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Abstract

Deakin University has established a major integrated corporate technology infrastructure in the last two years to enhance and bring together its distance education and on-campus education. This environment has been called Deakin Online. With Deakin Online rapidly developing, efforts are beginning to focus more fundamentally on how the potentials of the environment can be realised to create enduring teaching and learning value. This search must be understood in the context of the University's commitment to the values of relevance, responsiveness and innovation. The question is: how can these values be realised in the digitally-based evolving educational enterprise using the new corporate technologies and new concepts of organisational structure and function? We argue for the transforming role of the academic teacher and new forms of open academic collegiality as being critical to realise strategic and enduring educational value. Moreover, change in role and process needs to be grounded in more systemic organisation and program-wide approaches to designing and working within the new contemporary learning environments. We believe the shift from the dangers of product centricism to system-wide education design modelling situating e-learning within broader curricular and pedagogical concerns represents the best strategy to create enduring educational benefits for all stakeholder groups (notably academic teachers and their learners) while preserving teachers' sense of agency in the changing learning environments of higher education.

Keywords: Corporate technologies, systems thinking, education design, e-learning, learning organisations

1. Introduction

Deakin University, as with so many other universities nationally and internationally, has established an institution-wide approach to enhancing its distance education and on-campus education through networked, web-based technologies. The establishment of the Deakin Online campus supported by a suite of integrated corporate technologies has been progressively implemented over the last 2 years. There has been much needed focus on putting in place the necessary corporate infrastructure requiring the acquisition, deployment and development of an institutional gateway, portal, learning management system and in the near future content management and streamed audio and video

solutions. The drive to establish the infrastructure was based on a range of educational, competitive advantage, cost, commercial and legal concerns. Various institutional stakeholders have different legitimate needs and interests in supporting the various component technologies constituting the University's enterprise-level solution.

With so many technology developments, so many interests and so many possible benefits to be had through this large organisational investment, it can be easy to lose sight of the particular perspectives of the University's most significant constituency – academic teaching staff and their students. The focus can inadvertently be on products and short-term training needs. While necessary, this is not a sufficient condition for maximising corporate technology potentials, and holds all of the attendant dangers of product centricism. As with many universities now in a similar position, the enduring teaching and learning value surrounding the investment in corporate technologies must be realised, but realised in a Deakin way for Deakin staff and Deakin students. This represents a critical challenge to universities over the next 5 years. It requires ongoing significant change in the role of the academic teacher, while still recognising the centrality and criticality of the role. Academic teachers' agency vis-a-vis other internal and external parties with a stake in educating their students must still be respected. In this paper we argue that new forms of academic collegiality are required, and that institutions which are able to cultivate such powerful forms of engagement will excel in designing quality learning environments and therefore differentiate themselves in the market. Moreover, these forms need to be open to the contributions of others and based on broader systemic, programmatic concerns.

Designing for the new learning environments requires a student-centred, learning outcomes approach which sees programs of study as coherent, integrated educational experiences. We argue that education design modelling is required as a basis for curriculum review and renewal, and appropriate forms of professional development. This modelling exercise requires *expansive, peripheral curriculum design* where a web of interconnections can be mapped within and across units, year levels, programs of study and faculty/school offerings in the areas of generic student attributes, assessment strategies, and the use of various media and technologies. We believe that a systems-based education design approach is the key to help unlock the teaching and learning value of the corporate technologies for the university. It is both in philosophy and process, we believe, a critical orientation for the university as *learning organisation* wishing to continuously improve its collective learning and performance in the new digital knowledge era.

New visions for online teaching and learning in the e-knowledge age

This is a case study of an Australian University and its attempts to move towards what Taylor (2001) describes as Fifth Generation models of open and distance education catering flexibly and responsively to the needs of a diverse and broad range of learners studying across multi-campuses, off-campus both nationally and internationally using an integrated suite of institutionally supported educational and administrative technologies. Taylor (2001) locates his own institution and its directions within the Fifth Generation

paradigm encompassing automated courseware production systems, automated pedagogical advice systems, and automated business systems. Deakin like other universities is being confronted with the global e-learning challenge, and we use our own institution as a vehicle for examining the possibilities and benefits of engaging constructively with external pressures and internal responses towards institution-wide courses of action. We believe the potential educational benefits identified, education design modelling approaches suggested and cultural changes outlined in relation to the learning organisation are all transferable to other educational institutions attempting to position themselves strongly in the global e-knowledge age.

