Establishing a zone where technology innovation is supported

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Learning technologies are now a ubiquitous force in the higher education sector however we continue to pursue more inventive ways to use them for teaching and learning. Many teaching academics that seek to be innovative do not have access to a supportive technology innovation zone. The aim of this study was to investigate the articulated staff development needs of academics involved in a faculty based technology innovation project and create the conditions that would cultivate innovation. The study sought to find out how academics perceived they might best be assisted through their technology innovation process so that participants' needs were incorporated into planning. A questionnaire was used to elicit background information about the academics' experience, skills and self diagnosed skill deficits in this context. Participants were also requested to provide information about how they thought they would best acquire the skills given their time and other resource constraints. A modified Delphi Technique was utilised to achieve some consensus on what academics required to support technology innovation. Complemented by an enabling and empowering team based approach, the academics were provided with an innovation zone to achieve significant goals for the project.

Keywords: staff development, technology innovation

Introduction

To create a zone where technology innovation is effectively supported in university teaching and learning requires a strong commitment to enabling academics to achieve their goals. Such a zone would need to encourage and reward creativity and high performance in teaching and learning. For the purpose of this paper 'technology innovation' includes the exploration, innovation and integration of technology enhanced teaching and learning methods that are new to individuals, and/ or new to higher education. The philosophical position of this paper is that such innovation should be first and foremost educationally driven and more likely to thrive in an enabling environment.

Supporting an technology innovation in such a complex environment is an enormously difficult task. Many academic teachers experience barriers and disincentives which may include: time constraints, lack of resources (human, monetary, access to specialist expertise), lack of expertise in educational theory and concepts, lack of knowledge of what is technologically possible, and lack of valuing teaching and learning. This paper uses a Faculty based case study to explore one academic staff development approach that has made some headway toward creating a zone where technology innovation is supported. At the core of this approach are the concepts of situated staff development, multi-disciplinary teams and empowerment. As the project is now drawing to a close, the outcomes that the strategies supported are becoming evident. Academic engagement with the project has been high with relatively few people withdrawing. The study highlights the benefits of consulting with academics on their perceived needs and creating conditions that foster innovation and change. The extent of academic participation also suggests that starting with an educational and curriculum perspective connects academics better with the technology and engenders quality educational outcomes.

Educational support and technology innovation

Implicit within a support zone for effective technology innovation is a role for academic staff developers, and curriculum and instructional designers. Such specialists can provide valuable expertise in innovative enhancements that directly support course goals and student learning, and are informed by educational research and theory. Traditional workshop approaches to academic staff development (ASD), while still valuable for various staff development situations, may only play a minor role. To some extent workshops disaggregate innovation into less integrated aspects of development (e.g. technical skills, teaching approaches, assessment etc). A number of researchers have concluded that many academics are now resistant to workshops and do not have time to attend sustained staff development courses (eg. Bates, 2000; Boud, 1999; Collis & Moonen, 2001; Laurillard, 2002). They have highlighted that there are many inherent problems: the voluntary nature of these courses means that most academics do not have the incentive or time to attend; courses are targeted at groups so individual needs often go unmet; as different academics are at different points in the change process they are too complex or technical for some and too elementary for others; some staff are uncomfortable exposing their skill levels and participants often focus more on the handling of technology than on the educational aspects; and the skills and knowledge gained in short courses are often soon forgotten because they are not directly incorporated into the individual's practice.

