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Online Pedagogical Practices in the Faculty of Education at the University of Southern Queensland

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Online Pedagogical Practices

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Preface

This report is a response to local, national and international imperatives in tertiary education. Locally, the Vice-Chancellor, Professor Bill Lovegrove has opened the debate with his request for *ideas for improving flexible learning and e-pedagogy* as part of a broader initiative of ongoing development at USQ. These efforts are a response to increasingly competitive higher education markets; expectations of transnational education; and the re-conceptualisation of learning communities on a global scale. Nationally, debate surrounds the recent Nelson (2004) report (*Backing Australia's Future*), which focuses on universities' obligation to demonstrate a strategic commitment to learning and teaching. The report raises a number of critical issues for regional Australian universities such as USQ in the re-imagining of the core business of higher education providers and the degree to which they are able to meet the needs of contemporary Australian society. These issues are also being debated internationally with evidence of significant research activity into the role of higher education in post-modern societies and the related studies of lifelong learning, workplace learning, open and flexible learning, adult and continuing education and the impacts of globalization on education.

This report is a product of ongoing discussions in the Faculty of Education related to the provision of higher education and the role of networked computing and communications technologies in education provided by the Faculty. The report is informed by reflection on several years of experience using technology to enhance the provision of education, information collected as part of a recent evaluation of online courses and current notions of best practices in e-learning. While much of the report is 'backward looking' in the sense that it is reflection on past events, it is anticipated that the important lessons learned from past practice will help provide a foundation for appropriate application of technology in provision of education across the university.

Contributors

This report has been prepared by members from the Learning Futures Institute, Faculty of Education.: Ben Kehrwald, Shirley Reushle, Petrea Redmond, Kaye Cleary, Peter Albion, and Jerry Maroulis.

Table of Contents

| | |
|---|-----|
| Preface | ii |
| Contributors | ii |
| Table of Contents | iii |
| Abstract..... | iv |
| Introduction..... | 1 |
| 1. Characteristics of Sustainable, Quality, Online Learning..... | 1 |
| 1.1 Online Learning Systems | 1 |
| 1.2 Online Learning Environments: A Context for Activity | 3 |
| 1.2.1 Online Pedagogy..... | 3 |
| 1.2.2 The Learning in Online Learning | 3 |
| 1.2.3 Linking Good Online Teaching to Good Educational Practice..... | 4 |
| 2. Examples of Good Practice in the Faculty of Education..... | 6 |
| 2.1 The Fully Online Environment..... | 7 |
| 2.2 From Correspondence to Networked Learning..... | 12 |
| 2.3 The Blended Environment | 14 |
| 2.4 Cross-campus Offerings..... | 15 |
| 2.5 Consultancies..... | 16 |
| 2.6 Professional Learning Communities..... | 17 |
| 3. Research and Scholarship | 20 |
| 3.1 Research Centres | 21 |
| 4. Conducting Evaluation | 21 |
| 4.1 2004 Evaluation of Faculty of Education Online Postgraduate Programs | 21 |
| 4.2 Course-based Evaluation..... | 22 |
| 5. Conclusions..... | 23 |
| 5.1 Networking for Learning | 23 |
| 5.2 Resources and Staff Development..... | 23 |
| 5.3 Quality Assurance..... | 24 |
| 5.4 Research and Development..... | 24 |
| 5.5 Marketing and Promotion | 24 |
| 6. Future Directions..... | 25 |
| 7. Summary Statement..... | 27 |
| References..... | 28 |
| APPENDIX 1: Online Education Publications and Presentations of Faculty of Education | |
| Staff | 30 |
| Reports..... | 30 |
| Conference Presentations..... | 30 |
| Journal Articles | 32 |
| Book Chapters | 32 |
| Invited Presentations | 32 |
| Book Reviews | 33 |
| Other | 33 |

Abstract

This report is a product of ongoing discussions in the Faculty of Education, USQ, related to the role of networked computing and communications technologies in higher education. The report is informed by reflection on several years of experience using technology to enhance the provision of education, information collected as part of a recent evaluation of online courses and current notions of best practices in online learning and teaching. Section 1 of the report discusses the theoretical foundations of online learning and teaching and identifies the characteristics of sustainable, quality, online learning. Among the key ideas is the need to consider the relationships among various systems associated with online learning within an organisational context, the active and social nature of learning online, and continuity with good educational practice in other contexts. A series of vignettes presented in Section 2 provide illustrations of best practices within courses and other projects managed by the Faculty. Out of this background and experience, five propositions emerge as the basis for developing and extending online education in the Faculty of Education and in the wider university community, along with a number of recommendations for future online practices at USQ.

Introduction

The role of this report is to share, with the university community, innovative online learning and teaching practice from the Faculty of Education. These views of good practice are supported by research, reflection and student evaluations.

The report begins with the theoretical foundations of online learning and teaching including a framework for online learning systems and a model for community oriented social constructivist learning. It also includes an overview of issues which inform online teaching practice. These conceptual frameworks are then situated in the context of USQ and the Faculty of Education through a number of vignettes which describe online learning and teaching there and so identify best practices within courses and other projects managed by the Faculty. The theoretical foundation and examples of good practice are used to draw conclusions about online learning in the Faculty of Education. Finally, each of the preceding elements is used to inform recommendations to ensure the continued viability of this form of educational provision within the Faculty and in the wider university community.

1. Characteristics of Sustainable, Quality, Online Learning

Online learning has come of age in recent years as research in that field has continued to build stable, cohesive, theoretical and practical foundations. However, as the field of online learning has matured, it has become clear that *the nature of learning has not changed*. Indeed, good online teaching is inseparable from more general notions of *good educational practice*. What has changed is how education providers and teachers facilitate learning in a range of current and emerging educational contexts.

From these foundations, to which members of the Faculty of Education have made significant contributions both within the university community and the professional community at large, clearer notions of best practice in technology enhanced education provision have emerged. These good/better/best practices are best understood when situated against a sketch of contemporary online learning systems and the nature of activity within those systems.

1.1 Online Learning Systems

The central tenet of online learning systems is *connectivity*. The networked computing infrastructure of these environments connects individual users to a variety of learning resources. In courses offered by the Faculty of Education, these resources include static content, dynamic (participant-generated) content, learner support and content experts. Connectivity allows flexible delivery of learning materials through computer networks and interactive computer mediated communication (CMC) through tools such as e-mail, chat facilities and discussion boards.

Critical to any online learning system is the network, which implies both an infrastructure of connectivity (Jones & Steeples, 2002) and a social morphology of interaction and transaction which influences the processes of production, experience, power and culture (Castells, 1996). Although it is the technology that gets most of the attention, it is the people and the connections between them that drive online learning systems. As a social structure, networks facilitate the development of community, create synergy in the connections between members and promote holism over fragmentation. In online education, networks offer the opportunity to re-imagine learning processes in the light of collaborative production, democratic power structures, collective intelligence and distributed communities.

A key problem facing designers of these online learning systems is how to marry the power of networked connectivity with established pedagogical principles to produce better learning outcomes. Steeples, Jones and Goodyear (2002) have suggested a model for linking online pedagogy to practical activity in a real-world educational setting (Figure 1). This model includes a *pedagogical framework* which links a philosophical approach to education with concrete strategies and tactics for teaching and learning. The pedagogical framework informs development and use of an educational setting consisting of a *learning*

environment and specific *learning tasks*. Together, the environment and tasks influence *learner activity*, which leads to *learning outcomes*. Section 2 of this report articulates a range of tasks, activities and outcomes through illustrative vignettes in the discipline of Education.

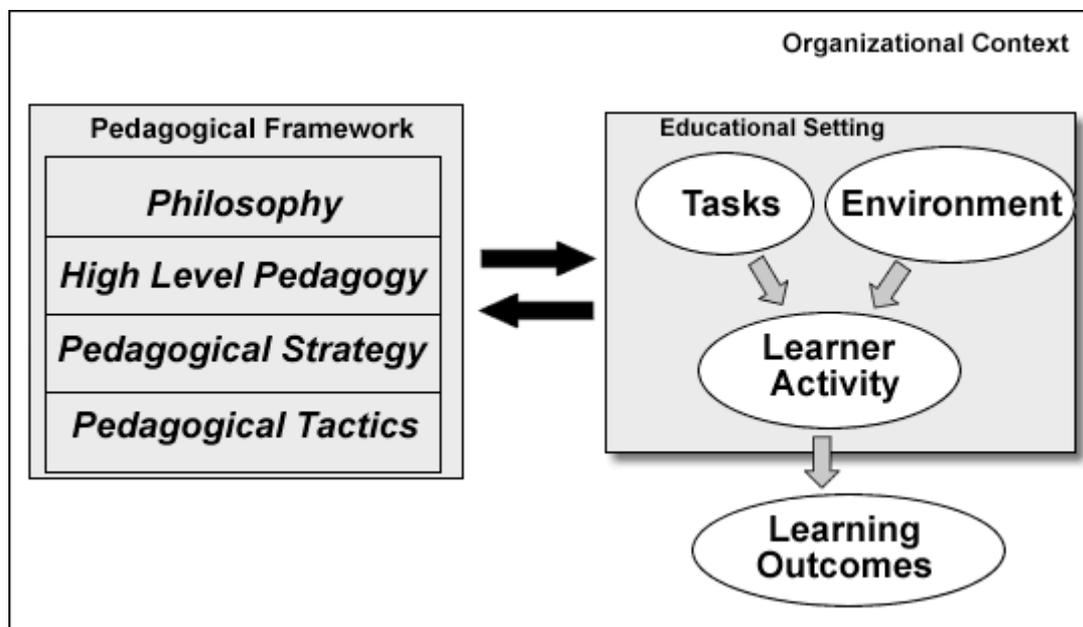


Figure 1 - Pedagogy in context, adapted from (Steeple et al., 2002)

In this paper, the *organizational context* depicted in Figure 1 is USQ and all of the systems and structures that are in place there to make the university function. This includes the various faculties and departments and all of the staff therein, the physical infrastructure, the technological infrastructure and the more amorphous social and cultural infrastructure of the organization. While these facilities and structure are not visually present in the framework, they have a significant impact on the other elements of the framework by defining the potential and influencing work processes within the organization. The *educational setting* is one of a number of much more limited contexts within the much larger organizational structure. This setting might be the USQOnline system as in the vignettes in Section 2.3 below. The educational setting might also be an individual course (vignette 2.2.1) or a portion of an award program such as the doctoral students who are supported by the Faculty of Education (vignette 2.6.1). Within this educational setting is the *environment* within which activity takes place. Examples include the Learning Management System in USQOnline courses (e.g. WebCT) and other technology tools; the resources and content of the courses; and the social climate created by the facilitator and other participants. Alongside and possibly intertwined with this environment are the *learning tasks* which define the processes and shape the activity within the educational setting. Learning tasks are what teachers ask learners to do. *Learner activity* is what learners actually do (Steeple et al., 2002). In a USQOnline course such as FET 5660 for example (vignette 2.3.1), these tasks define a learning process for the completion of an independent study from conception of a question through to production of a polished written report. They influence, guide and support learners in particular learning activities which lead to learning outcomes.

