one-off opportunity for training in the understanding and use of learning

technologies in the form of stand-alone modules as part of a PG Certificates, PG Diplomas or MSc programmes. The importance of embedding learning technologies in an holistic way, and not as one-off modules or sessions, has attracted renewed attention by professional bodies such as the Staff and Educational Development Association and the Heads of E-learning Forum in the UK, both of which have recently (during 2011) devoted conference themes and development days on this topic. It was this idea of 'learning while doing' with the use of technology that inspired our new approach of the PGCPP.

Our PGCPP holistic learning design framework

The PGCPP programme consists of three core modules, which are delivered in a blended learning format (a combination of face-to-face taught sessions and online learning opportunities) and are assessed separately using clearly defined assessment criteria. Figure 1 below offers an overview of the modular structure of the programme and the core activities and approaches used. The use of new and emerging learning technologies is central to all modules and all activities of the programme. For example, in Module 1 participant are asked to develop critical incidents reports and make direct learning journal inputs considering their digital participation in the programme from the point of view of the student and of the learning designer and tutor. They can also choose to be observed in both face-to-face teaching settings and in virtual settings, where a member of the programme team is shadowing their online asynchronous or synchronous 'classes' and then debrief them as in normal teaching observation settings. The overall aim is to critique, evaluate and re-use ideas experienced in the PGCPP in their own disciplines. The overall expectation is that by embedding learning technologies in the course, as participants would be expected to use them in their own practice, academics would feel empowered to transfer these skills in their own learning designs. To support this expectation, participants were offered the opportunity in Module 2 to work, during full curriculum development days, towards re-structuring parts of whole modules and to consider critical and situated use of technology in their own discipline. Finally in Module 3 there were offered the opportunity to learn about specific research methods used to evaluate learning and teaching with the use of technology, carry out an original piece of research and write it up for dissemination in a conference or a journal article.

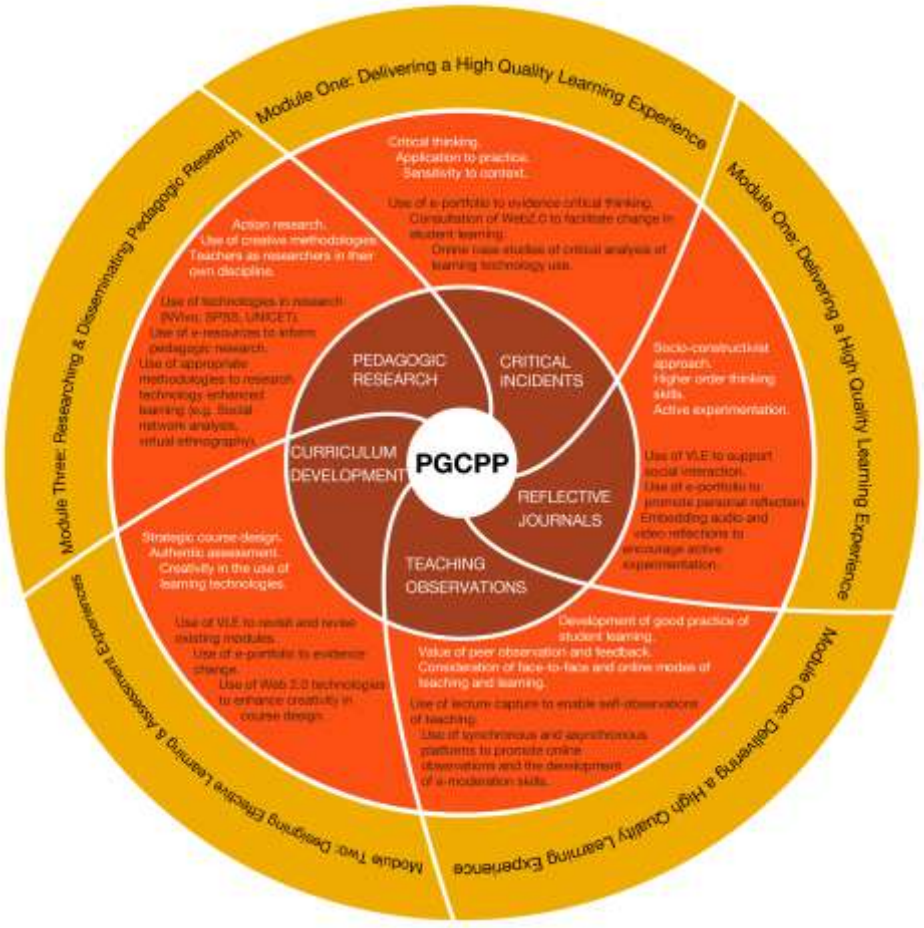

Figure 1: The PGCPP Learning Design Framework

The evaluation of the first year implementation

During the academic year 2011-2012 two cohorts of participants (No=37) commenced the PGCPP in its new structure. In order to find out how their attitude towards embedding learning technologies in their own discipline areas has changed over the duration of the programme we conducted a survey followed by a series of focus group interviews, which were transcribed and partly analysed using content analysis. The purpose of the anonymous survey and the interviews was to provide a broader data set and included a number of questions around the relationship between attitude towards discipline-based teaching and perceptions of student-centered learning. We used a revised version of the Teaching and Learning International Survey (TALIS) instrument to collect the quantitative data. There are answers to two questions that are worth summarizing for the purpose, and economy, of this paper, which were also elaborated in the interviews: 1. Considering your participation in the PGCPP, to what extent has it directly led to changes in your teaching of students with the use of new technologies in the current academic year? 2. In your opinion, how much innovative teaching and learning practices with the use of new technologies should be considered when you plan your teaching for next academic year? The findings from both questions are summarised in Figures 2 and 3 respectively.

