

Diffused Staff Development to Support Integrating Information Technology into the Curriculum

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Abstract

This paper considers the design, implementation and impact of diverse staff development activities to support university teaching staff to integrate IT into their educational programs. An overview is given of the aims, objectives, activities and evaluation of the 1998-99 CUTSD funded e.learning@mq project at Macquarie University. Influenced by diffusion theory and the characteristics of the majority's uptake of innovations, the author designed various activities for both local-area and university-wide settings. Details are provided of the three semester-long coordinated programs of activities. The patterns of participation reveal the varied activities attracted different groupings and numbers of academic and administrative staff. At the completion of the project 91 of the total 409 participants self-assessed the project's impact on their understanding of the issues involved in using IT in the curriculum. In nine specified areas of understanding 81% of the project's participants self-assessed improvement in awareness, knowledge and skills in using IT and online media in their educational programs.

Keywords

Academic staff development, Faculty professional development, Organisational development, Information technology, Online media, Curriculum change

Introduction

Educational practices are intrinsically embedded in the prevailing dominant technologies of communication, knowledge creation and information dissemination. These tools, practices and processes are rapidly changing due to the rise of digital online media. Evermore publicity appears from global 'borderless' providers offering privatised and accredited educational services 'anytime anywhere'. Using 'online learning' and 'flexible delivery' these services are now available 'just-in-time' and tailored to meet your individual needs. The rhetoric exhorts that to remain relevant in an increasingly networked economy and society, education providers need to integrate online communication, activities and resources into their curriculum and award offerings.

To support these changes an important organisational strategy is effective staff development. This paper presents an overview of *e.learning@mq*, a 1998-99 project at Macquarie University that aimed to develop capacity to integrate information technology (IT) into learning and teaching. The project focused on the development of academic staff, though activities were open to all Macquarie staff and interested visitors.

Influenced by diffusion theory and the characteristics of the majority's uptake of innovations, the author designed and implemented diverse activities and initiatives for both local-area and university-wide settings. Diffusion theory argues that adoption of new technology and innovation starts with enthusiastic innovators and early-adopters and then moves to use by the early and late-majority when the innovation is better supported and more reliable. The characteristics of the majority to consider in the design of 'diffused' staff development include that they look to local and discipline-based ideas and practice, favour incremental change, are pragmatic and risk averse, want proven applications, and may need significant support (Geoghegan, 1994, Rogers, 1995). *e.learning@mq* activities were designed to address these characteristics and provided staff with multiple entry-points to engage with the issues of integrating online media into their educational programs. It was hoped the varied activities would attract different individuals and groupings of staff.

Project Aims and Objectives

Macquarie's IT Strategic Plan states that "successful integration of IT into a university environment requires radical shifts in thinking about all aspects of [its] educational vision". To support such integration the Center for Professional Development (CPD) successfully applied for an Australian Government 1998-99 CUTSD staff development grant. The proposed project aimed to support the development and implementation of a

coherent program of staff development to improve the capacity of faculty and units at Macquarie to explore and introduce IT effectively into their educational programs. The proposed objectives of the project were to:

1. raise the awareness of staff at all levels to:
 - the potential of IT to enhance and deliver educational programs across the disciplines,
 - the issues associated with the design and development of IT based curricula,
 - the issues associated with managing the development and integration of IT into the curriculum,
2. assist staff to develop the knowledge and skills required to use IT in the curriculum,
3. assist staff to strategically plan and set specific goals in relation to the introduction of IT, and
4. assist staff to develop coordinated strategies for realising these goals.

Project Activities

The author's collaborative project management involved all the providers of IT support and facilities at Macquarie, together with many faculty early-adopters and invited guests, to convene and facilitate *e.learning* activities. In early 1998 a reference group was established with members from the CPD, the Centre for Flexible Learning (CFL) and the Macquarie Library's IT Training Unit (ITTU) to assist the development of a more cohesive approach to the project's activities.

Co-ordinated programs of *e.learning* were publicised and implemented during each of the three teaching semesters from August 1998 to December 1999 and included local-area and university-wide activities and initiatives. The project's website at <www.cpd.mq.edu.au/e.learning> facilitated online bookings, discussion and feedback.

The site includes full descriptions of all the project activities with some handouts and transcriptions from events. The site was designed to model a simple yet functional and effective online media resource.