All of these elements within the educational setting are informed by pedagogy derived from a pedagogical framework. At the most abstract level, the pedagogy is drawn from philosophical positions on learning and knowing as well as the guiding philosophy and mission of the organization. At a more concrete level, this pedagogy is a commitment to a particular approach to teaching and learning which influences the practical decisions online teachers make in not only preparation and planning (strategy) but also the dynamic day-to-day activities of teaching (tactics). The pedagogical framework depicted in Figure 1 aligns practical teaching and learning activity with conceptual foundations of good practices. This alignment encompasses both broad

initiatives, such as development of cohesive program-wide pedagogical approaches, and more specific aspects of learning programs or individual courses, such as assessment tasks and learner support mechanisms. The framework combines widely accepted good practices with context-specific information to inform pedagogical choices and emphasize the situated nature of best practice.

1.2 Online Learning Environments: A Context for Activity

As online teaching and learning has become more widespread, practitioners have sought to develop more cohesive understandings of teaching and learning activity in context. This includes an understanding of the theory underpinning effective online pedagogy, theoretical views of learning and examples of effective online learning and teaching in context.

1.2.1 Online Pedagogy

Due to the flexible interactive communication they afford, networked computing technologies lend themselves especially well to the application of particular theories of learning (see Garrison, 1993; Jonassen, Peck, & Wilson, 1999). These include approaches based on constructivist philosophies (Jonassen, 1999; von Glasersfeld, 1995) such as situated learning (Hung & Chen, 2001; Lave & Wenger, 1997; Wilson & Meyers, 2000) and social learning theories which underpin approaches such as communities of practice and learning communities (Barab & Duffy, 2000; Wenger, 1998). These theories are consistent with a philosophical position based on individual and social construction of meaning and localized context-dependent realities. Such a position values personal perspectives on meaning and places importance on *learning* over education (or teaching).

The resulting pedagogy is active and social. It relies on learner-centeredness in learning programs (Land & Hannafin, 2000); use of rich, authentic learning contexts (Wilson & Meyers, 2000); and goal-directed activities which support personal perspectives on meaning (Brown & Duguid, 2000; Jona, 2000). Rather than focusing on transmission of content or even assignment of tasks for learners to undertake, these learning environments are concerned with what *learners actually do* (Steeple et al., 2002) and how learner activity contributes to learning based on personal meaning making (Goodyear, 2002; Mayes, 2001). This pedagogy places the learner at the focal point of learning tasks and requires individual and collaborative activity that is goal-directed, practical and authentic. The learning activity which results becomes integrated with the learners' work, leisure and personal life, entwined with authentic everyday activity. This offers more opportunities for natural learning (Brown & Duguid, 2000; Kimball, 2001) and assists in the promotion of lifelong and lifewide learning.

1.2.2 The Learning in Online Learning

Steeple, Jones and Goodyear (2002) describe online learning environments as relational systems driven by the exchanges between individuals in the environment. Individual participants (learners, teaching staff, content experts and other stakeholders) readily communicate through network connectivity and CMC. They engage in goal-directed interactions with the aim of developing knowledge and skills related to authentic practice. The mutual modification of attitudes, ideas, skills, beliefs and knowledge that results from these exchanges has been described as interactivist (Bickhard, 1992), transactional (Shin, 2002) and relational (Lave & Wenger, 1997) learning. The emphasis is on cognitive interaction and learning as an active, dynamic process (Goodyear, 2002; Hung & Chen, 2001). Again, this view highlights that learning is a social endeavour and learning environments are social spaces.

Drawing from notions of transaction and practical inquiry proposed by John Dewey (e. g. Dewey, 1991), Garrison, Anderson and Archer (2000) have captured this transactional learning process in a model which identifies three dimensions of the teaching/learning transactions: teaching presence, cognitive presence and social presence (Figure 2). Teaching presence, or the 'design facilitation and direction of meaningful and educationally worthwhile learning outcomes' (Garrison & Anderson, 2003 p. 29), structures the learning experience, provides explicit teaching and mutually supports the other two areas of the model. Cognitive presence, defined as the extent to which learners are able to construct and confirm meaning through

sustained reflection and discourse in a community of inquiry (Garrison, Anderson, & Archer, 2001), is a precondition of higher order thinking and learning. It supports critical discourse and aids in the selection and interpretation of meaningful content in learning activity. Social presence, defined as the ability of an individual to project him/herself as real to a group (Rourke, Anderson, Garrison, & Archer, 2001), supports community development and social learning processes by helping create an open, inviting social climate, promoting connection between individual users and supporting social interactions such as the ones taking place in critical discourse.

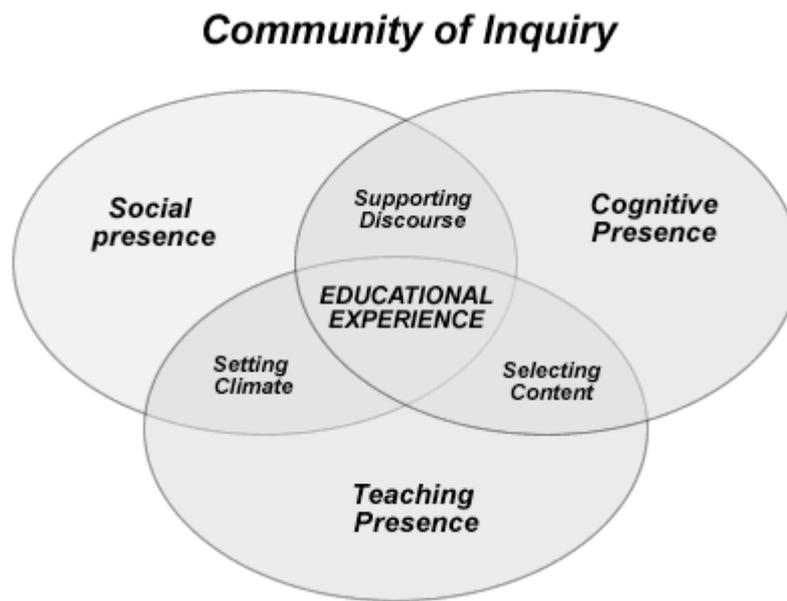


Figure 2 - Community of Inquiry Model (Garrison, Anderson & Archer, 2000)

This community of inquiry represents the combination of teaching and learning activity in an educational setting. Consistent with the Steeples et al. model in Figure 1, the combination of tasks and environment provides learners with the infrastructure they need to engage in learning activity. The educational experience lies at the nexus of teaching, cognitive activity and goal directed social activity. Learning, as part of the educational experience, is supported by a combination of teaching presence, cognitive presence and social presence in the form of a supportive learning climate (or environment); supportive discourse or collaborative activities; and structuring activities.

1.2.3 Linking Good Online Teaching to Good Educational Practice

Ragan (1998) points out that 'good teaching is good teaching' and what is known about good teaching practice in one context can be used to inform good practice in another. Certainly, the teaching and learning activities that take place online are not exclusive to these environments. However, researchers and practitioners have determined that the management of key variables in online educational settings is what differentiates online teaching and learning from similar activities in other educational contexts. Key considerations informing online practice include: balancing flexibility and structure; catering for learner centeredness; accommodating situativity; managing technology; creating and managing mediated interaction and provision of comprehensive learner support.

Flexibility versus Structure

Despite the heralded flexibility and openness of online learning environments, structure is an important part of learning activity because learners derive meaning from structure (Laurillard, 2002). Careful structuring of learning activity, which is a key function of teaching presence in online learning (Garrison et al., 2000), helps learners manage a range of variables (e.g. group culture, collaboration, time/duration and roles) which influence meaning-making (Kimball, 2001). Freedom from conventional structuring parameters such as time

and place has forced online teachers to seek new ways to structure learning experiences and has also provided opportunities for innovative practice in online teaching.

Learner Centredness

As Hase and Ellis (2001) point out, a significant number of problems with adoption of online learning are a direct result of education providers' inability to make the transition to learner-centred approaches. Because the learner-centric nature of pedagogy in contemporary online learning shifts power and responsibility from teaching staff to students, online teachers have had re-think control and responsibility in order to become less directive, in some cases, less authoritarian in order to foster learner centeredness and autonomy (Collison, Elbaum, Haavind, & Tinker, 2000; Palloff & Pratt, 1999). They have been forced to reconsider their place in learning environments where skills related to facilitation of learning processes are valued alongside subject matter expertise. Moreover, they have had to explore collaborative and peer supported learning which maintains the integrity of learner-centric values and places the teacher in a more supportive than directive role. Online teaching is as much about guiding learning as it is about subject matter expertise (Hicks, Reid, & George, 2001) and the practice of online teaching has had to re-orient itself to supportive facilitation of learning rather than the transmission of information.