Recommendations from these researchers indicate that utilising a variety of local staff development approaches that are more available to academics in the course of their work can have a significant effect. Boud (1999) argues 'that academic identity is formed and most powerfully influenced' (p.3) in a localised context. If academics have access to the support and expertise to enable them to achieve their curriculum goals there is likely to be the opportunity for a meaningful and lasting staff development experience. In line with this thinking, Bates (2000, p. 100-107) advocates the designation of locally available trained peers and technical and educational design support to groups of academic staff. He advises that a broad range of embedded strategies that support technology based teaching and learning need to be available on a just in time basis and integrated with a project approach. Laurillard (2002, p.226-227) concurs on the matter of timeliness, and stresses the importance of linkages to course planning and design, and that academics needs and concerns must be addressed. She also espouses that access to examples of good practice, involvement in multi-skilled development teams, discussion and sharing of experience and evaluations, and research of learning technologies with peers are highly valuable. To create an innovation zone that empowered and supported staff for this project it was important to first establish the perceived needs of the academic staff involved and respond to these.

Faculty based technology innovation project

A three year faculty based technology enhancement project at the University of Queensland (UQ) provides the context for this study. The major aim of the project was to improve the quality and flexibility of both targeted distance and on-campus education programs and resources through curriculum design and improved integration of innovative educational technologies into faculty teaching practices. Schools within the faculty were requested to put forward courses they considered of key importance within their programs, thereby facilitating a programmatic approach to enhancement. For the most part course coordinators were consulted about their willingness to participate in the project, although some academics participated under duress.

Consultation on the perceived needs of academics

During the initial year of the project the project coordinator (an educational designer and author of this paper) sought to explore the perceived needs of academics involved with the project. The project coordinator's experience with staff development and belief that an innovation zone requires varied approaches to ASD with empowerment at their core provided the rationale for such a study. The participants in the study comprised two groups of ten academics that became involved over the first year of the project. The sample was representative to assess the needs of the project participants, but not of academics more generally who engage in technology innovation. However themes parallel to those found in the data exist in the wider research literature on barriers to technology innovation in higher education.

Instrumentation

A questionnaire was constructed and delivered to all participants personally. Some background information about the academics involved in the project was collected in order to assess the range of experience that shaped their articulated needs. The first section of the questionnaire was devised specifically to seek individual and group profiles on this basis. Eight closed questions prompted participants to indicate their educational experience and qualifications and to self rate their experience, proficiency and attitudes toward technology. Two further open questions asked for a self diagnosis of skills the academic expected they would need to better integrate technology innovation into their teaching practice and how they thought they might best acquire these skills. In a second section of the questionnaire the academics were requested to individually brainstorm what academics required to support technology innovation.

The responses of the first ten participants were further explored through the use of a Modified Delphi Technique. This technique involves a process that invites individuals to submit opinions about a topic without a face to face meeting (usually via email). It offers a way of gathering, categorising, reviewing and revisiting the views of a group of individuals who never have to be co-located in the same geographical location. This effectively serves to exclude the influence of any group dynamic from participant responses while still benefiting from cross fertilisation of ideas across the group. It is an excellent alternative to face to face meetings and one that provides a mechanism for individuals to share and debate their opinions (Gibbs, Graves, & Bernas, 2001). This method was chosen to address the time and logistical challenges of assembling the selected group of academics in the same geographical location at the same time. As the participant group also comprised of a range of academic levels (from associate lecturers to professors) this method also afforded all academics regardless of position, knowledge or skill, an opportunity to contribute their views unreservedly and with anonymity.

Following the example of Campbell, McMeniman and Baikaloff (1992) initial responses were pooled into a structured instrument and then respondents were asked to rate all the ideas. The Modified Delphi Technique usually has a number of 'rounds' to achieve consensus. Two rounds were implemented which is arguably suitable for a study of this scale. In Round 2 participating individuals were asked to consider statements that were derived from the group data and to rate them in importance on a scale of one to four. The second group of ten participants submitted their initial questionnaire after the Modified Delphi event. Due to the time constraints on the researcher another round was not initiated for this group. The information and themes from the second groups' questionnaire data are included in non-Delphi data and were found to support many of the findings from the Delphi method and represent a wider sample of 20.

