



Escaping to technology-based distributed faculty development: a case for reforming professional development in a knowledge organization

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This paper develops a strategic response that an academic development unit might make concerning the impact of information and communication technology (I&CT) on a university. It advises an early 'escape' from the organization theory in educational administration that treats technology as neutral. It is shown that technology helps steer the organizational assumptions of institutions and argued that I&CT should be co-opted to educational ends. A real case study is then used to suggest how a professional development unit might provide leadership in a 'knowledge organization', the University of Auckland, with special reference to technology-based distributed learning (TBDL) (otherwise known as flexible learning). It is argued that the Centre for Professional Development could help the University to reposition itself as both a dual-mode and virtual mega-university. Recent research is then used to identify appropriate organizational strategies: revision teaching and learning, reallocation of funds, inclusionary practices, appropriate technology infrastructure, balanced people infrastructure, student computer access, new teaching models, staff agreements and training, project management, and plural organizational structures. The case study concludes by suggesting issues that might also warrant institutional research in other universities: research and development in TBDL, the development of TBDL delivery systems, cost analysis of dual-mode delivery compared with TBDL revenues, and the balance between forms of educative infrastructure.

Introduction

What strategic response should an academic development unit make to the impact of the information and communication technology (I&CT) in higher education? One immediate challenge is that the organizational theories used in educational administration tend to treat technology as neutral tools. For example, they rarely consider the ideologies and imperatives that are embedded in teaching and organizational technologies. The result is that complex sets of educational, administrative and moral problems related to computers and I&CT are absent from high theory. Reflective teachers and educative leaders have been advised to 'escape' from such theory (Duignan and Macpherson 1992).

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I propose a constructivist method of organizational analysis be considered by leaders responsible for organizational learning and by theorists interested in how the reproduction and transformation of organizations can be better understood. This means regarding technology as a potent indicator of the assumptions in current use about 'the best way' of being organized. Just as old technologies once fixated organizational assumptions, and continuing technologies help legitimate current organizational assumptions through repeated practice, new technologies 'alter the structure of our interests: the things we think *about*. They alter the character of our symbols: the things we think *with*. And they alter the nature of community: the arena in which thoughts develop' (Postman 1992:20). Similarly, the consequences of particular forms of technology gaining ascendancy may also be seen in public and private thought and action. Franklin (1999), for example, found that prescriptive technologies (those that use the division of labour, coordination, planning, discipline, organization and command as production technologies) have overwhelmed the use of holistic technologies (those that leave process and quality control with the artisan and the professional). The point here is that constructivist analysis that focuses on how organizational assumptions have been formed shows that technology obtains substantial steerage on the nature of our institutions. Technology is not neutral, however invisible or silent it might be in the background.

What has this to do with educational organizations? Apple's (1991:77) blunt advice is that educational administrators should resist 'technological determinism' and ensure that the introduction of any new technology is

linked to transformations in real groups of people's lives, jobs, hopes and dreams . . . Wise choices about the appropriate place of the new technology . . . are fundamentally choices about the kind of society we shall have, about the social and ethical responsiveness of our institutions to the majority of future citizens, and to the teachers who now work in our schools. . . . Our task as educators is make sure that when it enters the classroom it is there for politically, economically and educationally wise reasons, not because powerful groups are redefining our major educational goals in their own image.

Universities were once organized to produce learned people and research outcomes in a print era. This is why they often have industrial production structures and bureaucratic hierarchies vying today with collegial and virtual networks. Those universities that provide both face-to-face contact and technology-based interaction for students have become dual-mode organizations. Academic structures once designed to manage the synchronous transmission of information and to reward mastery of concepts are increasingly being re-engineered to facilitate asynchronous and student-centred learning intended to deepen understanding and reward problem-solving. Other increasingly evident organizational forms include temporary networks and project teams being used to advance research and develop curriculum around the emergent constructs of new disciplines. Universities are also developing virtual structures, such as mega-universities, to manage their alliances, business partnerships and global marketing.

How should a faculty development unit respond in such an organizationally complex context? Can it continue to deliver services intended to improve teaching, learning, and research and support services in ways that are blind to the transformative impact of I&CT on the organization of universities? Should it follow and support developments, or should it provide educative leadership?

A case study is now reported to highlight a range of complex issues that might eventually contribute to the development of practical organizational theories for the 'knowledge age'. Since generalization from a case study is inappropriate, readers are invited to identify the issues that apply in their settings, especially organizational strategies and institutional research agendas.

