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Using technologies in teaching: an initiative in academic staff development

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ABSTRACT

Academic staff development in the pedagogical applications of new technologies is fundamental to the transformation of teaching and learning in tertiary education settings. We present a case study of a staff development activity at Deakin University, a multi-campus university offering on and off-campus programs, which aimed to develop a collegial online experience for academics interested in using online technologies. It is contextualised within a broadly based centrally funded project initiated by the University to extend the use of technologies in significant curriculum areas. The initiative employed a text-based, asynchronous computer conferencing environment. We describe the structure of the online environment and explore the major issues raised by the participants based on their experience and evaluation of the conference. We conclude by raising key questions that draw on our experience of the successful outcome of this initiative to advance relevant and meaningful opportunities for academic staff development.

Keywords

New technologies in teaching, Academic staff development, Reflective practice, Computer conferencing

Deakin University's Online Project

Deakin University has a long history of providing open and distance education. Its dual mode strategies, while heavily dependent on print, have always included various forms of educational technologies, for example audio and videotapes, telephone tutorials, computer conferencing and various forms of computer assisted learning, to support its students and to promote innovative curriculum development.

Global educational practices have been transformed in parallel with advances in information and digital technologies. Deakin University needed to encourage the use of digital technologies, especially the World Wide Web (the Web). To achieve this goal the then Deputy Vice Chancellor established an initiative, the Online Teaching and Learning Enhancement Project (the Online Project). The University's aims for the Online Project were to:

1. identify and estimate the cost of a range of models of online learning and to determine the scope of the project given financial, time, and technological constraints;
2. develop criteria to assist Faculties in determining which models are appropriate for which units and courses of study;

3. identify, estimate the cost of and plan models of professional development to assist all academic staff involved in the design, development and delivery of educational programs, to integrate technology into flexible teaching and learning methodologies and to develop these models for approval by the University, to meet both specific project requirements and wider needs within the University (Bottomley, 1998).

The implementation of the Online Project saw Faculties submit proposals to address their strategic priorities. Faculty Online Project Coordinators were appointed to progress the initiative and a University-wide Steering Committee was appointed. The University Executive recognised the fundamental role of academic staff development as a means of supporting Faculty initiatives. Consequently, in addition to well-established existing central support for academic staff development, a full time academic educational developer (one of the authors of this paper) was appointed to support the Online Project. Her role was to facilitate University-wide professional development strategies in pedagogy and technology.

Academic staff development and the Online Project

The role of academic staff development in implementing cultural change in teaching and learning with new technologies is well recognised (see for example Paul 1990, Ramsden 1992, Alexander, McKenzie and Geissenger 1998, Laurillard 1995, and Fox 1999). One of the major aims of the staff development strategy was to assist Faculties integrate appropriate on-the-job (conducted just-in-time, in the workplace in the context of real work) and off-the-job training (conducted out of the workplace, perhaps off-site) in areas related to the Faculty projects. Further, the Project was aimed at enabling cross-Faculty and cross-disciplinary professional development collaboration and the sharing of ideas and experiences.

The National Survey of Information Technology in US Higher Education (1999) identifies “assisting faculty efforts to integrate IT into instruction” (p. 1) as the single most important IT challenge confronting American colleges and universities over the next few years. The same research identifies an increasing trend in the use of all types of IT in higher education. This is not a passing fad, it is here to stay, and staff need to be shown how to use new technologies effectively. In a comprehensive evaluation of the success of IT projects in Australian higher education, Alexander, McKenzie and Geissenger (1998) investigated the ways in which the use of IT in universities may benefit student learning. The study reviewed over one hundred and fifty technology projects, which received funding from the Committee for the Advancement of University Teaching over a two-year period. They highlight the complexities of technology development in higher education when they state that:

[W]hile much of the early development of information technology projects has been the work of the enthusiastic experimenter, significant educational software development has become a professional and multi-faceted activity, requiring the interplay of expertise in learning design, project management, financial management, interpersonal skills, programming, graphic design, media digitisation and evaluation. (p. 256)

Furthermore, their study made two key recommendations in relation to academic professional development (p. 257):

Staff development

- Opportunities be provided in the areas of project management, working effectively in teams, evaluation of IT projects and legal issues related to IT development for current and potential project leaders;
- Staff development opportunities be provided in good practice in teaching;
- Opportunities be provided for all team members who have developed successful projects to share their experiences and products with others.