Data analysis

A summary of the participants' profile was collated from data gathered through the closed questions (1 to 8) in the questionnaire and tabulated into a table (see Table 1 below). The open questions (9 and 10) and the individual brainstorm were of a qualitative nature and as such were coded in accordance with Denscombe's (1998) recommendation that an initial stage of 'open coding' be carried out to discover, name and categorise phenomena. Initial data was reviewed and written up line by line and by keywords, and subsequently strings of keywords emerged that encapsulated the individual ideas from the data. As data and keywords were reviewed several times very similar ideas were eliminated. When the list became more refined categories emerged that clustered the keywords. Each category was assigned criteria to assist with the categorisation of data.

Findings

The profiling data, based on the twenty participants, showed that most of the lecturers (16) had over six years teaching experience and there were equal numbers of participants who held a teaching qualification (10) and did not (10). Overall 17 of the respondents felt that their proficiency with using computers was good to excellent. None rated themselves as poor or very poor computer users so it appears that as a population they were reasonable comfortable with computer use in general. Some were less confident with their proficiency with using technology in their teaching practice, with 5 rating themselves as poor and 5 as average. Only 1 participant self rated themselves as excellent in this area. The ability to use technology in their teaching practice was important to imperative for most lecturers (18), and students' ability to use technology was thought to be imperative by most participants (19) also.

Most (17) had some experience of using technology in their teaching. The predominate uses of technology were software and CD programs (17), electronic communication (synchronous and asynchronous) (13) and web based activities and assessment (11). Less than half of the participants (9) had any experience of being involved in the development of technology based materials or activities.

Expressed needs of participants as individuals
The categories that emerged from the question 9 and 10 data are summarised in Table 2 and 3. Table 2 suggests that most participants felt that for technology innovation their two major areas of need were training in the current online system (WebCT), either broadly or for specific tasks, and for training in various development packages. Two participants desired knowledge of educational concepts and what was technically possible. In terms of how these skills could be acquired (Table 3), there was a high demand for workshops and moderate demand for experiential learning and help from experts or peers.

Table 1: Profile of participants (N=20)

Years teaching	0-2	3-5	>6		
	1	3	16		
Teaching qualification	None	PG Cert	PG Dip	PhD/ EdD	
	10	4	5	1	
	Very poor	Poor	Average	Good	Excellent
Proficiency using computers	0	0	2.5	11.5	6
Proficiency in using technology in teaching practice	0	5	5	9	1
	Unimportant	Somewhat important	Important	Imperative	
Ability to use technology in your teaching practice	0	2	9	9	
Students' ability to use technology	0	1	6.5	12.5	
	None	Software/ CD	Electronic Communicat ion	Web activities, assessment	
Technology used in teaching practice	3	17	13	11	
Technology developed individually or collaboratively	11	6	1	6	

Whereas the level of demand for workshops was converse to the views espoused in the literature reviewed earlier in the paper (e.g. Bates, 2000; Boud, 1999; Laurillard, 2002), an evaluation of the project currently in progress has thus far indicated that workshops were not highly utilised by this group or other project participants. While this will be further examined in a future paper; it may be the case that academics did not attend due to the kinds of reasons mentioned in the literature. Alternatively the supportive and innovative zone created to enable project participants met many of their articulated needs thereby making the workshop attendance unnecessary.

Expressed needs of participants as a group (modified Delphi)

For technology innovation to be supported a zone needed to be created that considered the articulated needs of the participants as individuals, but more strategically, met their needs as a group. The use of the Modified Delphi Technique encouraged cross fertilisation of ideas among participants about what academics require when adopting technology into their teaching practice. Round 2 of the Delphi presented the opportunity for participants to consider other people's ideas and rank them in importance, thus creating a group response.