The issue of learner centeredness also encompasses questions of openness and inclusivity in formal education. As flexible online learning systems allow universities to move rapidly from regional to transnational education provision, the universities themselves must respond to the needs of their new clientele by delivering educational programs that are culturally inclusive and cater to diversity. If formal education is about *learning to learn*, then contemporary online education, with its truly global student cohorts, is about learning to learn across national borders, languages and cultures. Indeed, it is the richness of such experiences which draws learners to this form of education. However, such inclusivity continually challenges online teachers to re-invent their teaching practices and demands a commitment from education providers to support innovation.

Situativity

Although they are part of formal education systems, online learning programs are focused more on learning than transmissive teaching and provide opportunities for the *natural learning* that happens everyday in authentic, real-world contexts (Brown & Duguid, 2000; Kimball, 2001). Drawing from constructivist and situated learning perspectives (e.g. Barab & Duffy, 2000; Jonassen et al., 1999; Wilson & Meyers, 2000), situativity is a notion which underpins these learning opportunities. This type of learning is based on activity in-context in which individuals and groups make meaning from participation and experience. Situativity is concerned with both psychological aspects of learning in context (situated cognition) and anthropological aspects of learning in groups or communities (situated learning) (Barab & Duffy, 2000).

In order to leverage situativity in online learning programs, online facilitators must create conditions which:

- Provide a context for activity - ideally, this will be relevant and authentic;
- Engage learners as participants in an active process;
- Incorporate prior knowledge and experience;
- Offer access to and opportunity for meaning making, identity formation and development of practical skills (knowledge in application) as part of participation.

In many cases, these conditions imply a re-conceptualisation of systemic structures in education provision and considerable innovation in design and development of online learning programs.

Managing Technology

Technical support has become an increasingly important feature of technology mediated educational provision such as online learning (Tait, 2000; Thorpe, 2002). The rapid pace of technological evolution has meant a lag between technological development and widespread application of the technology. The digital divide between technology 'haves' and 'have nots' in terms both access and ability, continues to grow. As learning in technology mediated environments remains a novel activity for some learners, there is a clear need to address specific technology related issues that arise from novice users. Because online teaching staff

are often the first point of contact for students on technical issues related to web design, networked computing software and communications facilities, they must be prepared not only to master these technologies for use in teaching and learning, but also to stay abreast of developments with new and emerging technologies for learning. If they are to facilitate and support learning online, online teachers must be able to help learners manage the technology.

Creating and Managing Mediated Interaction

When learning is predicated upon transactions between various participants and those transactions are mediated, creating, sustaining and managing interaction are critical aspects of online teaching and learning activity. This activity begins with design. It takes considerable ingenuity to design learning tasks in which interaction is not only important to the task, but it is essential to successful completion (Thorpe, 2002). Also, sustaining mediated interactions over a period of time challenges participants' ability to create engaging online personal presence, manage multiple interactive tasks, maintain focus in goal-directed activity and manage the emergent nature of much the dynamic content and communication within online learning programs.

Communicating well in writing is a complex skill. In online learning environments, disembodied communication challenges all online participants to develop new communication skills. Online teachers have had to work hard on the development of the *technology of conversation* (Romiszowski, 1997) to cultivate online social presence and maximize the effectiveness of their activity when all interactions are mediated.

Support

Learner support is essential to modern-day education provision. It is a concept that resonates with both the business of education provision and notions of high-quality pedagogy. The commodification and marketisation of education places value on client-oriented *service* over institution-oriented *production* and emphasizes education providers' role in meeting learners' needs in order to foster learning (Garrison, 1997; Tait, 2000). This has brought learner support to the fore as a valued component of learning programs and an essential aspect of education provision.

Online learners, like all learners, need support. In a review of one hundred research reports on online learning, Coomey and Stephenson (2001) found that support was the most often mentioned aspect of these systems and was vital to their success. The transition from placed based synchronous teaching and learning to more open and flexible technology mediated learning has created new demands for support in online learning environments and highlighted the need for responsive learner support mechanisms built into course processes, materials and dynamic learner activity. While this support is necessary in terms of learning in general, it is particularly important to online learning, in which learners are faced with the complexity of dealing with unfamiliar technologies, novel approaches to education and the challenge of mediated communication and interaction.

2. Examples of Good Practice in the Faculty of Education

The Faculty of Education has extensive experience in a range of learning contexts and is a recognised leader in online pedagogy. This report demonstrates a sustained leadership in online pedagogical practices and contributions to research in this field.

The following vignettes illustrate the Faculty's good/better/best practice regarding the contribution to online learning in a range of educational settings. These vignettes are situated in a range of contexts: the fully online environment; moving from correspondence to networked learning; blended environments; cross campus offerings; consultancies and distributed professional learning communities. A later section also deals with the issue of online evaluation of both programs and courses.

2.1 The Fully Online Environment

Within this section, the vignettes illustrate a range of practices which have been used in courses which are offered in the online environment with no face-to-face interaction or printed material.

Vignette 2.1.1: Designing for structure and support: Using collaboration in ‘independent’ study (Ben Kehrwald)

This vignette highlights the role of process-oriented instructional design for online learning environments in helping maintain learner centeredness; balance structure and flexibility; leverage the affordances of the technology to promote interaction; and provide learner support. The combination of carefully designed learning tasks and a supportive learning environment allow learners to undertake independent studies within a highly flexible, yet well supported learning process. Linking to Garrison et al.’s (Garrison & Anderson, 2003) Community of Inquiry model (figure 1 above), the vignette emphasises the role of teaching presence in the supportive facilitation of highly interactive learning activity which brings together both the social and cognitive presences with the community.

The postgraduate course **FET 5660: Supervised Independent Study**, is offered in wholly online mode by the Faculty of Education as part of the USQOnline system. The course is intended to provide opportunities for individual studies related to workplace professional activity.

As part of a recent reaccreditation cycle, an analysis identified that the then current design of the course, based on a one-alone study model, did not meet learners’ needs for support. The design did not take advantage of the interactivity afforded by the networked computing technology, particularly for the development of peer interaction, community development and social support. Individual learners struggled with a sense of isolation and a lack of structure for their distinct independent studies. Course teaching staff were confronted with a process of negotiating and mediating personal learning processes for each learner. This design had limited effectiveness and proved to be unsustainable.

To address these issues in the redevelopment of the course, the design brief identified the following values as important to the learning process in the course: *learner centred learning, interaction through dialogue and flexibility in independent study*. Learning in this context was taken to be an individual constructive process which is aided by individual meaning making that takes place through interactions with other learners, as in dialogues and peer group activity. In particular, the pedagogy was concerned with addressing the need for a strong supportive component which allowed a wide variety of independent studies to be successfully undertaken, but did not necessitate an unsustainable level of one-to-one support provided by the course teaching staff.

The resulting learning process incorporates both individual and collaborative activity to structure and support learner activity which focuses on individual meaning making. The process is flexible in terms of subject matter content of the individual studies under consideration, but structured in terms of the number and types of activities learners undertake as part of the learning process. Learner support is built into the learning process through careful design of learning tasks which focus learner activity on goals associated with a clear process for their individual studies. One key aspect of the design is the establishment of online social presence which facilitates interactions which comprise learning activity in this context. Learner centric learner support is also provided in the identification of roles for learners which create peer supports through interpersonal interaction in dialogue and goal-directed collaborative activity.

While the emphasis in this process is on learner activity, it also relies on supportive facilitation activities by both the online teacher and peer learners: creating a welcoming environment, providing exemplars of appropriate behaviour, keeping discussion moving, acting as expert questioner to stimulate learning activity, responding to learner needs as they arise and providing stimulus in ongoing discourse. Because collaborative peer activity and careful structuring of the learning tasks work to provide learner support, there is a much

lower demand for responsive support provided by the facilitator and there is much higher sustainability (in terms of investment by the facilitator) in this course design.

Assessment within the course is linked to learner activity and the objectives of the course. It includes a combination of collaborative activity and individual written work in the form of a study proposal, progress report and final study report. Collaborative components are assessed based on various measures of quality interaction such as meeting timeliness, critical thinking, demonstration of social presence and exploratory or constructive dialogue. Peer assessment is also included. Rubrics and marking criteria for all assessment items are provided to all learners from the outset of the course.

Based on comments from past and current participants, the course has been successful in achieving a structured learning process which is supportive, but maintains the flexibility necessary for personal study topics:

- *I felt that I chose the content and that I went into the depth that I wanted to go...which was putting learning in my hands which I totally support. I felt that the design of the course and the professor were excellent guides to achieve the final product at a high quality.*
- *I found the collaborative aspects of the course effective. The peer interrogation (though frustrating at times) helped me focus and re-focus my thoughts and questions about what was that I wanted to find out in this course.*
- *I found the collaborative design and activities of the course to be very helpful, and the best I've encountered in any USQ course.*
- *I felt very supported by the instructor and by my peers. I initially had misconceptions about the nature of the course, and about what sort of work would be acceptable for assessment in it, but those concerns were dealt with in a very professional (and quite patient) manner. Because of all the framing of questions and peer critiquing of and instructor suggestions about that part of the process, when it came time to get working on the draft and final copies of the report, it seemed to almost "write itself".*
- *I achieved way more in the course than I would have hoped to, or even thought possible. The structure helped me to learn a lot about the topic I examined, but more importantly it helped my growth as a student, and as a writer. Thinking about how to critique a peer's paper that seemed to me to have some major weaknesses was a good experience. It made me want more feedback about my own work in other courses, but they are not structured to support that. In this course I felt that I "wrote to the topic"; in most others I felt that I "wrote to the rubric".*
- *I have no suggestions for improvement – I thought it was wonderful.*
- *I would not only recommend this course, but think that it, or at least the question-framing, peer-critiquing parts of it, should be a mandatory early part of everyone's program. It was a wonderful experience.*

Vignette 2.1.2: Using De Bono's Thinking Hats for computer-mediated, authentic problem solving (Shirley Reushle)

This vignette describes how learners in a postgraduate course, **FET8601 Teaching Online: Strategies and Tactics**, used a metaphorical teaching method framework for lateral and creative thinking developed by Edward de Bono (the "Six Thinking Hats" technique). This framework enabled the learners to participate in online debate and view a problem from multiple perspectives.