Staff support

- Institutions that make an investment in the use of information technologies in learning, maximise their investment by:
- Providing or identifying ways in which staff might receive teaching and learning and technical and evaluation support; and
- (where institutions have policies and procedures in place) recognising and rewarding successful IT project developers.

Fox (1999) notes that advances in IT tend to outpace academic staff attitudes towards, and knowledge about, the way in which technologies may enhance teaching and learning. Moreover, IT projects in education have a poor

record of improving student learning and of being integrated into the wider curriculum (Alexander et al 1998). Geoghegan (1996) argues, that there exists a 'mainstream' group of academics who articulate 'a certain aversion to unproved, difficult or disruptive innovations of any type that might risk successful performance of core tasks' (p. 5).

In their study, Thompson and Holt (1997) found disparate sets of academics; some see 'working with media and technology as a core activity with the outcomes of such work being experienced as intellectually and emotionally rewarding' (p. 350-351); others experience a 'veritable collision' where pedagogy and technology:

represents a clash of professional traditions and certainties in the dominant use of oral communication and print with the unknown and potentially radical challenges which new technologies might hold for the conceptualisation and execution of the educational process (p.351).

These findings add support to the fundamental role that staff development must play if technologies are to become the focus of meaningful research and development to promote innovative curriculum design for improved student learning.

The Online Project's professional development forum

The Online Project's professional development forum (the Forum) was a text-based asynchronous computer conferencing environment. Participants in the Forum were motivated to participate in what was a voluntary forum, largely due to their existing interest in and/or use of technology. The moderator was the academic employed specifically to facilitate professional development strategies in relation to the Project. She had an overt interest in, and commitment to, critique and the development of a professional practice model of academic staff development which deconstructs power relationships, and which facilitates discourse, collegiality and critical self-reflection. Stephen Brookfield (1992 p. 46) has written widely in the areas of critical adult education. He concedes that critique in the context of adult education aims to:

...prompt people to analyse previously unchallenged assumptions, to become aware of the importance of context to thought and action, to imagine alternatives and to be sceptical of those who claim to possess the ultimate truth, final solutions and sole explanations to our problems.

The moderator holds the view that critical self-reflection is an appropriate framework for professional practice in the context of academic staff development in the volatile world that is contemporary tertiary education. Her approach to her own practice draws on the work of Schön (1993, 1997 and 1998), Brookfield (1992) Mezirow (1981, 1990, 1991) and others (see for example Evans & Nation 1993a, 1993b, Burge & Haughey 1993, Thompson & Holt, 1997) with their interests in discourse, dialogue and transformative learning to improve professional practice.

Structure of the forum

The Forum was designed to offer a collegial space for reflective discussion and discourse on a broad range of issues related to technology and pedagogy. A small group of academics known to be interested in the potential of technology, or who were already using technology in their teaching and learning strategies, were invited to participate. The participants were drawn from a diverse range of discipline areas such as Arts, Computing and Engineering (again, authors of this paper). They each had varied experience in the use of technologies to enhance their teaching and to support student learning; for example some were technically competent, experienced University teachers, with degrees in their discipline areas but without undergraduate or other degrees in education others were less technically able but had undergraduate or postgraduate degrees in education.

Stated aims of the forum

The aims of the forum, as articulated by the moderator (the first author of this paper) at the beginning of the forum, were:

1. To promote the opportunity for critical reflection on online work;
2. To foster critical cross disciplinary sharing of experiences and information in technology for teaching;

3. To establish a forum for collaborative multidisciplinary research, evaluation scholarship and publication;
4. To encourage a forum for supportive peer critique of work in progress;
5. To build an ethos of information and multi-media literacy as the key to innovative curriculum processes;
6. To build a resource base in online teaching.