In Delphi Round 1, the major categories that emerged from the data were: help; training; resources; and knowledge (See Table 4). While these are different categories to those that emerged from the individual data, they fundamentally express the same kinds of needs. Statements were developed to represent the ideas suggested under each category so that they could be rated on a scale of importance (1 to 4). The first 10 people involved in the study were asked to respond to the statements via email. Seven of the original ten respondents replied. Unfortunately the 3 who were representative of the least technologically skilled of the participants did not reply. It is worthy of note that 2 of these 3 academics did not complete a technology enhancement project, and the remaining academic, whilst having completed a minimal WebCT site, did so with limited enthusiasm.

Table 2: Skills identified by individuals to further integrate technology into their teaching (N=20)

Category	Skill Description	Respondents
1. Training (broadly)	Required proficiency in using WebCT or developing websites	9
2. Training – (specifically)	Required skills to achieve specific aims e.g. To develop computer based testing, to facilitate discussions	3
3. Training (Development software)	Required skills in using various development software (such as HTML editors, graphics and authoring packages)	6
4. Knowledge (educational)	Required knowledge of educational theory and concepts; and what educational approaches are effective and innovative	3
5. Knowledge (technical possibilities)	Required knowledge of what is technically possible and how to integrate technology innovations into practice	3
6. Experience	Required experience in actually using and/or developing the technology	2
7. Time	More time (2) or better time management skills (1)	3

Table 3: The ways in which individuals expected to acquire their skills (N=20)

Category	Mode of acquisition	Respondents
1. Workshops	Access to hands on courses	13
2.Experience	Ability to practice in current work context	7
3. Expertise	Access to experts such as, educational designers and multimedia experts	6
4. Research	Access to literature and research studies	3
5. Support	Access to help mechanisms or experienced peer	2
6. Resources	Access to print materials and guidelines	2
7. Time	More time allocated in workload	3
8. Other	Grad Cert (1) Action research (1),	2

Table 4: Emergent categories from Delphi round 1

Category	Description
Help	Included requests for assistance with design and integration, support by phone and in person, and peer and expert help
Training	Included requests for specific workshops with hands on experience
Resources	Included requests for learning guides, access to examples, and time allocation within workload
Knowledge (educational)	Included requests for an understanding or awareness of educational concepts and the effective use of technology in teaching
Other	Included ideas that seemed to fall outside the emergent categories like recognition and flexibility for lecturer to alter materials

The results summarised in Tables 5 to 9 below are those that represent the groups' strongest areas of consensus according to Delphi Round 2. The rating scale used to rate the propositions was: **1**=unimportant; **2**=somewhat important; **3**=important; **4**=imperative.

Table 5 indicates strong group agreement for a range of assistance to enable technology innovation and integration. At least 5 to 7 of the respondents ranked access to technical modes of assistance and educational principles of design and integration as important to imperative. The group appeared quite divided about the importance of peer and expert assistance and whether they would require help in subsequent stages of innovation. It is worth noting that the person who rated one on one help as 'unimportant' had also rated their own proficiency for integrating technology into their teaching practice as 'excellent' and was consistently the most experienced participant in this study in the use of technology.

Under the category ‘training’ there was only a limited number of specific items on which participants achieved their highest consensus (Table 6). Although the group data did not make mention of WebCT training in particular, it did come through as the strongest training area requested in the individual data from question 9 (Table 2).

Table 5: Help (N=7)

Nature of help required	Un-important	Somewhat important	Important	Imperative
One to one	1	0	4	2
Phone	0	2	4	1
Initial stages	0	0	2	5
Subsequent stages	0	4	3	0
Instructional design principles	0	0	4	3
Integration of technology	0	0	4	3
Experienced peers	0	3	4	0
Expert help with technology development	0	3	1	3
Good technical help	0	0	3	4

Table 6: Training (N=7)

Nature of training required	Un-important	Somewhat important	Important	Imperative
PowerPoint tools	1	2	4	0
Multimedia software	0	2	2	3

Most participants agreed that knowledge of educational design approaches and how technologies can be utilised for educational purposes were important to imperative (Table 7). This was not reflected in the requirements expressed for individuals in Table 2, where it was mentioned by only 3 of the 20 individuals. This may have been because the questionnaire respondents were more focused on technology itself, rather than the integration of technology with their teaching practice. As mentioned earlier in the paper, a benefit of the Delphi Technique is that individuals can access and consider ideas put forward by others in the group.