After presenting to a group of first year pre-service Education students about online education, I was concerned that they found difficulty envisaging a teaching and learning environment beyond the face-to-face, classroom model. I spoke to the lecturer and we both agreed that we would not be fulfilling our obligations to prepare educators for the 21st century and the knowledge society (so often espoused in the literature), if we ignored this possible dilemma.

The activity was not mandatory, and was not related to any assessment requirements. Members of the online class chose to participate for the following reasons:

1. To further explore innovative ways of teaching and learning online.
2. To explore online debate aimed at viewing a problem from multiple perspectives (Belfer, 2001).
3. To provide some suggestions to the lecturer of the undergraduate course in terms of pre-service educators and their experiences with online education.

The learners were encouraged to embrace the principles of adult learning and constructivism and behave as collegial partners in the learning process - not as instructor and learner. The “rules of engagement” aimed to reflect an earlier netiquette (online etiquette) activity conducted in the online course and Belfer’s (2001) statement where the aim was to embrace:

communication in a state of resonance where there is respect, tolerance and opportunities for the individuals to pursue their personal interests.

The activity commenced with an introductory synchronous chat session followed by six days of asynchronous activity to reflect each individual “hat”. This asynchronous activity was conducted in a discussion forum, and began with an outline of the “case” or “problem”.

To conclude the activity, a smaller group of four students and the facilitator worked together over a period of a month to prepare a report for the Director of Undergraduate Studies in the Faculty (Birks, Chong, Jurd, Melgosa, & Reushle, 2004). This report addressed the following topics:

- Online for pre-service educators or not? That is the question!
- Why should educators know about online learning and teaching?
- The place of online in society
- Proposed teaching and learning strategies
- How to proceed – a way ahead.

This collaborative writing activity was conducted in an electronic “group area” where a file exchange facility was available. Over a period of a month, the paper passed through twelve revisions and a sense of collaborative collegiality developed. The final report was forwarded to the Undergraduate Director and will also be published in the Faculty’s online journal.

Vignette 2.1.3: An online conference (Peter Albion)

This vignette describes the design and operation of an online course that is structured as an online conference in which students contribute most of the content through their papers and related discussion.

FET8620 Multimedia Applications in Education has been offered each year since 2001. Enrolments have typically varied between 20 and 30. Students are distributed around the world, study the course completely online and have varying degrees of prior online and other technical experience.

The impulse for creating this course arose from the difficulties experienced in having students engage with both the practical and theoretical aspects of multimedia in a single course, FET5622 Creating Interactive Multimedia. A key aim in designing the course was to expose students to a broad set of theoretical considerations related to educational multimedia and to provide them with an opportunity to explore a topic of their choice in considerable depth. A second aim was to introduce students to the experience of sharing their ideas with a professional community through the medium of a conference.

Students are provided with a small collection of stimulus readings and suggestions for additional sources and are asked to submit a proposal for a paper to be delivered in an online conference. The proposals are graded and students each prepare anonymous peer reviews of two proposals. The reviews are also graded. Using the grading and reviews for guidance, students complete their papers, which are presented online and used as the basis for discussions hosted by the authors of the papers over a three-week conference period. As a final

activity students are required to select a small number of papers from the conference and write an introduction to their collection.

The assessment descriptions and criteria are based on those used in real conferences. The work produced is authentic to the extent that some students have used the class to prepare and trial papers they intend to present at real conferences. Others have decided later to present their paper, or a variation on it, at a conference or submit it for publication. Several have succeeded in having their work published.

Students appear to enjoy the opportunity to explore their own topic to some depth and to share their enthusiasm for it with a receptive audience. They are also stimulated by exposure to the variety of ideas presented by their peers.

Vignette 2.1.4: Modelling the principles of sound instructional design (Shirley Reushle)

FET5601 *Instructional Design for Flexible Learning* is a foundation, postgraduate course. It aims to provide learners with knowledge of the principal and commonly adopted theories and processes of designing instruction for flexible learning environments, and the ability to apply these theories and processes to practice.

The main objective of this course is to prepare participants to design flexible programs within their own work situation while providing a sound theoretical base to inform their design, development and implementation decisions. The teaching and learning principles that underpin the design of this course reflect those discussed in section 1.2 of this report. These principles are modelled throughout the progress of the course and include:

1. the development of a supportive and productive working environment where participants can access, comment, and interact, and their progress is monitored.
2. a focus on situated learning. The activities and assessment support the concept of situated learning that is based on the idea that if knowledge is learned in a meaningful and relevant context, it will be used in that, or similar contexts.
3. authentic activity and assessment that requires participants to develop an instructional program (or part thereof) to be used in their own work situation. The facilitator provides feedback that is meaningful and timely on the activities and assessment items.
4. interactive learning. Participants are encouraged to interact with the content, with their peers, with “experts” in the field and with their facilitators.
5. use of reflective practice. Participants are required to reflect on their current practice and relate it to the learning acquired through this program.

Formal evaluation data collected at the end of semester 1 2004 through the online evaluation form (63% response) indicate success in achieving the outcomes of the course. The learner responses reflected an appreciation of the pedagogical principles related to collaboration, interaction, authentic tasks, social presence and reflective practice, and the importance of a combination of flexibility and structure. Despite the learner-centred focus, this feedback also emphasises the important role of the teacher/facilitator.

What did you find were the most helpful/effective aspects of this course?

- *Developing an online 'community' of learners which allowed interaction and exchange of thoughts and ideas.*
- *The format in which the study material was presented was helpful and very accessible with good use of links and interaction.*
- *The emphasis on collaborative learning i.e. use of discussion activities posted to group areas (including wrapper and self-assessment activities) facilitated group discussions.*

- *The interaction between course participants, and knowing that people are willing to share ideas and resources. The modular sequencing of subject matter, and specific dates for completion.*
- *The announcements and emails which I found to be extremely motivating during a hectic work period. They are primarily the reason that I was able to keep going.*
- *The resources (both within the course material, the ones we were directed to, the ones we found for ourselves, and those discovered by fellow students) were invaluable. Useful modelling for how to run an online programme at Post-grad level has provided further experience for me to draw on when discussing communication techniques with teaching staff embarking on online delivery for the first time.*
- *The structure of the study materials were laid out from the beginning - it made mapping my study path clearer. A new dimension and vision in designing instruction, online or otherwise*
- *Flexibility to adapt course to my own teaching context.*

Vignette 2.1.5: A practical (hands-on) course with graded activities (Peter Albion)

This vignette describes a course that encourages students to support each other as they work through a series of challenging practical activities in multimedia creation.

FET5622 *Creating Interactive Multimedia* has been offered in its present form twice each year since 2001. Enrolments have typically varied between 40 and 60. Students are distributed around the world, study the course completely online and have varying degrees of prior online and other technical experience.

The impulse for creating this course arose from experience with a previous version of the course, which was taught in 1999 and 2000. A substantial part of the assessment in that version was built around a requirement for students to propose and justify a project. Many students selected a work project, which had the advantage of being realistic and relevant but such projects often had restrictions, which limited students' opportunities to demonstrate a range of learning. For example, students could argue that certain media elements, such as audio or video, were neither required nor appropriate in their project. Hence they had neither need nor opportunity to demonstrate the relevant skills and there was great dissimilarity among the standards, both in difficulty and performance, of work submitted for assessment. Ensuring comparable assessment under these conditions became very difficult.

In the current version, the open-ended project work was replaced by a series of carefully sequenced exercises based on examples provided in the materials. This approach was adopted to ensure that so far as possible all students would gain a similar range of basic skills in multimedia creation and to provide clear models for development of those skills. In one example of an activity sequence, students write a haiku, set it as text in a font they select and convert the text to an image for display in a web page. They subsequently embellish the image, animate it and record their own voice reading the haiku mixed with music or sound effects. The sound and image(s) are then presented first as a QuickTime movie and later using Macromedia Flash. This process affords students opportunity to practise a variety of skills on the same content and to compare the capabilities of various multimedia tools. Assessment of these components is by presentation of an online portfolio based on the individual activities. Students have substantial flexibility in some elements but a very clear structure within which to develop core skills.

At each step students are encouraged to share their creations with their peers by publishing them on a web page and posting the URL to the course discussion area. Students are able to ask other students for information about how they achieved particular effects. They are also able to seek direct support from course staff when they experience difficulties.

Students report that they enjoy the hands-on nature of the course and, despite the often steep learning curve, most seem to find the course satisfying and worthwhile.

2.2 From Correspondence to Networked Learning

Vignette 2.2.1 Moving from external or online delivery mode (Kaye Cleary)

This vignette describes the introduction of a networked learning element into a correspondence style online course as it evolves from its heritage of independent students, stand-alone resources, and instructor-student interaction principally through assessment feedback. Examining this in the context of Garrison, Anderson & Archer's (2000) community of Inquiry Model, focus was on the cognitive presence which was supported by earlier activities to establish a social entity.

The networking was to encompass both professional and social networking in an online learning environment. The course was rich with elucidation and theoretical content, but light on embedded discourse. The latter was to be developed on-the-fly. The approach, influenced by Laurillard's (2002) conversational framework applied constructivist principles: learners to be actively engaged; synthesising new material within situated contexts. As learners use real, concrete situations as the base, the learning activities emerging from this are authentic. The online environment provides the forum for communication about these activities.