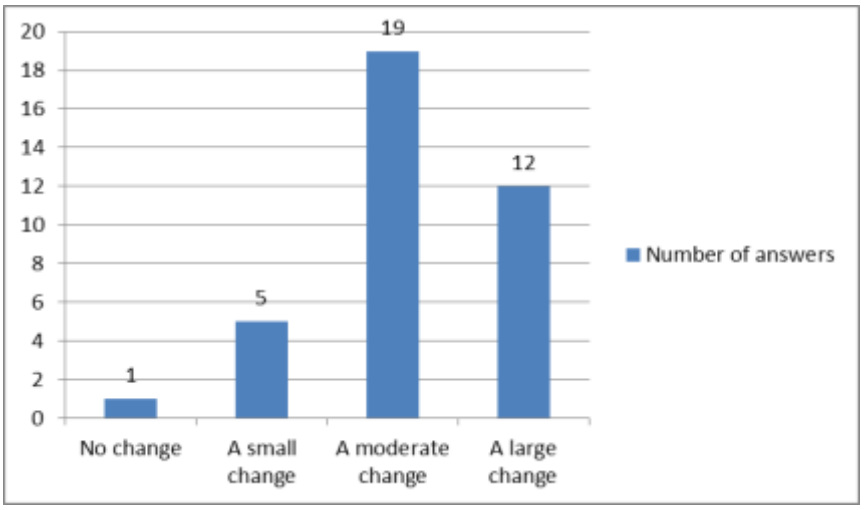

Figure 2: Your teaching of students with the use of new technologies in the current academic year

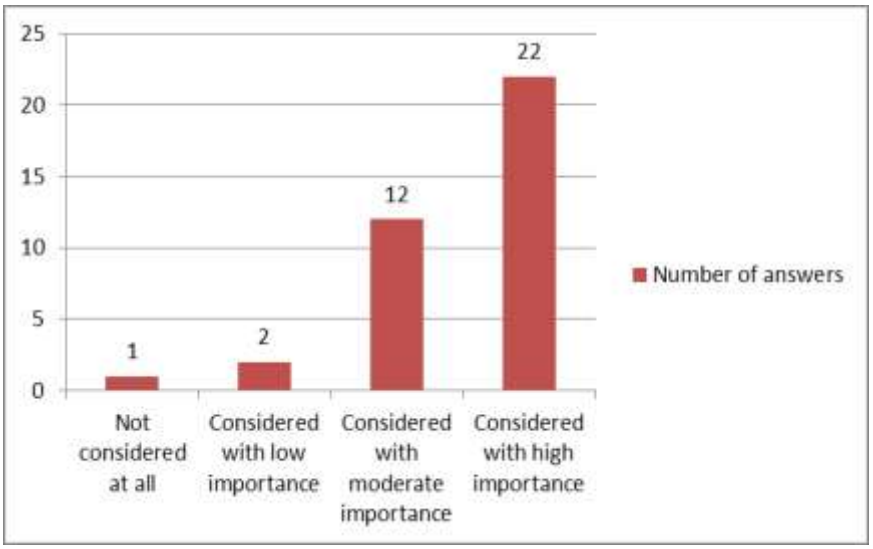

Figure 3: Your teaching of students with the use of new technologies for next academic year

So what?

The findings from the survey indicated that the majority of the academics involved in the holistic learning design framework had either already tried out (during the duration of the PGCPP) or are considering embedding learning technologies in their learning design for next academic year. It was interesting that in the question about embedding new technologies for next academic year the majority (no=22) of participants stated that they would consider it with high importance. This is a very encouraging finding especially as the majority of them, during their initial reflective entries in Module 1, expressed serious concerns regarding the 'intensive' use of technology in a course for novice academics and that they are 'being expected to run before they can walk'. Nonetheless, their reflections in module two showed a dramatic (positive) change in their attitude towards both the value of technology from the tutors' point of view and that of the learners. All of the learning designs submitted as part of their portfolios included new learning technologies to support learning and assessment of students with clear rationale for doing so. This was also the case for the few participants who are still skeptical about learning technologies, but who decided to at least consider them in their theoretical designs for next year. The difference between the submissions of these two cohorts, when compared with the submissions from cohorts in 2010-2011, is extremely high when considering both the creative use of technology that goes beyond the usual implementation of a VLE to run multiple-choice quizzes or add simple multimedia files.

Although a presentation of our qualitative findings would add significantly to the trustworthiness of our claims in this paper, the analysis is still undergoing and therefore a follow up publication of this study will summarise all the key findings. We would like to end, though, with two illustrative quotations from two of the most skeptical academics who openly in the interview characterized themselves as being technophobic:

> My approach to learning activities and use of new technologies has changed in a positive way over the last few months. Participation in the online activities and discussions has given me an insight into how I might use online discussions in my own teaching, that's something I would not consider had I not experienced this mode of learning as a participant. (Participant from the School of Life Sciences)

> a great merit of this PGCPP is my own experience of flexible learning with the use of technologies while employed and at the same intensity (60 credits in a year) as my Programme Participants will experience for 3 years! (Participant from the School of Engineering)

It became clear to us that continuity and diffusion of innovation with leaning technologies is better achieved at a programme as opposed to module level, and when supportive organizational structures are in place they empower academics to implement change. Sheward and Hamilton (2012) articulate that more participant-generated technology enhanced learning activities need to be incorporated into such programmes. We feel that, based on our research, strategically organized courses like the PGCPP are the ideal places for this diffusion to take place.

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