Local-area peer development projects

The successful *e.learning@mq* grant application proposed to establish IT peer development groups in local areas to develop discipline-specific approaches to their educational programs and to foster continuing exploration and debate. The author designed a competitive grant scheme for teams to research localized IT issues. To receive funds the team-leaders had to establish a local-area team and propose a plan to research an appropriate IT issue and then convene appropriate peer development activities for their colleagues. To provide an incentive for team-members to become involved funding was available for time-relief and other minor project expenses.

In late 1998, three workshops supported the development of project proposals to include a concept, rationale, objectives, timeline and budget. A selection committee decided that nine from a total of 15 submitted proposals could be funded from the *e.learning@mq* grant. These nine local-area projects were implemented during 1999 and early 2000, and further details are at the *e.learning* website;

- *'How to use computer-mediated-communication in european languages'* in the School of European Languages,
- *'Getting with IT! A structured IT core competencies program for staff '* within the Macquarie Library,
- *'Using IT strategies for communication between on-campus lecturers and mentors of students'* within Warawara, Macquarie's Aboriginal and Torres Straight Islander (ATSI) Centre,
- *'IT supported unit delivery facilitation'* in the Institute of Early Childhood,
- *'Individualised IT support and training'* in the School of Biological Sciences,
- *'How to use WebCT for creating online english language learning modules'* in the National Centre for English Language Training and Research,
- *'Moving beyond the still frame -multiskill with multimedia'* within the Macquarie Library,
- *'IT training for flexible courses'* in the School of Asian Languages,
- *'Teacher Education website project'* in the School of Education.

University-wide activities

The project's funding application proposed to improve awareness, knowledge and skills about integrating IT into the curriculum with "one-off" and "short-term" activities. This prescription required considerable elaboration and the author designed five types of university-wide activities;

- *Speakers* addressed the theme 'You, Macquarie & information technology' with time for questions and answers in a one-hour lunchtime format,
- *Workshops* with the theme 'Integrating *e.learning* into the Curriculum' with theoretical discussion and practice activities in two-hour lunchtime and some early-evening sessions,
- *Showcases* of *e.learning* case-studies from different disciplines and software demonstrations in a one-hour lunchtime format,
- *Short courses* requiring a time commitment to a series of activities over two to six weeks,
- *Information sessions* about IT support services and facilities at Macquarie in a one-hour lunchtime format.

Through three semester-long programs in 1998 and 1999, all these activities were collaboratively planned and convened together with many Macquarie staff from all levels. Below is an overview of each of the three programs with activity titles. Full descriptors of all these activities, together with some transcripts and activity handouts are available on the project website at <www.cpd.mq.edu.au/e.learning>.

Adjunct activities

In collaboration with the e.learning@mq project two adjunct initiatives received organisational support;

- Macquarie established the *e.studio* in the university library. The facility is an independent staff and postgraduate research student IT learning facility with hardware and software often not available in local areas. Launched early in 1999, the *e.studio* is supported by equipment and software demonstrations by staff from ITTU and CFL and promoted in CPD's publicity. Interesting work is emerging from this facility that would not otherwise occurred due to a lack of local-area equipment and support.
- The CPD funded a global survey to identify and determine the quality and scope of accessible, online resources specifically designed to support the development of english language higher-education staff. A total of 385 university websites were surveyed in detail and the *pdonline* website at <www.cpd.mq.edu.au/pdonline> has links to the 'best-of' online resources found in the survey (Litchfield & Spear, 1999).

Patterns of Staff Participation

Although I take advantage of much of what CPD offers it can be seen as something 'out there'. I think this project is the best marrying of CPD and the academic staff at the university that I have been involved in.

(Comment of a local-area project team member)

An emerging feature of integrating online media into learning and teaching is the blurring of the traditional industrial categories of academic and general staff. University work is being actively re-defined with position descriptions and selection criteria increasingly influenced by the skills, roles and team-structures needed by networked education. Concurrently many traditional academic and general staff positions are becoming redundant, and many of the *e.learning@mq* participants were understandably motivated and stressed by this phenomena.

Local-area peer development projects

In late 1998, 44 staff attended three workshops convened to support the development of proposals for the *e.learning* local-area grants. All the ultimately successful project team-leaders attended the workshops and have stated the high-value of this support in the development of sound proposals with clear aims and objectives, time-lines and budgets. The nine funded project teams comprised 38 members (68% academic and 32% administrative staff) who worked together, and then received payment for their time, throughout 1999 and early 2000. Many of the team-leaders were in this role for the first-time and developed substantial project, team and financial management knowledge and skills.