Professional development outcomes

While participation in the forum was voluntary, evaluation data drawn from the participants' contributions to the forum and a brief email survey questionnaire demonstrate that those who participated valued the forum. Interestingly, as the conference progressed the documented aims of the forum changed as the dynamic nature of the conference environment evolved. The adaptive and dynamic nature of the conference reflected the moderator's and participants' commitments to establishing a climate conducive to learning that was relevant, challenging and receptive to the participants' personal and professional goals beyond the stated aims of the program. Such an approach echoes the literature of adult education and that related to academic professional development (Schön 1993, 1997 and 1998, Brookfield 1992, Mezirow 1981, 1990 and 1991, Webb 1996 and Zuber-Skerritt 1992).

Participants' reasons for becoming involved and staying involved in the forum were diverse. For example, some participated to share their experiences and to develop new ideas for using technology; others participated to find out about a particular technology, in this case computer conferencing, and use and experience its potential prior to incorporating it in their teaching.

The group's diversity of experience contributed to the positive outcomes of the conference. Some participants had experienced such conferencing environments, a minority were conversant with online technologies more broadly and a few were novices. This also, we believe, influenced the nature of the forum's goals, as they created a dynamic discourse and critique where participants were neither restricted nor obligated in their participation.

There has been considerable discussion in the literature related to the nature of effective facilitation and moderation in electronic environments (see for example Harasim 1990 and 1993, McConnell 1994, Verdjo and Cerri 1994, Berge & Collins 1995, Anderson & Kanuka 1996 and Collis 1996) and we will not explore it in detail here. However, we believe that there are certain features that a conferencing environment must reflect and the way in which this was developed in this project reflects ideas drawn from Collis (1996) and developed at Deakin University (see http://firstclass.deakin.edu.au/~Pamela_Mulready/).

The success of the forum was largely related to its evolution as an informal, collegial space where participants felt able to be critically reflective of their own and others' practice in ways that created and facilitated a dialogic community of learners. The exchange included in Appendix A is indicative of the critical reflection that occurred throughout the life of the conference.

Importantly for those who contributed to the evaluation, the key positive outcome related to the collegial non-threatening nature of the discussion. People enjoyed the open-endedness of the forum, they found that when they contributed their ideas they were positively acknowledged and they felt that 'they got something back'. The existence of the forum in itself meant that individual academics had easy and collegial access to the group's experience at times when it suited them. As one participant explained, 'questions could be asked generally and one felt confident that someone in the group would be able to offer advice or a solution to the issue'. On many occasions participants articulated their appreciation that the forum offered a 'pragmatic' space for discussion and debate about 'real world educational and technological problems'. The forum was not an abstraction; the discussions were contextualised to the needs and demands of the academic world of the participants.

Conclusion and some questions about the future of academic professional development

In the context of the University's Online Project, this initiative achieved its goals in the collective sense as well as for those individuals who participated. It drew together academics interested in extending or improving the use of technology in their teaching in a collegial environment. It allowed a group of busy academics to engage with colleagues from diverse disciplinary backgrounds to discuss issues of concern in their daily practice. It extended the University's existing strategies for cross-disciplinary, cross-Faculty academic professional development. It enabled participants to familiarise themselves with the technological aspects of computer conferencing as well as the experience of participating in computer conferencing.

What then can the success of this initiative tell us about academic professional development in an era where new information technologies have the potential to change pedagogy? In keeping with our commitment to critique we offer the following key questions as a means of offering some insight.

1. How can we demonstrate to academic staff that, in certain circumstances, technology-based teaching provides an appropriate solution to identified pedagogical problems?
2. How can we convince academic staff that technology-based teaching, while generally requiring more time and support to effect change, is worth the effort?
3. In what ways and by what means can we implement staff development strategies to demonstrate that successful introduction of technology needs to begin with teaching and learning problems?
4. What kinds of professional development strategies can meet the real-world, just-in-time professional development needs of busy academics?
5. If academic staff are reluctant to adopt technology-based approaches to teaching where they feel less than expert, how can we implement strategies to assist them to learn (a) how to use technologies in pedagogically appropriate ways, and (b) to develop pedagogical practices that are defensible in terms of student learning?