Table 7: Knowledge (educational) (N=7)

Nature of educational knowledge required	Un-important	Somewhat important	Important	Imperative
Educational design approaches	0	0	3	4
Educational applications for technology	0	1	1	5

The majority of participants signalled that access to peer and off the shelf resources were desirable (Table 8). Time for technology innovation and money to search and collate resources were also ranked as important to imperative. Such a demand for resources was not reflected in the individually expressed statements about how individuals expected to acquire their skills in Table 3. The search and collation of support resources was not mentioned previously. Time, however was articulated in both Table 2 and 3.

Table 8: Resources (N=7)

Nature of resources required	Un-important	Somewhat important		Imperative
Resource bank of technologies e.g. Off the shelf, learning objects etc	0	1	3	3
Peer examples	0	1	6	0
Time for technology innovation tasks	0	0	1	6
Money for search and collation of support resources	0	1	2	4

There was also agreement by the majority of participants that they required flexibility to alter materials easily and recognition for their efforts in technology innovation (Table 9).

Table 9: Other (N=7)

Nature of other requirements	Un-important	Somewhat important	Important	Imperative
Flexibility to easily alter materials	0	1	0	6
Recognition for technology innovation	0	1	3	3

The types of needs articulated by participants are not surprising. Shannon and Doube (2004, p.15) outline the following issues as being well documented factors that influence levels of technology innovation: access to staff development and training; lack of time; lack of knowledge and skills; lack of adequate recognition; concern about the value of technology and quality of learning, inadequate support and recognition from senior management.

Discussion and implications for ASD

While many of the needs articulated by the research participants are already identified in the literature, it was expected that by asking for their opinions rather than assuming them, there would be a higher level of buy in to the project. It was also of great importance to the author that the models and strategies used were enabling and empowering to the academics involved. The background profiling of the group in the questionnaire indicated that as a group they were reasonably proficient and experienced in the use of computers, but less confident about their ability to integrate technology into their teaching practice.

The data from questions nine and ten and the Modified Delphi Technique appear to suggest that academic teachers' expressed ASD needs may be tied to the ways in which they envisage how they will use technology to innovate. The academics involved in the study indicated that they perceived technical knowledge and training as being important to being able to create technology innovations. The technology they envisaged ranged from MS PowerPoint to highly complex authoring packages. As most academics considered that they did not have the time to learn specific multimedia applications, and the project had funds for development, it was more strategic to utilise multimedia specialists for complex development work. At the same time, it was important that the academics were adequately trained to use and, if possible, alter their technology initiatives.

Although the need for educational knowledge did not come through strongly in the individual data (Table 2), most participants in the Delphi Round 2 corroborated that such knowledge is quite crucial (Table 7). The author of this paper is professionally committed to the idea that educational knowledge should play a vital role in the choice, design and use of technology. The author subscribes to the philosophy that technology is only a tool and that the rationale for its use should be educationally based and in support of student learning in relation to the curriculum objectives. For the staff development strategies to meet the articulated needs of the academics and sit well with the author's professional beliefs, both needed to be taken into consideration.