A case

The University of Auckland (2000a) is New Zealand's largest and premier research university. It is a knowledge organization primarily engaged in four forms of scholarship: discovery, integration, application and teaching (Boyer 1990). It has about 1700 academic staff, about 1800 general (support) staff, and about 26 000 students. Its study programmes attract about 1000 postgraduate and undergraduate students from 60 different countries. Teaching and research is conducted in seven faculties; (a) Architecture, Property, Planning and Fine Arts, (b) Arts, (c) Business and Economics, (d) Engineering, (e) Law, (f) Medical and Health Sciences, and (g) Science.

The University is a member of Universitas 21 and the Association of Pacific Rim Universities. Universitas 21 is a network of research-led institutions of international reputation across a broad spectrum of disciplines. It has been reported that this network is exploring globalization strategies with a giant communications company to share brand values and exploit the I&CT revolution (Maslen 1999).

The University's mission is to enhance its position as a university of high international standing. One goal concerned with new teaching and learning technologies is to 'respond to the global revolution which is transforming the way knowledge is stored, accessed, disseminated, analysed and presented, or risk being left behind in educational developments' (University of Auckland 2000b). Planning at central and faculty levels has recognized the increasingly important role of technology and the need for greater flexibility in teaching and learning modes. The University's capabilities in multimedia and related educational design, delivery and support have been recognized as needing considerable investment. The Centre for Professional Development (CPD) (2000) has been asked to advance this explicitly post-Fordist strategy through the provision of appropriate educational support and professional development services. A post-Fordist strategy is characterized by product innovation, process variability and responsibility devolved to labour (Campion 1995, Renner 1995). This paper was developed to enable consultations with regard to planning for 2001.

The mission of the CPD (2000) is to assist academic and general staff to achieve highest possible standards in key aspects of their work. It is seeking to achieve this in 2000 by using selected strategies:

- providing relevant professional and personal development and training for general and academic staff,
- promoting the use of flexible, innovative, and effective teaching and learning,
- engaging in critical scholarship related to higher education, including conducting and disseminating research,
- advising, developing and supporting managers and leaders,
- assisting staff to take an active role in their career development,
- providing evaluation services and follow-up support,
- helping shape the University's policies so that they recognize, support and reward excellence in teaching, learning and research,
- providing central and local professional development opportunities,
- promoting critical reflection on current practices and related international, national and regional issues, trends and research,
- liaison with appropriate groups within the University to determine current needs and future directions, and
- improving research productivity, including graduate research.

To ensure relevance, the Professional Development Committee (PDC) governs the operational priorities of the CPD. It is advised by the General Staff Development Committee that has representation from all employee groups. The PDC comprises representatives from all faculties and the University Executive, and reports to the Vice Chancellor's Staff Advisory Committee. The Director of the CPD, the author, is line managed by the Deputy Vice Chancellor (Academic). The CPD's core business programmes for 2000 are summarized in table 1.

The need for substantial change in the CPD is not widely shared. The University community appears to consider that it has been getting value for money from the CPD. The New Zealand Academic Audit Unit (1998:14) reported that the CPD was 'highly commended by all staff questioned by the panel'. It attributed this to a number of factors: a proactive approach to improvement, a service culture, extensive use of needs analysis, active promotion of change, wide range of support and development services, improvements to the evaluation of teaching, and provision of international expertise. The Audit Unit has since identified the CPD as a centre of excellence in professional development in higher education, cited its practices and policies, and published its research.

On the other hand, doubts were raised when the CPD was asked to make a 10% contribution to institutional cost compression for 1999. This was achieved largely by cutting budgets for external consultants. It is currently trying to deliver another 10% compression in 2000 but it is proving very difficult to maintain the scope and quality of services and to raise external revenues. Staff turnover has increased. Some services and programmes have had to be rested. Another 10% cut in 2001 will involve a downscaling of services and staff. The current financial situation should be

Table 1. The core business activities of the Centre for Professional Development in 2000.