As a key objective of its Teaching and Learning Management Plan (TLMP) 2000-2002, Deakin University committed to establish the Deakin Online Campus. This commitment has been further fortified through the University's Strategic Plan Taking Deakin University Forward 2003-2007. Over the last 2 years the underlying corporate infrastructure to support this concept has been implemented. By corporate infrastructure, or, corporate-level or enterprise-level technologies, we mean those technologies which are acquired, developed, deployed and maintained across the entire organisation and used by a broad range of its key stakeholders, in the case of universities these being students and academic teaching staff. Corporate technologies are approved and funded by the organisation's Senior Executive for these broad institutional purposes. They can be compared with local technologies which, in a university setting, are acquired, developed and used in selected settings (like particular disciplines or professional fields) by more limited numbers of teaching staff and students for specialised purposes.

The Deakin Online Campus was proposed by one of six action teams, the Deakin Global Action Team (2000), with cross-faculty and cross-divisional membership established to enable the implementation of the TLMP. It was conceived as a place where Deakin students go to participate in high quality, online learning experiences and access support and administrative services online. Its aim is to provide a comprehensive learning environment through the use of online technologies to enrich learning experiences, foster improved learning outcomes, and enhance academic and administrative support services. For students who are studying entirely or primarily in distance mode, the online campus was seen to be their home campus.

The Online Campus design concept provides a convenient, dynamic platform for the delivery of online learning resources and interactive services and acts as Deakin's gateway to courses, units and services that are offered entirely or primarily in e-communication mode. The dynamics of its evolving use reflect the social and community aspects of the online experience. It is a venue for communication and interaction between and among students and staff, as a supplement to other modes of communication or as the primary mode for those who do not attend face-to-face. It exists on the University's website as a campus look-alike portal through which students access the full range of Deakin's online learning opportunities and services.

Through the online campus, the University continues to refine its positioning in the competitive e-learning market as a learning experience manager specialising in creating

integrated, interactive environments which add value to and support online learning communities. Through it the University is growing existing markets and expanding into new national and international markets.
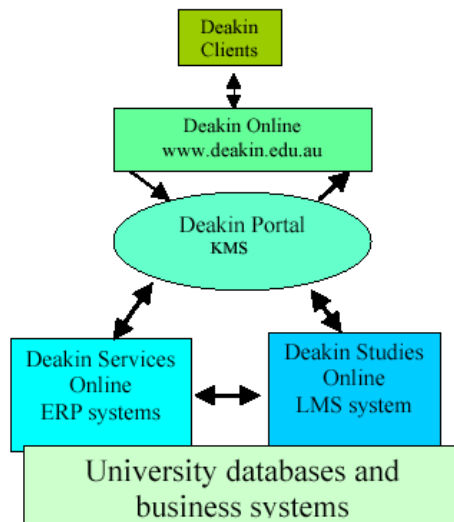
The University is using the online campus as a key strategy for genuinely creating Deakin's transition from provider-directed, print-based distance education to the new educational paradigm of flexible and interactive, student-centred online enhanced learning. The Deakin of the future will thus be a real time, real place university which uses its expertise to develop the context for successful online university experience, irrespective of the learner's location. The online campus provides a structured and total approach to the use of online technologies, which will enrich learning experiences for all students. We acknowledge that all of this is strongly aspirational, that the University is in state of transition, some may say flux, and that much work still needs to be done in shaping organisational transformation.

Deakin's commitment to the online campus needs to be understood in relation to more fundamental economic and social shifts around the move to the global knowledge economy and the lifelong learning phenomenon associated with it. Social capital is again receiving attention as the major economic resource and a sustaining competitive advantage in a world driven by the power of knowledge – its creation, storage, use and development by individuals, groups and organisations. Information and communications technologies both shape and support the creation and use of knowledge, and much is now demanded in the creation and use of these technologies for personal, professional and economic benefit. Deakin's Online Campus is an institution-wide architecture designed to generate a diversity of knowledge spaces beneficial to learning in the new e-knowledge age. The ecological metaphor is taken up by Segrave and Holt (2003) in relation to designing and working within contemporary learning environments for excellence in professional education. This perspective emphasises the multiple parties involved in contributing to the 'education' of students in the world of e-learning, the criticality of ensuring the integration of both the physical and virtual dimensions of the new learning environments/habitats/ecologies, and the organic, evolving nature of the knowledges created and used in such environments. Knowledges may be created by any combination of academic teachers, students, academic support agencies and parties external to the institution in industry and the professions etc.