At mini-conferences held in February, July and December 1999 the teams reported on progress and discussed issues. The mini-conferences had 72 attendances indicating a high-level of team-member participation in these support activities. The final reports from the team-leaders indicate the local-area and discipline-based objectives were all realised often with unforeseen advances, and the peer development activities achieved very high-levels of colleague participation. This high-level of peer involvement confirms diffusion theory's premise that the majority look to local and discipline-based settings for new ideas and innovative practice. Other 'diffused' characteristics of the majority addressed by these local-area projects were their need for incremental change and safe, reliable and supported innovations.

As the main cost-item of the *e.learning@mq* budget, the author considers the local-area team and peer development scheme as the most effective and substantial of all the project's activities. Requiring the least amount of CPD support, significant peer development has occurred in contextualised and self-selected local issues of integrating IT into academic programs and organisational functions.

University-wide activities

A total of 65 university-wide development activities were convened and the records indicate a total of 997 attendances from 385 individuals. The 6 speakers attracted 226 attendances, the 30 workshops 357, the 15 showcases 194 participants, the 9 short courses 170 participants and 5 IT support information sessions 50 participants. The level of participation was well-spread with only one activity needing to be cancelled due to lack of interest.

Figure 1 compares the staff-category of participants in each of the five university-wide activities. The attendance patterns indicate the project successfully focused on involving academic staff, who were the majority in all activity-types, particularly in the short courses, workshops, and showcases. Only slightly higher numbers of academic than general staff attended the speakers and IT support information sessions. Across all five activities an average 59% of participants were academic staff, 31% general staff, and 10% were of unknown category including the participants external to Macquarie.

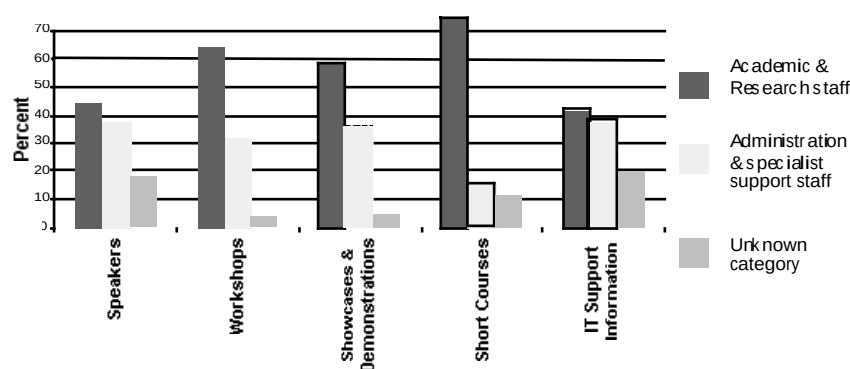


Figure 1: Staff category of participants in the five *e.learning* university-wide activities.

In Australian universities many staff are over-worked, time is valuable and clearly participants were selective about what interested them enough to attend. The author's diverse and diffused, multiple-entry 'scatter-gun' strategy certainly worked as each participant averaged only 2.6 attendances. Though face-to-face 'one-off' workshops are the traditional and most-popular method of higher-education staff development, it is important to note the clear potential of short courses to attract and involve academic staff.

Activities which did not succeed included open, unsupported calls to apply for funds to support relevant activities. Some of the speaker's attracted low attendances, and a web-conference established to facilitate ongoing discussion of events, debates and issues received minimal staff contributions. The online feedback has not worked and even feedback sheets handed out at the conclusion of activities are difficult to garner.

Participants' Self-Assessment of the Project's Impact

A combined total of 409 individuals from attendance records participated in the local-area and university-wide *e.learning* activities. In December 1999 after the completion of all scheduled activities, these individuals were sent an email questionnaire asking for their assessment of the impact of their participation in understanding the issues involved in integrating IT and online media into the curriculum. A follow-up paper-version of the questionnaire to facilitate anonymity was then sent to all the participants who had not responded to the email. A total of 91 valid responses were received of which a high 55 were anonymous.

In nine key areas the questionnaire asked the participants to self-assess the level of impact of their *e.learning@mq* involvement as significant, moderate, slight or not-at-all. The questions asked whether their participation had increased their (1) awareness, or their knowledge or skills in (2) planning, (3) strategic program planning, (4) managing, (5) designing, (6) developing, (7) implementing, (8) evaluating, or assisted them to develop (9) coordinated strategies for the use of IT in the curriculum. Figure 2 compares the self-assessed impact of the project in these nine key areas of understanding.