The moderator's role in the activity is to encourage student learning via a balance of instruction (directing student engagement with course notes and readings - theoretical and principle-orientated material) with facilitating contextualisation and situativity through discussion and assessment. These discussions were to be, in essence a "wrap around" the core of a more traditional distance education course.

The challenge was to direct student attention away from the rich static content sufficiently to: (a) value the formative work as a productive investment of time when not assessed; and (b) achieve contextually relevant working definitions of key concepts (when students were often unaware that they were working from different definitions).

The pilot was structured to support the first assessment task that situates the final, substantial assignment. A goal-directed discourse where timeliness was an important consideration as the task fed into their first assessment task. A series of phased interactions were instituted as 5 or 6 learners indicated that they were ready for this interactive phase by posting a topic that they will investigate in a forum.

Three dialogical phases of structured interaction began, where learners formed a circle of interaction, responding to the posts before and after theirs.

Phase 1. Asks clarifying questions of the person who posted before them, and responds to the same sorts of questions from the person who posted after them – an interrogation of their own situation.

Phase 2. Having clarified the situation and context of the learner who posted before them, each learner uses the course materials and readings to suggest an investigative approach that might work in their colleague's situation, they identify the strengths and risks associated with their recommendation.

Phase 3. Concludes by responding to the suggestions made by their colleague, with an assessment of how well the suggestions fit what they themselves had in mind and proposes a complementary approach to minimise the risks identified.

This culminates in the first assignment where each student contextualises their own proposal in a theoretical, multi-method framework.

This was a voluntary activity; some participated, others did not. It is not possible to attribute cause, but those who participated in the "circle" were more likely to be in the top half of the class grades. They may have been more motivated, had fewer challenges in the semester, or may have directly benefited from the "circle". Some learner comments:

- *I found the theories to be very useful. They gave me some other models and approaches that I was unaware of. The feedback... was very excellent. Specific feedbacks were written so I knew exactly where I went wrong.*
- *The course was most helpful in providing insight into the process of evaluation and in allowing me to share those insights with peers.*
- *If it hadn't been for the structure of the course, the layout and activities, it would have been difficult for me to succeed due to my tough schedule this semester.*
- *The discussions weren't too much that you would be lost in it, so those helped as well.*

Vignette 2.2.2 Models of practice in e-pedagogy (Petrea Redmond)

The course **EDU5471** ran online during semester 1, 2004 for the first time after being converted from an external course. It has a range of students within it from local students in undergraduate courses and national and international master's students.

This vignette describes how networked computing technology was used in a new online course to expose students to collaborative learning in an asynchronous online environment. This approach is consistent with the Steeples et al Framework (figure 1) where the combination of the task (an online debate) and the environment (including asynchronous group discussion areas) provided the infrastructure to achieve the pedagogical strategy of collaborative learning via asynchronous discussion.

Historically, online discussions have been used to provide timely information, clarify issues, provide additional stimulus material, establish a means of communication between students and between the students and the teacher at any time any place, and enable students to co-construct knowledge, or solve problems. They provide an opportunity for interaction in widely distributed groups. Several pedagogical advantages have been observed including:

- students have time between messages which allows for reflection,
- non-native English speaking learners have time to read and compose answers,
- students are on more equal social footing due to lack of visual cues which may prejudice interaction in face-to-face situations,
- many to many interaction enhances learning,
- answers to questions can be seen by all students even if they don't ask the question and
- the process of learning more visible.

The aims of the online debate task were to develop deeper understanding of the topic and to improve analytic and communication skills of pre and in-service teachers through the formulation of ideas, defense of positions, and critique of counter positions.

The approach to the task was based on notions of learning communities, collective intelligence and social constructivism where students engaged a range of electronic interactions (individual to group, individual to many, group to group, and group to many) in order to negotiate meaning and develop both shared and individual understandings. Following from the advantages of asynchronous discussion identified above, the online debate was used as a method to promote interaction within the student body, rather than students individually responding to the lecturer's questions.

This task provided scaffolding for purposeful online discussion. The structure for the debate including guidelines, resources on online debating and timelines for each section were given to the students. The debate topic and mode of debate was authentic and accompanied by some stimulus resources for both sides. The students' responses to the debate meant that they were assessed as they were learning and not just what they were learning: assessment for learning rather than just of learning.

Within the environment, groups brainstormed and synthesised their ideas, comments, and rebuttals. The student activity was discussion leading to the collaborate learning related to the debate topic and their use of asynchronous online communication. Students were able to actively build on the comments of their peers

and they constructed increasingly sophisticated points as the debate progressed. The asynchronous element of the debate gave people time to make considered/reflective comments rather than shoot from the hip. Many students completed additional research beyond the information given to assist with the development of their groups' arguments.

In retrospect, the task enabled students to develop a closer knit in terms of their learning community and provided scaffolding for their discussions. Students were motivated to participate, possibly due to several reasons: their contributions were part of their assessment, the topic was of interest or they were interested in hearing what other from different countries and different teaching experiences had to say.

Students commented that they task was enjoyable and worth while in terms of developing their understandings. One student who went on to complete another online course commented that he found "the course content and structure interesting...doing group work and debates with international colleagues was a new experience."

2.3 The Blended Environment

Within this section the emphasis is on the use of the online environment within face-to-face and distance teaching. For many years the Faculty of Education has supported traditional face-to-face and distance teaching with the use of online discussion groups. This has occurred at undergraduate, masters and doctoral levels.

Vignette 2.3.1 Mixing online elements in a face-to-face course (Peter Albion)

This vignette describes the use of computer mediated communication to support and enhance learning in the context of a face to face course offered across two campuses.

The course, **EDU1471 Technology Education**, is required in the final year of the BEd (Primary). It has been offered each year since 2002 with enrolments of around 130 in Toowoomba and 30 at Wide Bay campus. Students are familiar with WebCT but typically have not made extensive use of the discussion facilities.

The course deals with the broad Technology Key Learning Area (KLA) rather than Information and Communication Technology (ICT) but it was thought important to model integration of ICT. No printed materials, other than 2 or 3 one page handouts for use in tutorials, are produced for the course. All schedules, assessment information and other materials are distributed through WebCT. Lectures are recorded using iPLOD for use at Wide Bay where a tutor conducts the classes.

WebCT discussion forums are used to support preparation for a debate in which each of the six tutorial classes in Toowoomba is assigned to the affirmative or negative side and required to provide one of the speakers. Wide Bay students participate in the online preparation but conduct their own debate. Preparation begins with students working through a WebQuest out of which they prepare a position paper from the perspective of one of four nominated roles. These papers are used to inform preparation for the debate. Tutorial classes are assigned to teams and WebCT group functions are used to create affirmative and negative team areas restricted to members of those teams. Coordination of teams and division of work among the speakers is managed primarily through the discussion groups although students can meet if they wish.

A second significant use of the online environment occurs in the major assignment, which includes the development of curriculum resources which are shared with all students in the course across both campuses. Most groups opt to distribute their materials on the WWW and typically use the discussion groups to facilitate collaboration during development of the materials.

The high level of activity in online discussions associated with the debate is probably the result of multiple factors. Basing a small component of assessment on contributions ensures a level of participation but the quality of that participation is also supported by the selection of an appropriately stimulating topic and the use of the WebQuest process to gather material that informs the discussion.

The success of the curriculum material development appears to be linked to its authenticity. Students are encouraged to develop and share resources for which they can see a real purpose.

2.4 Cross-campus Offerings

This section refers to the use of online resources to assist in the management and delivery of courses offered and taught across both Wide Bay and Toowoomba campuses.

Vignette 2.4.1 Flexibly delivered on-campus course (Jerry Maroulis)

EDU2441: Environmental Education is an on-campus undergraduate course that was one of the first flexibly-delivered on-campus courses at the USQ. It was developed in flexible-delivery mode in 1998 specifically to cater for cross-campus (Toowoomba and Wide Bay) students. For the 4 years from 1998-2001, as a core course in an earlier BEd (Primary) program, student numbers have averaged about 290 students per offer. Since 2001, EDU2441 was only available in the BEPR program as an elective. Despite this, student numbers across both campuses have been very encouraging with enrolments ranging from 80 in 2002 to 97 in 2003 and 130 in 2004.

This flexibly-delivered course provides students at both the Toowoomba and Wide Bay campuses with choices regarding the timing and format of course content thereby offering students the opportunity to make decisions about how they wish to engage with their course content and course materials. This approach accommodates the changing demographics of the student body undertaking pre-service teacher education university studies. It is widely acknowledged that there are increasing numbers of mature-aged students and students with part-time work demands. Traditional content delivery and rigid timetabling placed additional demands on the limited time that students have available to balance their work, family and study demands. In general, the flexibly-delivered nature of EDU2441 has been embraced by the student cohort.

The content of the course was provided in a variety of formats (PowerPoint lectures (non-audio); iPLOG recordings (audio-enhanced PPT), audio taped lectures; videotaped lectures; web site resources). In addition, electronic discussion groups, video-conferencing and web resources supplemented the normal face-to-face lectures and tutorials.

The course utilised a constructivist approach to the learning especially relative to the main assessment task where student groups created learnscapes in school and council grounds. The schooling community at both Toowoomba and Wide Bay has embraced the student work and have in many cases developed these learnscapes on their school grounds.

Vignette 2.4.2 Maximising the online experience in an on-campus course (Jerry Maroulis)

PRI1491: Content Studies for the Middle Years is a 1st year course offered for the first time in 2004 in the new BPMU (*BEd (Primary and Middle Schooling)*) program. With enrolments over 220 students (160 in Toowoomba and 60 at Wide Bay), this course is designed to provide a 'content refresher' in a number of content areas relevant to the Middle Years (Years 4-9) of Schooling.