The new era of enterprise-level developments

Holt, Rice, Smissen and Bowly (2001) examined the interests of the various stakeholders involved in the move towards enterprise-level technology developments, particularly relating to the acquisition and deployment of commercial Learning Management Systems (LMS). Deakin's online campus also incorporates a learning management system integrated with other gateway, portal, administrative, and soon to be acquired content management and streamed audio and video technologies. The configuration of technologies supporting Deakin's online campus is shown in Figure 1.

Figure 1: Corporate technology infrastructure supporting Deakin Online

The integrated suite of corporate technologies undergirding the Deakin online campus aims to: incorporate the web-based delivery of teaching and learning, and other web based services of the University; enhance the delivery of, and easy access to, teaching and learning; provide learning resources and communicative opportunities in a timely fashion; provide a consistent branding by having the one system interface for all parties; reduce training costs associated with the use of the environment; and reduce support and maintenance costs for the University.

The dangers of product centricism

Smissen and Sims (2002), and the accompanying website (http://www.deakin.edu.au/lms_evaluation/old/), provide a detailed view of the process our own University worked through in selecting an enterprise-level learning management system (LMS). Similar acquisition processes are being worked through for a content management system (McKnight & Livingston 2003) and a corporate solution for audio and video streaming. These major technology acquisition processes are exacting and exhaustive. Much rests on their efficacy in leading to the adoption of products which are most appropriate for the University's needs. It is understandable that those most centrally involved in these processes become pre-occupied with the particular features of a range of 'best of breed' products competing against each other in the global e-learning marketplace. This may be to the detriment of in-depth understanding of other technology products and components constituting the corporate technology infrastructure. Moreover, with an acute and narrowing focus on product and feature assessment, comes a diminution of broader fields of view surrounding the benefits (many of which are synergistic, based on interfaces with other corporate technologies) relating to teachers/teaching and learners/learning.

We appreciate the difficulty of holding all at once, a specialised examination of particular products, with broader 'notions of fit' of technologies in generating potentially synergistic and enduring teaching and learning value. However, a pre-occupation with

product, features and their promotion can in turn shape teachers' views around a similar set of usage concerns, i.e. how much work will be involved in using a new product's features (see Ford 2003a; 2003b), and constrain thinking about larger possibilities. Holt and Segrave (2003) have identified potentially new forms of technological and pedagogical disjunction – a magnified corporate technology imperative which might seem coercive rather than liberating to teachers and learners – through such narrowness and partiality of view and lines of action. A new mindset requires holistic thinking, new perspectives on the transforming role of the academic teacher, the identification of key areas of potential teaching and learning benefit, and a way of modelling and implementing a systems-wide approach to education design. These topics are covered in the remainder of the paper.

The transforming role of the academic teacher in higher education

Holt and Segrave (2003) argue in support of the changing role of the academic teacher in higher education. This is potentially transformational. Increasingly, higher education demands the academic to operate in strategic ways, using their expertise in undertaking the interrelated tasks of teaching, research, consultancy and community service. These tasks are linked with the common thread of creating, disseminating and using academic learning in the service of students and the community. The uniqueness of these interrelationships defines the special character of the academic, and the special purpose of universities in society. The new corporate technologies are supportive of a broader range of contributions being made by a broader range of internal and external parties acting in concert for the education of students, in some ways previously considered the responsibility of academics. We argue that through trust, networking and partnership academics can redirect certain aspects of supporting the learning of their students, whether it be to other educational agents in the system and/or to the technology itself through the automation of certain basic teaching/learning processes, and concentrate on those things which encapsulate and take full advantage of the academic's unique capabilities. That is, the knowledge and passion of their subject matter, their desire to support students' understandings of it through various relationships rich in personality and meaning, increasingly cultivated in both physical and virtual settings. The 'letting go' of some areas, does not mean the marginalisation of the academic teaching role in the new evolving educational enterprise, however. We are concerned when such impressions are given by those riding the wave of technologically-induced change to teaching practices. Academics'agency, their sense of being in control and being able to change things based on their own values and informed actions, is still in our view critical to the achievement of more enduring teaching and learning benefits made possible by the new corporate technologies.