Cluster	Programmes and objectives
Academic staff budget cluster	<ol style="list-style-type: none"> 1. Teaching, learning and research programme Provide induction and ongoing development and support to academic staff in their changing roles as teachers and researchers in a research university, specifically to: assist staff to meet criteria for continuation and promotion; assist staff to develop research productivity and supervision skills; conduct and disseminate research on teaching/learning in higher education. 2. Education technology programme Advance the use of multimedia and information technology in teaching, learning and research. Research, develop and disseminate information in the field of educational technology. Advise and support the development of flexible learning policy and strategies for implementation. 3. Evaluation of teaching programme Provide standardized data and tools whereby staff can analyse, evaluate and improve their teaching, papers and courses.
All staff budget cluster	<ol style="list-style-type: none"> 1. Professional/personal development and training programme Meet objectives in the University mission, aims and strategies providing a range of staff development activities relating to: the generic professional/personal needs of all staff, technical staff, and administrative staff. 2. Computer training programme To provide initial and ongoing training in relevant software applications. To initiate new software courses in response to organizational needs. 3. Health and safety Provide relevant training to meet legislative requirements of key Acts, University policies, and special workplace requirements. 4. Human resources Provide human resources/equal employment opportunities (EEO)-related development and training opportunities for support and academic staff, based on needs identified through the University Mission document, legislative requirements and University policies, procedures and practices. Coordinate the University development review process for support staff. 5. Bi-cultural Provide development and training opportunities for support and academic staff based on needs identified in the University Mission document and in the EEO Plan. 6. Orientation for new staff programme Introduce Support and Academic staff to the University community, relevant policies and procedures and support structures. 7. Leadership and organizational development programme Advance the skills and understandings of those appointed to provide leadership. Provide women staff with opportunities to develop leadership skills and understandings. Provide support for organizational development.
Tutors' budget cluster	<ol style="list-style-type: none"> 1. Tutors' and demonstrators' programme Develop and maintain a University-wide teaching skills and development programme for all limited-term tutors and laboratory demonstrators. 2. Kaitautoko programme Provide professional development and support for tutors and other staff that work with Maori students. Establish and maintain a network for information sharing and liaison.
Admin budget cluster	<ol style="list-style-type: none"> 1. CPD administration to all programmes To provide efficient and effective administrative support to the programmes of the CPD. 2. CPD internal professional development programme Provide an environment in CPD that fully supports the professional development of each staff member, as identified in their performance reviews, and required by new directions and organizational demands, including their personal research.

regarded, however, as a short-term challenge pending a strategic review of purposes, strategies and resources that is to be completed by the PDC in October 2000. Given the wider context of cost compression, the Staff Advisory Committee will require convincing reasons from the PDC to

recommend that the University sustain or increase investment in professional development in 2001.

One problem in this situation is that it is too easy for those under considerable pressure to take the view that current arrangements are probably the best possible given the financial situation. A systems analysis (Kowalski 1988:91–95) of organizational strategies, however, suggests that the CPD could provide strategic leadership in the University by delivering at least 10% of its services via technology-based distributed learning (TBDL) by the end of 2001, with additional transformation in following years. Bates' (1997:5–15) research into restructuring universities for the I&CT age also was used to suggest preliminary transformational strategies.

Leadership and service strategies

Vision for teaching and learning

The CPD provides policy research through the Leadership and Organizational Development Programme and pedagogical research through its Teaching, Learning and Research Programme. The University has recently clarified its vision, goals and strategies with regard to teaching and learning. Related Human Resources policies were extensively revised in 1998 and 1999. And in 1999 the University Council approved policies entitled 'Effective Teaching', 'Appropriate Assessment of Student Learning', and 'Protocols for the Evaluation of Teaching'. The University is developing an Academic Plan and some faculties are formulating Teaching and Learning Plans.

Members of the CPD have participated in many of these visioning and other policy processes (Fritz 1989:122–138). They also help clarify these policies to colleagues in role induction and professional development workshops. The question to be addressed is whether these workshops would have been even more effective if conducted in TBDL environments, such as via closed, role-specific and interactive homepages. Similarly, at least 10% of policy advisory processes could be moved into threaded discussions in closed forums. There would be commensurate savings to organization, travel time and printing, less the costs of TBDL development and web site maintenance costs.

It would also be particularly appropriate for academic teachers to learn TBDL pedagogy in a TBDL environment. There is a growing literature available that can help inform colleagues about the potential advantages and disadvantages of TBDL (e.g. Noble 1997), as well as describe the practical challenges they are likely to encounter when redesigning classrooms (e.g. Conway 1998), recruiting and retaining students (e.g. Carr 2000) and teaching in an e-business environment (e.g. Clague 1999:45–98). Parallel challenges can be expected in CPD as it explores options. The crucial point here is that learning by doing is a highly effective pedagogy. Immersion and mass professional development in TBDL should be regarded as a University growth strategy and no less worthy of institutional investment as backbone, hardware, software and educational technology production.