Within the course, students complete 3 of 6 modules, choosing either Science or Expressive Arts; Mathematics or Information Technology; and SOSE or Health. Experienced middle school teachers have been recruited to develop each of the course content areas. The materials for the 6 modules are recorded using a new software application, Macromedia Breeze, to provide higher quality, editable audio-enhanced Powerpoint content material that is more interactive, more professionally presented and more user-friendly than the current approach involving iPLOG. The first week of the course is the only time that students in PRI1491 have any face-to-face contact with the course examiner at either Toowoomba or Wide Bay (synchronous lecture). The remainder of the course is undertaken fully online using WebCT Vista. At the end of Week 1, all students are assigned to study module groups to spend 4 weeks engaging with the relevant content (12 hours of lectures) for each of the 3 modules. Discussion areas are set up for each module as well

as chat and electronic whiteboard facilities. Relevant electronic readings are also included in each module. Assessment is also undertaken online in the form of a series of CMA quizzes with each quiz occurring at the end of each 4-week module.

There are many reasons for the structure of this course development:

- To provide pre-service teachers with a taste of online learning environments.
- To appreciate through experiential learning the strengths and weaknesses of this approach.
- To allow pre-service teachers the opportunity to reflect on this approach and to start brainstorming what the possibilities may be for their own future classrooms.
- To engage pre-service teachers with educational technology in an attempt to familiarise and demystify concerns about the use of computers.
- To allow students to address some of the Education Queensland ICT requirements via this course.
- Offers equity between both the Toowoomba and Wide Bay students as all on-campus students experiencing the same learning environment.
- Allow students to see and use different electronic forms of communication (synchronous and asynchronous).
- To generate the course materials for the **WebCT Vista Learning Management System** for this year, and then next year, to move to the development of either CD's or DVD's.

Finally, the approach taken in this course is an important benchmark for the faculty. It provides valuable insights into understanding the issues associated with online delivery for on-campus undergraduate pre-service teachers. This will help to inform our practice, using the current PRI1491 course as an example, to consider the possibilities of other Breeze recorded materials for use with both Toowoomba and Wide Bay students and at our new USQ campus at Springfield (scheduled to commence in 2006), in addition to facilitating future plans for an external offer of courses in the BPMU program.

2.5 Consultancies

Within this section, examples of how the Faculty of Education has leveraged online facilities to assist with consultancies are discussed.

Vignette 2.5.1 The Singapore experience (Shirley Reushle)

This vignette describes *Design and Facilitation of e-Learning*, an online course with a professional development focus, which is not part of a USQ-accredited program. This course was designed to equip participants with the relevant knowledge and skills to meet the needs of their own students as they move into the e-learning environment. The course was offered to the Ngee Ann Polytechnic, Singapore in 2002 to 31 polytechnic teachers. Following an evaluation of the first offer of the course, a second offer was prepared and delivered to another cohort of 26 polytechnic teachers at the same institution in 2003. As part of an authentic learning environment, the course has a problem-based, project-based approach. It is designed and facilitated with a tight integration between interactive online activities, key professional readings, active online discussion forums and the client's negotiated work-based projects. Where possible, the practical application of theories and concepts developed in the readings and discussion forums are demonstrated through the use of exemplars drawn from post-compulsory contexts. The learning and teaching philosophy underpinning the design of this course reflects those characteristics discussed in section 1.2 of this report.

The course aims to have clients achieve the following outcomes:

- gain knowledge and skills in online teaching by experiencing the online environment in an authentic context - as a learner with a group of professional colleagues; and
- gain knowledge and skills in the conceptualisation, instructional design, development (including instructional and assessment strategies), delivery and evaluation of an online course or online materials.

Key elements of the course include:

1. an orientation workshop visit by USQ personnel to the client institution (2-3 days).
2. a facilitated, online course for a 10-week period equating to approximately 4 hours “contact time” per week. USQ provides online course materials to all participants but is not responsible for providing any printed materials or Library materials to any participant. The client institution may choose to make printed copies of reading materials and distribute to participants.
3. ongoing online interaction between participants and USQ teaching staff through discussion groups, synchronous chat and email facilities. The consultative nature of the course means that the e-learning facilitators from USQ are involved in giving specific coaching and are available for consultation with the participants on their specific project work.
4. ongoing support to participants as they develop their individual course materials.
5. either a face-to-face, or a videoconference session with USQ at the end of the course to enable participant presentations of completed course materials.

A peer-learning partnership option (Eisen, 2001) is offered to client institutions. This involves members of the client institution, who have relevant experience, providing the following support to course participants:

- local contextual information and workplace examples;
- online and face-to-face forum activity including sharing of ideas and experiences; and
- support in pacing of the program.

Anderson and Boud (2001) consider the advantage of peer learning is that it offers a two-way, reciprocal learning experience and the opportunity for students to teach and learn with and from each other in both formal and informal ways, with mutual, interdependent benefits. This focus on collaborative, face-to-face and electronic discussions amongst participants aims to nurture mutual sharing and learning. The interaction is encouraged to extend beyond the course itself in order to promoting professional exchange and develop a learning community.

This project forms the basis of Shirley Reushle’s doctoral studies and is being used to guide the development of a design framework for the professional development of educators in online environments. The outcomes of the evaluative research will be reported in the final thesis.

2.6 Professional Learning Communities

This portion of the report discusses the use of online facilities to promote and engage educators in professional learning communities.

Vignette 2.6.1: Virtual Doctoral Conference: Towards a distributed professional learning community (Ben Kehrwald)

This vignette illustrates recent work within the faculty to re-imagine support practices in the doctoral programs. Within this vignette, the principles from Steeples et al (2002) (Figure 1) are applied to development of networked learning opportunities for a distributed professional learning community. In particular, it highlights the connective potential of networked communications technologies for both formal and informal learning.

Within in the Faculty of Education at USQ, the doctoral programs serve a diverse group of both full- and part-time students located around the world in a wide variety of professional contexts. A recent review of learner support services in these programs identified the need for a re-conceptualisation of place-based and time-dependant modes of learner support in order to serve the idiosyncratic needs of individual learners. In particular, the following areas were highlighted:

- Need for redevelopment of placed-based ‘residential school’ because of time constraints and physical distance.
- Need to provide flexible learner support in the areas of guidance and supervision for domain specific research and scholarly activity; general research skills; motivational support other affective benefits of successful learning programs; support with administrative policies and procedures; and identification of clear pathways in the doctoral programs.

Previous support mechanisms (e.g. teleconferencing, one-to-one correspondence) had proved ultimately ineffective and unsustainable for such a diverse and dispersed group.

Drawing from community-based models of professional learning and socially-situated learning theory, it was anticipated that goal-directed (e.g. content specific, activity related) interpersonal interaction could help address learners’ needs for support. The Faculty recognized an opportunity to utilize its technological infrastructure to design and develop a highly flexible support mechanism which leveraged the power of networked communications technologies to connect individual users from around the world and allow them to access support.

As a first step, a virtual conference was proposed to allow students and staff to interact and discuss critical issues related to doctoral study. The conference was hosted by the Faculty and staged on the Blackboard online platform provided and maintained by Next Ed. The webspace was customized to structure the ongoing conferences and allow participants to manage content that emerged in the conferencing process. Individual topical conferences were run by presenters who took responsibility for sourcing content and facilitating discussions. All conferences were asynchronous and staged over a number of days, allowing participants in all time zones to contribute to the discussions. .

In all, 24 staff members and 37 students participated in the conference and feedback was generally positive. Students commented favourably on the opportunity to interact with both FoE academic staff and their peers and highlighted the benefit of and need for more regular opportunities for interaction and/or dialogue. A number of participants indicated a desire for similar conferences in the future.

As a result of the conference, the faculty has realized a number of benefits for both the doctoral cohort and the academic staff, including:

- the potential of networked computing and communications technologies to provided sustainable ongoing learner support. The opportunities for flexible interpersonal interaction afforded by the technology made the conference more inclusive and accessible than past on-campus residential schools. It also provided the opportunity for ongoing activity over an extended timeline that would otherwise be impractical for students who are also busy professional educators.
- the opportunity for the development of an ongoing distributed professional learning community consisting of both FoE staff and research students. Benefits of such a community include increased professional and scholarly opportunities for participants, professional development of staff and students and the potential for dissemination of scholarly work through the development of an extended professional network.
- the enrichment of the faculty’s research activities through improved linkages between students and staff with similar research interests, increased opportunities for collaborative research and development of profiles for faculty research institutes inside and outside the university community.

Future work in this area will include continued development of an ongoing online doctoral community webspace and generation of integrated online spaces to support faculty research initiatives.

Vignette 2.6.2: Undergraduate and Masters Students involvement in professional online communities (Petrea Redmond)

This vignette describes students' learning from their membership of online professional communities and illustrates the mutually supportive role of social presence and cognitive presence in promoting discourse as in Garrison, Anderson and Archers' Community of Inquiry model (figure 2).

Students at both the undergraduate (On-campus at both Toowoomba and Wide Bay) and postgraduate levels who are studying an online course have been asked to join 2 relevant online professional communities, for example: QSITE, Oz-teachers or Beginning Teachers discussion lists. It was suggested to the students that they read and observe prior to actively participating in such forums, however their participation is part of their assessment.

The purposes for asking students to be involved in online communities include investigating:

- ICT as a professional communication tool
- Expected behaviour and possible topics within online communities
- The advantages to joining a professional online community

As part of this activity students experienced the importance of concepts such as social and cognitive presence as dimensions of belonging to an online professional community. Undergraduate students have found it beneficial to join an online community prior to graduating to broaden the network of teaching professionals they have contact with and also as an indication of the broad range of knowledge, skills and experience in-service teachers have in terms of ICT integration and other contemporary issues in education. For many of the undergraduate students it was eye opening to find out what the in-service teachers didn't know or were developing shared understandings of. In addition they found that in-service teachers were able to point them to a range of useful resources which they have used for both assessment items and during their professional experience.