The method by which staff development would be available to participants was a major consideration in the project. Although workshops were acceptable and popular as a method of acquiring skills and knowledge (Table 3), the discussion in the earlier part of this paper revealed some of the inherent problems with depending on such an approach. The types of help requested by Delphi Round 2 respondents (Table 5) indicate that, at least initially, one on one help was desirable and assistance with instructional design principles are of importance. Access to educational design principles, knowledge about educational applications of technology and examples of usage were also in demand (Table 7 and 8). Money for the search and collation of support resources, time concerns and the need for recognition were also flagged as important to the group (Table 8 and 9), and as such considered with the other items mentioned in this section to be incorporated into the strategies to support academics in their project work. In addition, the recommendations of Bates (2000, p. 100-107) that a wide range of project integrated approaches need to be available locally to support technology based teaching and Laurillard (2002, p.226-227) that there should be clear linkages to course planning and design, involvement in multi-skilled development teams, and discussion and sharing of experience and evaluations were also taken on board. With a complement of related staff development strategies, a situated staff development approach was considered appropriate to respond to many of the needs articulated by the academics.

Establishing an innovation zone for technology

In response to the findings from the questionnaire and Delphi data, existing workshops were identified and localised strategies were initiated (Table 10). An important aspect of establishing an innovation zone for the project was not to limit the creativity of the academics involved. Academics negotiated the scope and funding of their project and thus their time commitment, based on their own workload, passion and educational rationale. To engender an enabling and empowering approach to technology innovation, academics needed access to the kind of expertise that would facilitate their engagement with the project by helping them achieve their teaching and learning goals. It was essential that there was a shared understanding and clarity about what these goals were, so these were established early through an overall course curriculum focus.

Access to help, technical knowledge and training, and educational knowledge

Academics (groups and individuals) involved in the project were strongly supported by a multi-disciplinary team of relevant experts such as educational designers (curriculum design), instructional designers (resource development), librarian (locating resources, and integrating information literacy), and multimedia developers (graphic designers, programmers, and video producers). Foremost, this combination of expertise ensured the academic was enabled to develop high quality technology innovations in support of student learning.

One on one and group help, knowledge and training of an educational and technical nature was available in a situated staff development and project context throughout the initial conceptual stages of the project.

The process was initiated from an educational perspective through a series or ‘working meetings’ to improve and align the curriculum (at program and course level). Discussions and tasks revolved around clarifying learning objectives, alignment of objectives with assessment designs, identifying innovative teaching approaches for the context and finally creating and supporting the student learning experience. The use of technology itself was considered in the context of supporting student learning as expressed through the curriculum.

The use of multi-disciplinary teams meant that academics had access to knowledge and training that was targeted at their particular needs within their project. Further training to support the implementation of their innovation was identified in individual project proposals and consequently lecturers were directed to centrally held workshops, peer support, or they were provided with specialist training if required. The collaboration between the educational designer and academics, allowed for educational support in tandem with relevant literature, educational theory, and other support people on a ‘just in time’ basis. Additionally, academics were better able to articulate the educational rationale for their use of technology than had previously been experienced in the faculty. A localised *in situ* approach has been shown to be greatly valued by academics and supportive of their individual staff development aspirations (Ferman, 2002).

Access to examples and possibilities, and recognition

As teaching and learning goals and other critical curriculum questions were discussed and clarified, the team began to conceptualise the purpose and nature of the technology innovation. During this period instructional designers would provide and elucidate examples of other technology innovations in terms of instructional principles and features that may meet the needs of the project. In line with Laurillard’s (2002) recommendation for the discussion and sharing of examples of good practice and their evaluations a lunchbox forum series was instigated and well attended within the faculty. Initially, a steering committee of faculty innovators was established to generate ideas for themes and guest facilitators. As the innovations of project participants were implemented, evaluated and reviewed, these academics were asked to share their experiences, innovation designs and reflections with their peers during lunchbox forums and teaching and learning showcases. These presentations became a source of recognition and cross fertilisation of ideas across the faculty and led to many informal peer mentoring arrangements. Additionally, when planning evaluation strategies with the educational designer, academics were encouraged to think about how evaluation data could be utilised in an educationally focused research paper within their discipline which would lead to a more formal recognition of their efforts by the university. UQ teaching award submissions were also encouraged and supported.