The development of a new Academic Plan for the University in 2000 provides another opportunity to more firmly embed TBDL into the academic process. Graves *et al.* (1997:432–452) show that four issues will need to be clarified as part of the process:

1. how faculties and departments will monitor, report and improve teaching and learning, with special reference to TBDL,
2. how a target balance of (say 75:25) between face-to-face and TBDL might also be achieved in departments and faculties in 2001,
3. how TBDL is to serve the University’s goal of internationalization, and
4. the profile of teaching and learning models to be made available via TBDL.

Funding re-allocations

Most faculties and some central units have already made re-allocations to support innovations in TBDL while awaiting large-scale institutional investment. In 1998 the Educational Technology Programme in the CPD and the Quality Office combined to allocate grants innovations across the University. In 1998 and 1999 the Faculties of Arts, Science and Medicine all made internal grants.

The University’s original operational priorities for 1999 included an expansion of educational support infrastructure. The CPD also planned to redistribute resources into educational design and project management capacities identified by Ross (1991) as crucial, in addition to the evaluation and professional development services already offered. These priorities, however, had to be suspended in 1999 when Government funding to the University was abruptly downscaled. There were no reserves in the University to cushion the impact, and all principal activity centres (PACs) had to deliver efficiency gains averaging about 10%. This level of cost compression was repeated in 2000 and created some investment capital. The University then tagged NZ \$3 million for the promotion of ‘new teaching and learning technologies’ in 2000. Allocation methods and criteria are being developed. In the interim, innovations continue to be supported by one-off grants in faculties and through the teaching improvement grants (TIGs). TIGs have encouraged academic staff to explore new teaching and learning technologies since 1995, although the scale remains modest, as table 2 shows.

Table 2. Teaching improvement grants scheme allocations 1995–1999 (NZ \$).

Year	Number of projects proposed	No. of projects given funds	Total funds distributed	Mean value of grants	Total value of all applications
1995	34	17	\$30 000	\$1764	\$95 000
1996	32	15	\$30 000	\$2000	\$120 000
1997	28	18	\$30 000	\$1666	\$90 000
1998	18	15	\$31 200	\$2080	\$70 000
1999	34	18	\$40 000	\$2222	\$250 000

The surge of interest in 1999 may be attributed to

- the changes to human resources (HR) policies and practices which gave parity of esteem to teaching and research, and require service profiles to be drawn from portfolios for applications for continuation, promotion and study leave,
- the implementation of a new system for the evaluation of teaching,
- Vice Chancellor's symposia that focused on the evaluation of teaching and the teaching-research nexus, and
- the well publicized 28% increase in the TIGs budget.

Despite the demand for TIGs, and successful lobbying to have the budget expanded, there is good reason to be ambivalent about TIGs as an institutional development strategy. The size of TIGs compared with the real costs of design and production of TBDL materials institutionalizes sacrificial heroism. It also ingratiates the hidden deployment of feral resources and triggers a politics of envy that guarantees that only some projects will survive and (hopefully) produce exemplary outcomes. The evidence accumulating since 1995 tends to affirm Bates' (1997:5) finding that 'Lone Ranger' projects tend to be

- costly and unrewarding, particularly in terms of an individual's time and effort,
- relatively modest in overall completion rates,
- uneven with regard to technical and educational standards,
- disconnected from broader curriculum development in departments and faculties, and
- largely unsupported by effective project management.

'Lone Ranger' projects at the University of Auckland also rely on a substantial and hidden re-allocation of resources drawn from a number of sources:

- subject expertise, editing and project management are provided by the 'Lone Rangers' and their department/faculty,
- curriculum redesign and evaluation is unevenly provided by the 'Lone Ranger' and, when requested, by the CPD,
- on-line assessment and course administration can be provided by the ACA Project in the Faculty of Business and Economics which developed the Cecil platform, or by another proprietary platform not supported by the University,
- graphics and audio/video production can be provided by the Educational Media Centre, and
- programming support can come from Information Technology Support and Services (ITSS) or from (often voluntary) experts in departments and faculties.

If real costs are to be a mandatory component of operational plans, this ungoverned re-allocation of scarce resources warrants review. Such a review

will also need to consider the effectiveness and efficiencies of the CPD, the Educational Media Centre and the Programming Unit of the Information Technology Support and Services operating independently with regard to TBDL projects. Project management will need to be institutionalized.