New areas of potential enduring value for teaching and learning

What might be these new areas of potentially enduring teaching and learning value? Where do we look for these benefits beyond the next corporate technology acquisition? How might we achieve the benefits and sustain them based on systems-wide educational

design modelling? Elsewhere Holt and Segrave (2003) have identified six potential areas for creating e-learning environments of enduring value for teachers and learners:

- **Broadened and direct contributions** to learning environments from institutional stakeholders already involved in learning support. The resources and services of various academic and administrative support groups can be integrated seamlessly and directly with the students' virtual teaching and learning home. This provides the 'one-stop-shop' for all information and services relevant to the students' learning experiences ranging across various library digital resources and information literacy skills, information technology support and software applications, e-enrolment and tutorial allocation, and advice on academic study skills and career and employment guidance.

- An **opening up of learning environments** to diverse external participants able to add targeted value to learner experiences. External parties from the professions, industry, alumni, other teaching institutions and government can be connected using the technologies to contribute to the relevance and meaningfulness of the academic curriculum. A key area of contribution to connecting theory and practice is highlighted separately below relating to virtual practica.

- Automated **customisation and personalisation** of learning experiences for diverse student cohorts enrolled in large, multi-modal courses. One size of designed e-learning environments may not fit the needs of all student cohorts. Even within the constraints of standardised curricula, pedagogies and assessment regimes for large, multi-modal classes, various media and technology channels can be used to provide options catering for different learning styles and needs. Furthermore, resources and activities in different media formats can be selectively and automatically released to different student cohorts depending on the particular rhythms of their study, work and personal lifestyles.

- A **sharing of learning resources** within and between courses created, acquired and accessed by the institution. The technologies facilitate the institution leveraging its buying power in acquiring and accessing multimedia learning resources in high volume from external purposes for multiple internal purposes. Within the institution, home grown media objects (new and legacy) can be created, stored and (re)used in multiple ways in support of the study of disciplines and professional fields at different academic levels, or across related disciplines/fields at the same academic level.

- **Development of virtual practica** supportive of grounded professional learning that motivates and engages students. Virtual practica may take different forms from the development of computer-based simulations preparing or substituting in part for actual work placements through to communications technologies being used to support learners as they undertake fieldwork education, and in reflecting on their experiences post-placement. Additionally, along with bringing academic teaching support to the physical world of workplace learning, the technologies can bring back live, actual work placement experiences to the academic institution for immediate consideration by students on campus. All variants of virtual experiential learning can draw on collaborative as well as individual student

engagement. The notion of networked communities of professional practice is integral to the use of virtual practica.

- Development of e-learning environments ecologically responsive to teaching and learning needs and opportunities. E-learning environments should not be prescriptively designed and set in concrete forever. Through systematic evaluation of teaching and learning impacts, the new technologies should easily allow required changes in the structures, elements and resources in what should be flexible, timely and organically developing ways. With rapid change in the knowledges and know-how of disciplines and professional fields, learning environments must be designed and technologically enabled to change in concert.

Realising these potentials through adopting systems-wide education design

In the management literature 'systems' thinking has been applied to the understanding of organisational behaviour (Morgan 1997). In higher education, both Biggs (2003) and Ramsden (2003) examine the determinants of teaching for quality learning in relation to the organisation conceived of as teaching system. In evaluating the enablers and inhibitors of quality teaching they focus on the individual academic teacher in their subject context, and the more encompassing departmental and organisational contexts which impact on student learning, arguing for reflective teaching practice by the individual and the institution collectively. Systems then are bounded sets of interacting units and activities that adapt to internal and external factors over time, often to achieve expressed goals. Designing technology-enhanced learning environments requires an appreciation of the interrelateness of various teaching and learning contexts from the unit/micro domain to the institutional macro domain. Allied with systems thinking in understanding organisational behaviour, is 'transactional thinking' which emphasises the relationships between key actors and stakeholders in the organisation, i.e. the analysis of who in the organisation does what, why, when and how. We combine transactional thinking, better known in the literature as interactivity, within the broad view of systems dynamics for the purposes of this paper. Designing educational 'enterprises' required the conception of actors, roles and sets of activities which relate to the:

1. curriculum (the what and why of teaching);
2. pedagogy (the how students should be learning the curriculum);
3. assessment (how student learning should be judged);
4. media/technology (various ways curriculum, pedagogy and assessment are enacted, delivered and supported); and
5. evaluation (making overall sense of the impact of the educational enterprise on student learning).

Curriculum, pedagogy, assessment, media/technology and evaluation must be well aligned, and mutually self-reinforcing. We see these **a**reas as the five critical '***a***'s of the educational enterprise which must be well designed. All of these areas must be proactively, interactively influenced through design in relation to the differing contexts of learning and the differing experiences that students' bring to the learning context.

Within the five area alignments, seven key types of human transaction or **i**nteractivity (the 7 '*i*'s) can be generated, namely: (1) learner interaction with learning resources created by the organisation and outsourced; (2) learner-teacher interaction; (3) learner-learner interaction; (4) teacher-teacher interaction; (5) learner interaction with professional and industry partners; (6) learner interaction with academic support parties; (7) learner interaction with administrative support parties.

A similar set of forms of interaction supported by e-learning are enunciated by Garrison and Anderson (2003, pp.43-46). The potentials of the new corporate technologies can only be understood and realised if these interdependencies, and the multiple parties interacting within the designed learning environments, are identified, and informed actions taken to incorporate e-learning within these broader conceptualisations. The most advantageous uses of the technology infrastructure therefore become dependent on various domains of the educational enterprise being deliberately designed and enacted to yield these generative interactivity benefits. Often this **fusion of the 5 '*a*'s and the 7 '*i*'s** only comes through a more fundamental commitment to active review and renewal of curricula.

From course modules to the University: spiralling scope and impact of education design modelling

In putting forward the notion of education design modelling we are not arguing for a *prescriptive*, mechanistic model of how academic teaching agents should go about designing and working within different learning environments as they relate to different learning needs, styles, contexts, subject matter, and media/technology factors. That is to say, we are not arguing that this is what you *must* do, in these circumstances, to achieve declared learning outcomes. We do not see how learning environments can be so neatly segregated and treated based on systems thinking in educational worlds increasingly interconnected and changeable. We are, however, arguing for a *descriptive* type of education design modelling which sensitises academic teaching staff to the different factors at play, the highly contingent nature of designed environments, requiring deep understanding of 'local' process and context. And which are being increasingly enhanced through a range of other educational 'support' parties within and outside the organisation.

Education design modelling can occur in many different domains within the organisation. The corporate technology infrastructure provides the foundational supports for these domains of education design activity. These domains of activity are overlapping and interconnected. In relation to the core sphere of academic teaching and learning, modules belong to units, units to majors, majors to courses, courses to fields of professional study, fields of study to schools and faculties, and faculty offerings and continuing professional education through separate entrepreneurial operations to the University. Each domain of teaching/learning activity carries with it particular education design concerns, challenges and opportunities. Each requires certain types of effective academic teaching leadership and management. While teacher agency may be loosely bounded by the immediate work of designing and working within the domain, each domain must be open to, is impacted by and therefore relates to others of spiralling scope and impact. There is within the

system, a sense of smaller domains operating within bigger domains, with the overall organisational system interconnected with other potential organisational systems and general external environmental factors. An appreciation of the spiralling scope and impact of education design modelling within and between domains is critical in the effective use of the corporate technologies. Learning value is enhanced through corporate technologies supporting the enmeshing of the various domains of education design. This requires holistic appreciations which can lead to synergistic effects. Whatever the domain of education design modelling: macro; intermediate; or, micro, we argue the 5 a's and 7 i's constituting the designed learning environment must be considered. But they must be considered contingently based on learner profiling, learning context and particular concerns of the discipline/professional field of study.

Figure 2 represents diagrammatically the constellation of education design modelling domains and their interrelationships from an organisational perspective. It also shows the foundational nature of the corporate technology infrastructure and the supporting sphere of activities of other internal and external educational 'support' agents and their communities now actively contributing to academic teachers' student learning.