Time constraints, search and collation of support resources

The strategy of a multi-disciplinary team meant that academic workloads associated with the project were reduced in a number of ways; educational guidance from the educational and instructional designer meant that time wasn't invested in ideas that were not likely to work; assistance from the librarian meant that the time associated with search and collation of resources was very minimal; assistance from the multimedia team meant that academics did not have to learn complex authoring programs. In addition a memo and guide for workload consideration associated with the project was provided to and signed off by senior management. A small amount of funds ($1500) was also available to the academic participants to assist them to free up some additional time. These funds were only be available once an agreed timeline was negotiated.

Table 10: Response to articulated needs

Articulated Needs	How Addressed
Help - one on one, in initial stages, with instructional design principles, expert help Technical knowledge and training, and ability to alter materials developed Educational knowledge, theory and concepts	• Access to educational design support (in situ) • Access to instructional design support (in situ) • Access to multimedia team expertise • Access to training identified in project proposal (in situ or workshop) • Access to central workshop series (WebCT, PowerPoint etc) • Access to training identified in project proposal (in situ or workshop) • Access to educational research related to project • Access to lunchbox forums (sharing practice)
Examples of peer work and possibilities of using technology Recognition	• Access to peer work through lunchbox forums • Access to possibilities through demonstrations by instructional designers (in situ) • Opportunity to share innovation with colleagues at lunchbox forums, showcases and conferences • Encouragement for teaching award submission • Encouragement to plan evaluation so that data could be utilised in a research paper thus leading to more formal recognition
Time Search and collation of support resources	• Team approach reduced workload of individual academic • Memo to Heads of School • Support funds • Access to a dedicated project librarian to perform searches, collect and collate resources

As the Project is now approaching the end of its final year, the project progress and outcomes associated with the staff development strategies outlined above are becoming evident.

Project outcomes

A localised staff development and team approach were integral to establishing a technology innovation zone and encouraging academic engagement with this project. A range of innovations has been and continues to be developed within the faculty. For example, suites of WebCT sites that feature lively meaningful discussions, fantasy online projects, authentic cases and problems and links with industry and the research community; a pilot of a virtual 3D interactive world based around supporting the creation and sharing of knowledge within of a community of practice; highly interactive CD's that engage students with complex case studies, 3D models, video and simulated scenarios, research and diagnostic techniques and analysis and industry perspectives.

Of the 20 participants involved in the initial evaluation 14 completed technology innovation projects, 3 did not complete beyond stage 1, and 3 left the university during participation. The scale of the project and its outcomes are indicated by the following:

- In 2002, 33 courses across 3 undergraduate and 3 postgraduate programs were involved in the project
- In 2003, a further 32 courses commenced participation in the project from 2 undergraduate and 5 postgraduate programs
- In 2004, 14 new courses commenced participation from 3 undergraduate programs
- By Jul 2004 39 projects had been completed and 26 projects were in progress and 14 did not reach stage 2 (some of these were removed due to a curriculum review)
- By Jul 2004, 51 of the faculty academics had partaken in the project and associated staff development opportunities

It has been difficult to measure the impact of the project on student learning across the faculty as a concurrent significant curriculum review has affected both undergraduate and postgraduate coursework. Evaluations at a course level have generally been very favourable and where possible both negative and positive feedback is passed on to the multidisciplinary team. Time issues and lack of support and recognition from senior management within the faculty continue to be barriers.

An evaluation of the project’s situated and other staff development initiatives is currently underway and feedback appears to be very positive so far. Evaluations of the collaboration with the educational designer have indicated that participants felt that their educational knowledge had expanded, particularly as a result of developing a coherent curriculum development approach as outlined in the process that initiated their participation. Although the initial articulated needs of the academics did not rate educational knowledge highly as a need, the faculty is now considering funding an ongoing educational position to continue the positive work this approach has engendered. The low attrition rate from the project also provides some evidence of how well academics engage with an enabling innovation zone. Project evaluation data will be reported in a further research paper.

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