Some professional development services will not be inappropriate for delivery via TBDL. Examples might include the interactional aspects of mentoring, networking, peer support, teaching design, curriculum redesign and leadership consultancies *in situ*. This will be a matter of careful judgment, most appropriately made in the CPD. On the other hand, the University could be particularly interested in the cumulative genetic effect on its organizational structures of having at least 10% of professional development services experienced by academic and general staff in TBDL environments. The University might also reasonably expect the CPD to model its message regarding interactive and constructivist pedagogies in both real and virtual environments.

Strategies for inclusion

As table 1 above indicates, the CPD is responsible for delivering many services aimed at improving the participation and success of under-represented groups within the University. All faculties have equity programmes. These commitments are in the University's Equal Opportunity Plan and are considered mandatory by the University Council.

One area where there is potential for greater inclusion is pedagogical research and development. The numbers of academic staff involved in TIGs and 'Lone Ranger' projects related to teaching and learning would total less than 5% of all 1700 academic staff. The data in table 2 above also suggest that:

- TIGs have provided modest grants for small scale projects,
- teachers were significantly more willing to improve their teaching in 1999 than in previous years, and
- teachers' willingness to innovate teaching and learning is easily motivated while the University's commitment has remained relatively constant.

The TIGs criteria do enable participation and they have been replicated in many of the faculty schemes. They are flexible, but do not insist on rigorous and pedagogical research methodologies, and the accountabilities are best described as modest. The scheme has produced many small innovations in teaching and learning that are intimately related to discipline, level of learning, teachers' preferred teaching styles, and selected forms of educational technology. There are, however, three distinct limitations concerned with:

- the generalizability and pedagogical value of TIGs projects,
- the balance and range of participation in faculties and departments, and
- the limits of TIGs as an institutional development strategy.

These limitations could be eliminated by making project management and pedagogical research mandatory in all projects, and by making strategic investment in immersion and mass technology-based distributed professional development and into major TBDL research and development projects.

Technology infrastructure

Following University policy commitments made three years ago regarding new teaching and learning technologies, all buildings were wired. Priority was also given to getting academic and support staff connected to the University net, linking departmental and faculty servers and scaling back their firewalls, networking the Library's software system, preparing for Y2K, and extending student computing services. Most of these objectives were achieved with some cost overruns in 1999.

The governance of technology infrastructure development runs parallel to, and yet is decoupled from, academic governance. The Information Technology Committee has focused on backbone and access issues and has lacked expert pedagogical input concerning TBDL. This suggests that

- the information technology infrastructure plan needs to be led by, rather than drive, the University's vision for teaching and learning, and
- given the original drivers for change noted above, strategic goal displacement has occurred, and requires correction by the current Information Technology Review.

People infrastructure

There has also been a growing imbalance between the technical, production and educational forms of people infrastructure in the University. Technical staff infrastructure expanded first to establish networks quickly and then to service computers and telecommunications. It is now refocusing on maintenance, developing the 'electronic campus' portal and upgrades.

The production forms of people infrastructure typically include media production and services, interface and graphics designers, audio and video personnel and HTML writers (Welsh 1998). They are housed in two largely self-managing units in the University of Auckland. Most full-time multi-media and production personnel are in the Educational Media Centre but are physically distanced from the electronic campus portal programmers in the ITSS. Both groups are 10 minutes' walk from the CPD. There are many others with programming skills in other parts of the University that assist when they can on a voluntary basis.

The portal group in ITSS appears to have been relatively well resourced. The Educational Media Centre has lacked the capacity to maintain the sound and projection systems in pool lecture theatres, let alone produce multi-media teaching aids on a scale that would help

significant numbers of teachers move into TBDL. A chorus of demand from teachers and lobbying in late 1999 led to a one-off Capex allocation of NZ \$300 000 to attend to the worst problems in lecture theatres. Capex refers to capital expenditure while Opex refers to operational expenditure.

Educational support has been the least well resourced of all three forms of people infrastructure. This level involves instructional (or educational) design, professional development, project management and evaluation. Project management in a university should be regarded as a form of educative leadership. The person in the CPD coordinating professional development in educational technology provides advice on design and evaluation, and maintains a dual-mode network to share TBDL expertise as it develops. Other colleagues in the CPD and volunteers in the University community assist as they can. It follows that funding re-allocations are needed for 2001 to attend to:

- the growth in demand for workshops and educational advice related to TBDL,
- the growing need for production people infrastructure,
- improvement of the balance between technical, production and educational people infrastructure to cohere with the strategic interests of faculties and the university, and
- institutionalizing project management.