Students are assessed regarding their participation within the online communities and also their reflection on the type of people involved in their professional online learning community, the types of topics discussed and their perceived benefits of joining an online community.

Vignette 2.6.3: Undergraduate students' involvement in online professional development and mentoring and co-planning with in-service teachers (Petrea Redmond)

This vignette describes a pilot project occurring within the Faculty of Education in partnership with Education Queensland. The project explores the role of Education Queensland's 'Writing Online Courses' (WOC) Course as part of pre-service teacher education and as a mentoring opportunity between pre-service and in-service teachers.

There are a small group of on-campus primary and secondary pre-service educators majoring in ICTs who are participating in Education Queensland's WOC course as part of edu4472 (Internet for Learning). The WOC is an online course created for in-service teachers to develop planning skills and provides them with credentials to publish online courses on Education Queensland's "Blackboard" environment. This is a pilot arrangement with Education Queensland for pre-service teachers to participate in the WOC course with our students being the first pre-service teachers to engage in the course.

The purpose of the pre-service teachers' involvement is to:

- Participate in an online course
- Develop a learning community of pre-service teachers who have participated within the course
- Gain EQ certificate prior to graduation in the WOC course to enable beginning teachers to "hit the ground running" without additional professional development requirements in terms of the blackboard environment
- Link with an in-service teacher to write and publish an online course
- Promote online courses to in-service teachers.

The approach taken in the course is related to the Community of Inquiry model (Figure 2 above). Through participation in the WOC community, students' cognitive presence and social presence were overtly displayed as they engaged in professional conversations and other reciprocal learning transactions with in-service teachers. Within the course, students are expected to upload activities for constructive criticism by their peers as a means of improving the quality of the final item.

In terms of learning within the context of USQ courses, participation in the WOC course has become part of the students' assessment and has the further benefit of them gaining a credential from Education Queensland. The authenticity of the task provides an ideal learning situation for our students. Also, the mix of primary and secondary pre-service and in-service participants has created a rich learning community with range of skills and experiences from which to draw.

This trial has just begun. There were an overwhelming number of requests from in-service teachers for our pre-service teachers to co-plan and publish an online course for specific classes. Initially there was an issue negotiating with EQ however they are happy to have pre-service teachers on board and for the pre-service teachers to mentor in-service teachers regarding online courses. In some cases the in-service teachers had a simplistic view of what an online course might look like. EQ has asked for the courses which are co-developed to be made available for all EQ teachers.

Vignette 2.6.4: Undergraduate students' involvement in online professional development (Petrea Redmond)

This vignette describes pre-service teachers piloting of an Education Queensland online course prior to its release to in-service teachers. This online course was based on the Community of Inquiry model (Figure 1), which required social, cognitive presence, by the participants in addition to a supportive teaching presence by the online facilitator.

Several Wide Bay on-campus undergraduate students and a Faculty of Education staff member are trialling Education Queensland's ICT short course. This course is an online professional development course for in-service teachers which focuses on authentic planning, teaching and learning and the integration of ICTs as part of the learning process. The students involved will receive credit for EDU2473 (ICT for educators) if they successfully complete the on-line course.

The faculty's involvement with this learning community began with Associate Professor Peter Albion and myself having a role in the development of the course during 2003. Our students are now trialling the course prior to it being made available to in-service teachers.

The purpose of the staff and student involvement include:

- Continued support and participation in Education Queensland's ICT learning community by staff members
- Introducing pre-service teachers to sections of that learning community
- Providing students an opportunity to participate in an online learning community
- Provide students an alternative to completing EDU2473 on campus during semester 1.

This pilot has just begun; no evaluation has yet been completed.

Students assessment will be part of the online course they are participating in which is an environment which practicing teachers will also be involved with in the future.

3. Research and Scholarship

Research efforts by Faculty of Education academics have been focussed on online environments. Selected examples organised under the following headings can be found in Appendix 1:

- Reports
- Conference Presentations
- Journal Articles
- Book Chapters
- Invited Presentations
- Book Reviews
- Other

3.1 Research Centres

The Learning Futures Institute (LFI) is multi-disciplinary. Its members bring a variety of research perspectives to bear upon the complex issues surrounding learning futures with a particular emphasis online. They have expertise in education, computing, psychology, management, instructional design, courseware production methods and evaluation.

A current example of the LFI's multidisciplinary project is SOLE (Secondary Online Learning Environments). This project is investigating the use of networked computing technologies to support secondary education for rural and remote learners.

4. Conducting Evaluation

4.1 2004 Evaluation of Faculty of Education Online Postgraduate Programs

At the beginning of 2004, three members of the Faculty of Education (Kaye Cleary, Linda Mangubhai and Shirley Reushle) conducted an evaluation of the Faculty's online programs. The overall aim was to explore the characteristics of effective and sustainable online pedagogy.

The programs are: postgraduate, transnational, and fully online. They comprise the Master of Online Education, Master of Flexible Learning and Master of Education Technology. The learners mostly work in online or technologically-enhanced teaching and learning environment and hold diverse professional qualifications.

The programs have been offered for 8 years and the courses have class sizes varying from 20 to 90 students. Since 1997, the teachers have been exploring a variety of pedagogical approaches and conducting ongoing research into the effectiveness and sustainability of the programs. However, the 2004 Evaluation is the first extensive program-wide evaluation conducted, and complements the regular end-of-semester course evaluations.

The programs are held in high regard by the University and have been used on various occasions to promote the success of USQ as being the "e-University". These programs are the University's only fully online programs (not courses).

In order to gather data, a series of online focus groups were organised. Because of the diverse locations of the participants, most focus group activities were conducted in the online environment. The following stakeholder groups were used:

1. *Advisory Group* (membership from Edith Cowan University, WA; Swinburne University of Technology, Vic.; University of Newcastle, NSW; University of Wollongong, NSW; University of Auckland and Wellington Polytechnic, NZ; Ngee Ann Polytechnic, Singapore; and students and graduates from Canada, UAE, Switzerland and Germany). The aim for this group was to provide expert review, advice and verification of findings.
2. *Student Focus Group* consisting of 14 current online postgraduate students.
3. *Graduate Focus Group* consisting of 12 graduates of our programs.

4. *Tutor Focus Group* consisting of 9 online tutors who had worked with course leaders in our online courses.
5. *Teacher Focus Group* consisting of the online teachers in the Faculty of Education.

A series of questions were posed to these focus groups and data were examined under three categories – pedagogical, administrative/organisational, and technical.

The findings support the concepts proposed earlier in this report which define the characteristics of sound online pedagogy. A summary of these findings include:

1. The learners value a learner-centred experience where interaction and collaboration between peers and with the teacher are central to the learning process. Teachers who facilitate such interactions are highly regarded.
2. An online learning environment should be readily modifiable throughout the semester to enable the re-focusing of learner attention as different phases of interactive learning unfold. Technology-enhanced environments are viewed as teaching and learning contexts (consisting of both dynamic and static content), not mechanisms for resource delivery or self-paced, individual study packages.
3. To offer programs across diverse contexts and cultures, learning activities must be authentic and contextualised by the learner. Reflective practice is critical to a high quality, learning outcome.
4. Learners need to feel valued and part of a dynamic, and preferably ongoing, learning community.
5. Support structures should be designed as a “one-stop” access point. Support is particularly valued by learners when it encompasses a web-based orientation to the online environment (i.e. the “demo course” available on the USQOnline website at <http://www.usqonline.com.au>); clear and comprehensive web-based information about enrolment patterns and administrative policies and procedures; and administrative support contact for specific, personal, administrative advice
6. USQ online learners are not drawn by traditional USQ marketing strategies. The evaluation has highlighted the lack of visibility of a co-ordinated promotion of USQ online courses. Many respondents indicated word-of-mouth or accidental discovery of courses was how they found USQ online offerings.
7. Reliable, personalised and timely 24/7 technical support is essential. This is required for situations falling outside of the “frequently-occurring” incidents, and readily anticipated problems and is particularly important when servicing national and international clients who are located in various time zones. Courses in the Faculty of Education are increasingly adopting synchronous as well as asynchronous methods of online interaction that alter the concept of “standard” 9 a.m. to 5 p.m., Monday to Friday, office hours.

4.2 Course-based Evaluation

In alignment with USQ’s policy, the Faculty of Education’s online courses are evaluated by the student participants at the end of each offering. The online evaluation instrument has been standardised and is based on the USQ Student Evaluation of Teaching (SET) survey with the addition of several “open response” type questions.

Typically, these surveys have a high response rate compared to other modes of study. This increases the validity and reliability of the data gathered providing a solid base to review the courses and pedagogical approaches used by the staff.

5. Conclusions

Section 1 of this document discussed characteristics of sustainable, quality, online learning. Among the key ideas introduced there were the need to consider the relationships among various systems associated with online learning within an organizational context, the active and social nature of learning online and continuity with good educational practice in other contexts.

The vignettes presented in Section 2 provide effective illustrations of these ideas as implemented in a variety of courses offered within the Faculty of Education at USQ. The efficacy of these approaches to online education is supported by material included in the vignettes and by the program evaluation data described in Section 4.

Out of this background and experience five propositions emerge as the basis for developing and extending online education in the Faculty of Education and more widely within USQ. They are stated briefly here and developed further in the remainder of this section.

- 1 Online learning environments enhance opportunities for learning by facilitating communication among participants within and beyond courses.
- 2 A shift in focus to learner activity makes new calls on course staff and needs to be supported with resources and staff development opportunities.
- 3 Evaluation methods devised for traditional courses will need revision in order to support quality assurance of online courses that implement more constructivist pedagogies.
- 4 Systematic research and development efforts are required to identify and extend emerging successful online educational practice.
- 5 Successful experience in online education should be leveraged both as the basis for courses in that emerging field and as a tool for increasing effectiveness in other teaching areas.