Figure 2: Modelling education design concerns and systems-wide impacts of education design
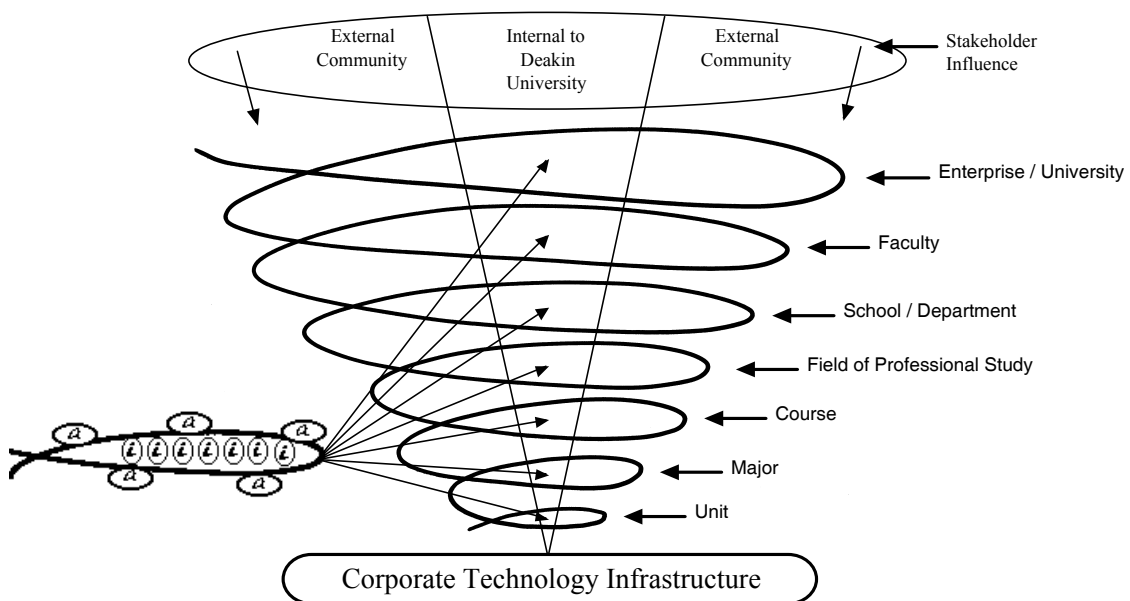
It should be noted that we advocate each domain in the organisational 'system', receiving design attention, requires an awareness of and engagement in, the reflexive design within and between the a's and i's within that domain. Of course, each will be of interest individually and in relation to others within and possibly beyond any individual domain.

Pre-conditions for innovative education design modelling

What is required to engage constructively in education design modelling whatever the domain? What is needed to realise education design intent through effective practices in the designed environments? What are the fundamental values, characteristics and practices of a true 'learning organisation' that can create and sustain enduring teaching and learning value through the corporate technologies? We see vision, leadership, trust, encouragement, reward, facilitative structures and continuity of action (especially executive action) all being important ingredients in generating real educational value organisation-wide. These are the implications for future e-learning developments at Deakin and for other universities positioning themselves to take advantage of the global e-knowledge economy. Without an understanding and commitment to enact the characteristics of a true learning organisation, universities will struggle to generate enduring pedagogical benefits through the suggested education design modelling approaches as shaped by strong teacher agency and student participation in virtual learning environments (operating within the new corporate technology infrastructure).

First, on the matter of vision and consequent policy, we find much that is compelling. Our own University has been highly consultative in crafting such things as it went about implementing its Teaching and Learning Development and Management Plans in the last 3 years. Academic teachers can rise to the challenge by allowing vision and policy to shape and infuse their own teaching practices. These strong influencers of action, however, must be seen as enhancing not undermining of teacher agency. The corporate technologies must be seen to be yielding new forms of enduring teaching and learning value. They must be located within powerful education design modelling that we have proposed. Vision and policy must be believable, it must be seen to be being followed through by Executive level academic leadership, and committed to by all levels of academic leadership and management.