Student computer access

External consultants reported in 1997 concerning the equality of educational opportunities in the University. They indicated that access to computing was not seen by members of under-represented groups as a major problem, compared with other factors. And while successive studies have reported steady improvement regarding these other factors, access to computers has not yet been cited as a major obstacle to participation.

Nevertheless, the issue of student access to computers was thoroughly aired by the two reports from the Faculty of Commerce in 1997 and 1998, and an IT Committee working party report in 1998. Successful bids for Capex then led to additional student computing laboratories being established or refurbished in a number of faculties during 1999. Perceptions of 'the problem of computer access' then began to change when these institutional provisions triggered even more demand from students in late 1999; they called for free computer workstations as well as software, search and printing services. Early morning queues became commonplace in the Library.

New approaches for 2001 now actively being considered include:

- students being asked to provide their own laptops with minimum specifications by course,
- the integration of the Library, the Student Learning Centre and Student Support Services into an Information Commons,

- power and data points being provided in the student study areas of the Information Commons,
- a loan machine pool and some special services being provided by Student Support Services, the Student Learning Centre and the Students Union, to maintain equity of access, and
- computers for general use being replaced by specialist computers in some areas.

New teaching models

A flexible learning taskforce was established by the Teaching and Learning Committee and reported in 1998. Its first recommendation was that the University formally adopts a policy of student-centred pedagogy and flexible delivery (TBDL) of its core materials. This recommendation will be considered during the development of the Academic Plan in 2000.

The Teaching, Learning and Research Programme and the Tutors and Demonstrators Programme in the CPD have championed constructivist pedagogy for some years, in contrast to traditional transmission models, particularly through their academic staff induction and professional development workshops. The Educational Technology Programme also has promoted constructivist models of TBDL and designs that value interactivity and continuous improvement through formative evaluation. The functional convergence of these programmes would be furthered by the cooperative development of TBDL platforms in 2001. Goal-free evaluation would also be useful to help identify if (and how) access to relevant information, discussion and problem solving spaces in learning designs actually deepen understandings and build virtual communities of practice (Bell and Meyer 2000).

Staff agreements and training

External and internal policy settlements and operational planning are required on a regular cycle in large organizations with plural structures to sustain the transformation of all staff and organizational learning (Senge 1990, 1999).

The CPD is a central support unit. Through professional development it provides the Executive with purchase on the organizational assumptions of the institution. Also its services are transparent to the many groups and principal activity centres that constitute the University, each with a unique set of interests, professional development needs, and views of 'how best to be organized'. Such diverse demands and perspectives have to be reconciled and translated into priorities, and then converted into programme structures, plans and budgets. This requires a systematic, subtle and inclusionary planning process.

The CPD is also a micro-community of critical scholars and practitioners with a diversity of skills. It has six academic and eight full-

time general staff appointed on a range of conditions, most with master's degrees or doctorates. In 1998 and 1999 there were up to 40 additional consultants contracted to deliver specific services. The CPD was formed in 1995 by the amalgamation of the Higher Education Research Office and the Staff Development Office, resulting in an amalgam of service and developmental cultures today. All members anticipate authentic participation in planning processes.

Hence, in addition to responding carefully to the forever changing and plural demands from the University community, there is the need to reconcile priorities with the personal, group and collective interests and values of CPD staff. The key organizational issues here, according to Finnegan's (1997:480) research are 'the concepts of autonomy and accountability...that frame...the sociological impact' of planning. A recurrent planning process was therefore designed to serve as learning infrastructure in the CPD. It aims to refresh the purposes and political legitimacy of the unit annually, to refocus its programmes' objectives and teams, and to sustain the commitment of staff in contractionary times. This process now coheres with the University's planning and accountability cycle first formalized in 1999.