Thompson (1999 p.155) argues that:

...it is often difficult to convince such people [academic staff] that investment of their time in learning to use new technologies effectively will provide long-term gains, most especially in the current climate of competing priorities and demanding deadlines.

If we address the questions listed above, academic professional development programs may well be perceived to be timely, relevant, applicable and valuable by the intended audience, busy academic teachers caught up in the complexities of every-day life in the academy. Gilbert (2000) offers useful ideas about these complexities in relation to new technologies and their implications for pedagogy and academic work. Further, we may go some way towards assuaging the concerns of Thompson's academics and providing opportunities for them that will reshape pedagogy and help create truly dynamic, interactive and innovative curricula.

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Appendix A

Example of reflective dialogue that characterised the conference

Participant A

I haven't taken a very serious or active role in this conference but dipped in and out (the desktop looks a bit like the UN building - flags everywhere!). But my impression is that this conference has worked much better than many others, Not just that it has been busy, but the discussion has been real discussion and not too cluttered by posing or concessions to organisational correctness. I suspect this has a lot to do with [the moderator] and the person she is. The discussion has stayed personal and not become too general (always death to discussion), people have said interesting things and been interested in what one another have had to say (two distinct things!), and when it has worked well topics have built up some momentum. Above all discussion has been unofficial and about real issues - not just the policy fads of upstairs people. What intrigues me about discussion in these spaces is that it cannot be forced. It works or it doesn't. No one keeps talking to fill spaces or out of politeness. And it works I think because [the moderator] has made it work by pulling in people who had things to say and who listened to one another.

Participant B in response

I think the operation of this forum is analogous to on-line teaching and learning. People are enthusiastic about it, or they aren't. It cannot be forced. In my School, those people interested in on-line initiatives will continue to work away, regardless of 'incentive' schemes, and those that aren't interested won't bother. Other than making on-line components (and what's an on-line component anyway?) compulsory, we've done just about all we can to make it painless for academic staff to get involved, and very few have gone beyond a token effort. Other than standing over people with a big stick and creating ill will, I think the key for proponents of on-line teaching and learning is to demonstrate the effectiveness and value of the endeavour. If people can see that it is worth doing, then I think they will. The interest must come from within, not imposed from without. If we can't produce a credible case for the value of on-line teaching and learning, then we have to ask is it really worth doing anyway? One of the big needs in my part of the world are exemplars of what can be done for those that don't know what can be done. It's not that good examples don't exist, it's just difficult to find the time to get everyone together and put on the show.

The moderator's response

I think that this was the aim I had when setting up. I looked back the other day on what I had envisaged and typical of me, I wanted to dive in head first and get going.... it now sounds a bit ambitious... however I must say that the most rewarding thing for me has been meeting everyone here and playing a bit of a role in putting folks from different Faculties together to do what we don't have much time for these days and that's to talk out loud about what we're doing. For me this has always been part of the process of 'critical reflection'...finding space to contemplate, to toss around ideas in a 'safe' environment and do this in a way that promotes improvements in practice. That most folks here have been keen committed teachers has also been hugely pleasing for me.

From an infrequent visitor who was an experienced online educator

Hi. You [i.e. the moderator] had very firm convictions regarding the need to provide a "small private area" where people could participate within a known group. Clearly this has worked and whilst I pop in from time to time, I have not participated in an intensive way, but rather have delighted in the evolving nature of the area, a natural consequence of the identified needs, interests of the group. Additionally, and most importantly, there is a "presence" here, a conversational environment that is on going. "We" know that you will be here. And whilst at times you probably felt it was a lonely soliloquy, you in fact prompted and perpetuated ongoing discussion, and contributions when WE could attend, or had something to say. It was/is very much a Social space based on common interest, which is the foundation for community interaction, not one forced by pragmatic organisational design.