5.1 *Networking for Learning*

As USQ focuses more broadly on the transnational dimensions of education, the connectivity afforded by online learning environments becomes increasingly important as it enables us to situate learning and connect learners in a manner that is not possible in other modes.

Fully online students recognise the University through the quality of the online environment. Segmented, poorly articulating systems compromise this experience – excellence in any one domain of pedagogy, curriculum, administrative services and technical support does not compensate for mediocre experiences in the other domains or poor articulation between high-quality independently conceived systems. This is an institutional challenge as online education moved from boutique to mainstream.

Communities of interest and communities of practice are under-developed in the current system-based configuration of online learning. Professional networking, collaboration between participants outside of courses is challenging – the online environment should better accommodate the richness of a University experience such that students can readily retain contact with peers.

5.2 *Resources and Staff Development*

As profiled in figure 1 and illustrated by the vignettes, the centrality of student activity or engagement and the educators' responsibility in designing learning tasks, underpins a subtle change in the roles of both students and teachers in the online learning environment. The propensity for learner isolation in off-campus studies should be recognised and strategies developed to address this potential undermining of learning, by promoting highly interactive learning opportunities, timely feedback and peer communication.

The online environment supports a constructivist and student-centred approach to teaching and learning where the students are active participants working on authentic tasks, jointly constructing knowledge and developing understanding by reflecting on this knowledge and applying it to their local context. This cycle

culminates in students sharing their contextualised insights back to whole cohort. The facilitation function of the teacher becomes increasingly important and is demonstrated through roles such as expert questioner, consultant, resource provider, guide and sharing the control of the learning with students as a fellow learner. Such a paradigm leads to the development of a community of learners and the promotion of high quality learner outcomes.

Within the Faculty of Education there is a range of online teaching experience, from novice to expert. As the staff move into unfamiliar teaching contexts their confidence and competence are challenged. Teachers wanting to engage learners in online discussion should recognize they will assume a number of roles in four key areas: technical, social, managerial, and pedagogical (Berge, 1995). Teachers inexperienced with online education may be unaware of their changed roles and other responsibilities. USQ has a responsibility to support staff to regain their effectiveness as quickly as possible within the new environment. This is more readily achieved with a critical mass of educators. Such an outcome realistically promotes USQ as a leading e-university.

5.3 Quality Assurance

Pedagogical approaches to learning should drive the teaching, learning, course design, assessment and curriculum planning irrespective of the tools available. The use of online environments provides a range of learner centred opportunities previously unavailable through traditional distance learning. Institutional quality assurance mechanisms should capture this dynamic in both input and output (student satisfaction).

Online education strongly resonates with constructivist approaches to teaching and learning adopted by many faculty members. Traditional evaluation methods that assume presentation of content through lectures and tutorials or in the form of printed notes are not well suited to and may yield unreliable results when used in the evaluation of courses that promote the construction of knowledge through learner activity. Alternative forms of evaluation will need to be developed and validated in order to provide proper quality assurance for many online courses.

5.4 Research and Development

Online education is a constantly evolving field, ripe for research. To continue to achieve high levels of student satisfaction, the online teacher must reflect, evaluate and redesign - to become a practitioner researcher.

Our graduates are a marvelous Faculty resource. We should more actively engage them in collaborative research - many move into workplace domains that lack overt academic/research support; other return to the Faculty for higher degrees.

Opportunities to explore research areas with current students are starting to unfold. While catalysts are often course-based, these collaborative research and publication opportunities are fostered outside of, as an extension to formal courses.

5.5 Marketing and Promotion

There are significant opportunities to better exploit the online environment to enhance the profile of the Faculty of Education and USQ. The high levels of student satisfaction have promotional potential as do our developing relationships with alumni.

At least two distinct opportunities exist. Much of the experience described has been gained in the context of developing and implementing online courses about online education. As other educational institutions move towards increased online offerings there is an opportunity to continue to develop a market for high quality courses that support individuals and organizations in the process of extending online educational offerings.

At the same time, the experience can be used to support the development of online offerings in other groups of courses offered by the Faculty and USQ.

6. Future Directions

This paper illustrates the Faculty of Education's strong position in online pedagogical practices; from these experiences we offer the following recommendations for future directions:

Systems

1. Decisions about the selection, development and implementation of online learning systems should be informed by clear and consistent criteria that recognise the values of contemporary online learning and the mission of the University. These include pedagogical considerations, compatibility with core IT systems and the availability of support, including the existence of an active user community. It should be widely recognized that these systems include a combination of technological infrastructure, social infrastructure and practical activity consistent with current notions of good practice:
 - a. Technology – As these systems structure the learning experience, the technological infrastructure should support the values of contemporary online pedagogies, including active, social learning as at least equal alongside content and learning materials. Learning Management Systems or other technological tools should not only accommodate, but promote the development of social/relational learning systems and other alternatives to transmissive models of education.
 - b. Integration/Holism – Online learning systems, as part of wider professional, social and educational networks, need to appreciate holism and integrate the activities of systems seamlessly for the benefit of users. Discrete systems which create barriers and undermine holism should be reconceived or rejected.
 - c. Social Infrastructure – Online learning is about connecting people to people and values humanity. Whenever possible, online learning systems should leverage opportunities for person-to-person interactivity rather than person-to-machine (e.g. in-person support as opposed to automated systems). Furthermore, these systems should recognize and support the social/relational infrastructure of vibrant communities including the identification of roles for members, recognition of member identities, establishment of ongoing rules and norms for governing behaviour and processes which support learning as authentic participation in these relational systems.
 - d. Contemporary Professional Practice – These systems must not only recognize, but support the network values which define the power of online learning systems (connection, creating synergies). This implies incorporation of current practice within the organization from the 'bottom up' (as opposed to the top down) to identify and nurture innovative practice by those at the 'screenface' of online learning. Junior academics, postgraduate students engaged in current research and recent graduates of the online programs who hold much of the expertise needed to sustain continuous improvement and maintain the currency of the online learning programs must be incorporated into continuous improvement initiatives.
2. Where these criteria are not clearly established, coordinated efforts to develop shared understandings of best practice in online learning should be facilitated across the university with an eye toward appropriate application of technology and sustainable quality provision of online learning.
3. The online learning environment should accommodate applications beyond accredited courses, eg. "short course" provision outside of semesters with participants external to the University; "invited guests" external to the USQ participating in regular courses for brief periods; areas for Communities of Interest to support professional networking; and retaining contact with peers across the program in addition to disjunct instances of contact in classes.

Resources

4. There should be a commitment to providing sufficient resources to ensure that online learning systems are reliably accessible as integral elements of learning and teaching environments independent of time and location.
5. There should be a commitment to providing sufficient resources to support the focus on continuous improvement implied above. Suggestions include resourcing for the integration of short, medium and long term research projects; continuous staff development through training, staff exchange and activity in the wider professional community; development of research capacity in areas related to online learning provision; and development initiatives for both education technology tools (technology) and their application (pedagogy).

Support

6. Comprehensive and clearly identified support systems should be easily available to both staff and students using online learning systems.
 - a. For students, this should include access to online orientation and demonstration material prior to and during semester and 24/7 access to technical support via an e-mail and/or chat facility during semester. In person support is strongly preferred to automated response systems. Integrated, holistic 'one-stop' support systems are preferred to multiple discrete systems.
 - b. For staff, this should include, in addition to the support available to students, relevant professional development opportunities, assistance with instructional design and technical support. This should also include more integrated professional activities across organizational units within the university.

Staff development

7. Professional development should be available to support staff working with online learning systems in ways that build upon the knowledge and skills that staff bring from prior experience and assist them in developing pedagogical practices that are appropriate to the online learning environment.
8. Professional development should be offered using the online learning systems and should model good practice in online pedagogy.
9. Staff currently engaged in online teaching and learning should be afforded opportunities for further development outside the USQ community (e.g. staff exchange, wider participation in global professional communities).

Quality assurance

10. The composition of the USQ Learning and Teaching Enhancement Committee should reflect the growing importance of online learning systems to learning and teaching at USQ including the recent developments in the areas of Adult and Continuing Education; Open and Flexible Learning; Professional and Workplace Learning; and Lifelong Learning.
11. Comprehensive quality assurance processes should be established for all aspects of online learning and teaching including underlying systems and procedures, course design and materials, and implementation of courses.

Research and development

12. Resources should be committed to support research and development directed towards improving the quality of online learning opportunities offered by USQ
13. Tangible and focused support should be given for research into enhancing online learning and e-pedagogy, recognizing that practice precedes research in an emerging field. Graduates and junior academics must be encouraged to participate in collaborative research. The mentoring role of senior academics must be recognized and supported.
14. Committing resources to the adaptation of existing accredited online courses to offer innovative professional development opportunities nationally and internationally.
15. Development opportunities provided for a range of technology tools which sustain and extend current best practice.

Marketing

16. The demonstrated strengths of online learning and teaching at USQ should be highlighted in strategic marketing initiatives.
17. The positive experiences of our online students, irrespective of place and culture, can be better used as an effective promotional tool for expansion into other markets.

7. Summary Statement

The Faculty of Education reviews the online element of its courses informed by contemporary pedagogical practices to reflect and address emerging issues and trends in e-pedagogy. The Faculty also solicits student feedback as a foundation for improving the online programs. These practices provide the foundation for continuous improvement for course and teacher development and higher quality, relevant outcomes for our students. As the future is unknown, we need to monitor contemporary online practices and continue to refine and improve our online practices rather than aim for the status quo.

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APPENDIX 1: Online Education Publications and Presentations of Faculty of Education Staff**Reports**

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