Second, how can vision and policy be seen to be an ongoing positive force by those on the ground? Academic teachers need implicit or overt permission to engage imaginatively with the new forms of education design. These 'permissions' need to come at the more immediate academic leadership/management level. Encouragement and support for education design innovations may come from many parties across and outside the organisation – once the initial 'permission' is given. With this permission, encouragement and support, must come a recognition of the forms of cost to the individual in extending themselves and taking risks, and the possibilities for compensating or career enhancing rewards at some point. Academics should be considered mature professionals mostly focussed on the intrinsic interests and benefits of their work. Consequently, they are able to defer needs for immediate tangible gratification in perseverance of creating enduring value. However, teachers must have trust in their academic leadership that their efforts will be recognised, concretely supported and rewarded in time. We believe that academic leaders who themselves have had experience in education design innovation around the new learning environments and e-learning are possibly in the best position to judge the needs and achievements of others pursuing the same course of action.

Third, universities, as knowledge-based organisations, change perpetually. There can be in a sense forced or contrived, centrally driven organisational change, or grassroots, evolutionary change. Both are needed in varying degrees at different stages of an organisation's development as it relates to e-learning. The next waves of education design innovation around the new corporate technologies, however, will come from multiple, distributed areas of academic strategic thinking and action. There will be much needed diversity in approach. Within it there will be a need for continuities of commitment of effort over longer periods of time to realise the designed benefits. Continuities of effort will need to be carefully balanced against short-term imperatives to engineer change for change's sake. At Deakin creative approaches to the development of academic teaching staff are being pursued to support the next waves of diversity and innovation in the creation, use and development of digital media and online environments to enhance teaching and learning in the six key areas of enduring value. In this regard, Online Teaching and Fellows have been appointed to experiment with extended and wholly online environments, online educational exemplars have been complied and presented around the University showing how teaching staff are using the technologies to develop desired learning outcomes, and the University is developing a portfolio of cases of innovative online teaching practices available to all staff to stimulate their thinking about the new teaching and learning possibilities.

Finally, academic structures tend to be most supportive of discipline-based teaching and highly specialised research. However, structures in our University are changing in ways aimed at bringing together disciplines and professional fields around real-world concerns. The domains of education design modelling do traverse academic departmental boundaries. A strong student-centred, learning outcomes approach demands no less. It remains to be seen how academic structures might evolve, and how new structural models might work for the benefit of teachers and learners. We believe one promising 'structure' for effective education design modelling lies in *forms of communities of practice*, which we have thus far alluded to as open academic collegiality. These communities need to be nurtured around the domains of activity and can involve all parties inside and outside the organisation with a passion and interest in designing for enhanced teaching and learning within the domain. As Norris et al. (2003) observe:

> It has become an article of faith among developers of organizational technology infrastructures that the ultimate value from technology investment lies in its capacity to enable/leverage the reinvention and innovation of business processes. But the term "process reinvention" does not do justice to the entire scope of innovation. In reality, the goal is reinvent the "conversational space" of the enterprise — the dynamics and relationships of the organization that are embedded in business processes, communities of practice, and other elements of the organizational system's social ecology (Chapter 5, p.112).

Domains of education design will be increasingly overlaid across traditional academic structures in the service of designing new types of learning environments. This has not and will not happen without various degrees of organisational tension. The constructive

resolution of such tension will again be another challenge for academic leadership and management.

Conclusion

With the establishment and integration of the new corporate technologies comes the time for major new waves of innovation in relation to new types of designed learning environments, and the development of new types of capabilities to work effectively within them. We are seeing the beginnings of this emergence of new innovation in our own University. These learning environments are and will represent different combinations and permutations of the virtual and physical, contingent on the various educational enterprise and interactivity considerations outlined. In order to support and encourage the new innovations we propose that they be grounded in education design modelling from unit to University, as we have put it. The mindset and tools of education design modelling we believe provide the best way forward in exploiting the potentials of the new corporate technologies for the enduring benefits of all parties with a stake in educating the organisation's learners. Notable, however, is the need to develop new forms of academic teacher agency and student engagement with contemporary learning environments rich in e-learning. Our ongoing research will focus on the substantive evidence of achievement in the areas of enduring teaching and learning value as experienced by academic teachers and students, benchmarked against the progress made by other universities strongly committed to e-learning.

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