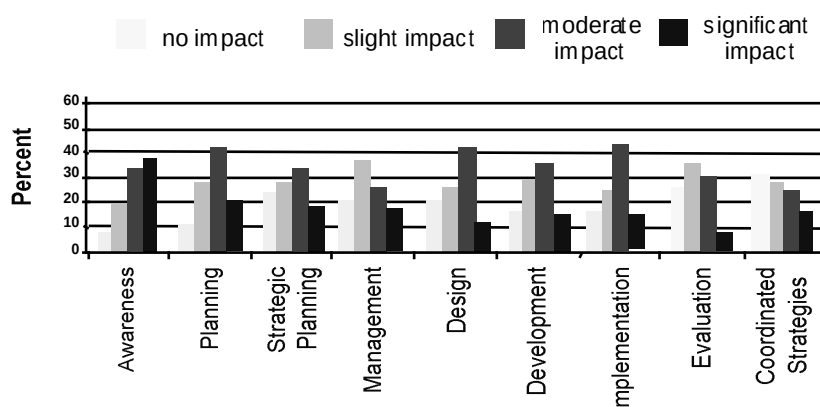


Figure 2: Participant's self-assessment of the impact in nine key areas of the *e.learning@mq* project.

On average across the nine specified areas of understanding a total 81% of the participants assessed that the project had a positive impact. An average 18% of participants assessed the project had a significant impact, 35% a moderate impact, 28% a slight impact, and 19% assessed the project had no impact at all. These findings indicate the project has achieved its aim to raise staff's awareness and improve their knowledge and skills. These findings also indicate that considerable staff development and support continues to be needed in all these *e.learning* issues.

In each of the nine areas there are interesting variations in the degree of impact of the project. As could be expected the strongest impact was an increased awareness of the issues, and in the knowledge and skills involved in planning, designing, developing and implementing the use of IT in the curriculum. The project's weakest impact was in evaluating outcomes and developing coordinated strategies. The activities focusing on these issues were poorly attended and reflect the difficulties of developing coordinated strategies at only the individual level, noting that in 1998 Macquarie underwent a major organisational restructure.

Conclusion

In an important strategic direction for Macquarie University, the 1998-99 *e.learning@mq* staff development project fulfilled its aim to increase the organization's capacity to integrate IT and online media into the curriculum. The project outcomes clearly indicate that well-funded and managed professional development activities can increase *individual* awareness, knowledge and skills about integrating online media into higher-education learning and teaching. The project's diverse activities, in both local-area and university-wide settings, attracted different groupings and numbers of staff, justifying the author's pluralist approach informed by diffusion theory and the characteristics of the majority in the uptake of innovations. The different activities did appeal to different people.

Participating *individual* staff have self-assessed improvements in awareness of the issues involved in integrating online media into the curriculum. However it is important to note that Macquarie has a total permanent staff of some 1500 and only 409 individuals participated in the project (together with the participants of the local-area peer development activities). Overall 19% of these participants considered no change at all had occurred through the project. So a complex and ongoing issue is how to increase involvement from staff who have yet to show interest in using online media. There is a need for innovative and imaginative strategies to address this issue including improved incentives and rewards. In particular there is a clear need for strategies to maximise the number of staff getting their 'hands-on the tools' in a supportive, localised context.

The project's external funding was for 1998-99 and the project has now ceased. Macquarie has not funded an ongoing project as apparently the aims have been met and are now "embeddded into the infrastructure". Better ongoing cohesion and collaboration between Macquarie's IT support structures and staff was facilitated by the project and some activities continue in different ways.

The development required to improve the *organisational* capacity to integrate new media into the curriculum continues to require substantial innovative, collaborative and well-designed policy, processes and activities. Issues requiring policy development include improved supports for staff and students, revitalised course review processes, better teaching load recognition for online development, and other incentives and rewards. These are crucial initiatives that remain to be achieved to better support the integration of IT in the curriculum.

As a local-area *e.learning* participant noted “it is only the tip of the iceberg - unless we can get the value of this type of skill development recognised at university level, that is with ongoing provisions for staff relief for such projects the impact will be limited”.

The author hopes the activities and outcomes of the 1998-99 *e.learning@mq* project can assist staff developers involved in similar work. Regardless of our respective roles, with issues of IT and change we constantly need to be learning and supporting each other. Indeed facilitating peer development in using IT and online media is emerging as a generic skill required by us all.

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