Putting such organizational theory about the growth of organizational assumptions (see also Kowalski (1988: 100–101) and Rowley *et al.* (1998)) into practice resulted in a six-phase annual cycle of evaluation, planning and budgeting:

- annual programme evaluation in June/July, that is, a research process using multiple sources and types of data to relate interim programme outcomes to agreed performance indicators, and reporting to the PDC;
- briefings by senior University executives in July on the strategic context and priorities for the coming year;
- consultations with faculties and other units in June and July, plus surveys of clients and staff, in order to map needs and determine priorities;
- a planning retreat for all CPD staff in July/ August, organized to review the evaluations of programmes, realign or reaffirm the CPD's mission, revise client groups and strategies, revise programme objectives and delivery systems, and draft programme budgets—for aggregation into base and plan cases for University budget processes;
- academic and support staff performance review interviews in November/December, to evaluate personal contributions and formalize future commitments, including personal growth strategies (Finnegan 1997: 480); and
- programme teams plan and market services in November/December, once budgets are confirmed for the following financial year.

Project management

It was noted above that while the TIGs had stimulated many successful innovations, many projects suffered from the absence of effective project

management. It was also noted that allocation criteria and processes for the new NZ \$3 million budget for new teaching and learning technologies are being developed.

The academic culture in some parts of the University is hostile to the language of project management and pedagogical research. Some colleagues appear to be unaware of the advantages and limitations of project management in universities (Bates 2000:66–75) or the extent to which it is already being used in current and effective team leadership practices, particularly in team research management. It is notable that pedagogical concepts have become more evident in academic discourse since the University gave parity of esteem to teaching and research in its HR policies.

Particular policies and practices are, therefore, likely to advance the extent and quality of TBDL.

- The growing scale of institutional investment warrants the use of more systematic pedagogical research methodologies in projects.
- More substantial grants should be given to fewer projects, perhaps as Vice Chancellor's Teaching and Learning Research Awards.
- The techniques of project management suitable for an academic culture should be institutionalized to support team research and scholarship related to TBDL.
- Standard criteria should be used to evaluate research and development proposals related to TBDL, irrespective of project scale.
- Project proposals should demonstrably cohere with faculty and department development plans.
- Project proposals are fully costed (in terms of staff release time, copyright clearances, production costs, etc.).
- Project proposals should specify intellectual property rights and revenue flows.
- Project proposals should exhibit the characteristics of good scholarship, that is, they should indicate clear goals, adequate preparation, appropriate methods, significant outcomes, effective use and presentation of findings, and reflective critique (Glassick *et al.* 1997).
- Project proposals should be demonstrably well organized with objectives, timelines, audiences, intended learning outcomes, justified choice of technologies, production schedules, clarify the degree of integration with (or substitution for) face-to-face teaching, and plan for evaluation, revision and maintenance.
- Project proposals should specify the roles and responsibilities of leaders and team members (i.e. project leader, subject/content experts, instructional designers, graphics designers, computer interface designers, text editors, internet specialists, media producers, etc.).

It must be stressed that such policies and criteria should not be used to create or strengthen current bureaucratic structures, but be used to develop congenial and planned processes in temporary matrix organization intended to increase the probability of projects being completed successfully.

New organizational structures

Two major structural problems compound the growing imbalance between technical, production and educational people infrastructure in the University and the limited degree of coordination between central staff support units. First, technical infrastructure is funded from Capex and justified as a 'once-only investment', even though the budget overruns and shifts in priority in 1999 in the ITSS undercut this rationale. Production and educational infrastructure tends to be pejoratively described as 'locking in' a recurrent and inflexible Opex commitment at cost to strategic flexibility. Opex proposals are subjected to much tighter controls and much more intense competition than are Capex proposals. Further, as illustrated twice above, Capex allocations can be achieved in some circumstances by lobbying senior management.

Second, the research lobby in the University tends to be indifferent to the link between the quality of teaching in the University and its survival, the cross subsidies that flow from teaching revenues into research grants, and regards pedagogical research as just another competitor for very scarce research funds. It is very difficult to get political support from this lobby group for an integrated staff support centre, such as a multi-function Learning Commons to complement the role of the foreshadowed Information Commons for students. In a knowledge institution being impacted by the I&CT revolution, having an Information Commons for students without a Learning Commons for staff is an organizational nonsense.

Current governance, budget processes and lobbying, therefore, aggravate these problems of imbalance in forms of people infrastructure, the low coherence between central support units, and the imbalance in organizational learning; they will continue to do so unless there is an intervention. Research (Kaufman and Merman 1997, Moran 1998) suggests that these matters will have to be considered in any investigation of the University's development strategies, the strategic alignment of institution and TBDL plans, and any scoping of a Learning Commons.

Closing note

There are four key issues that can be derived from this case study that might also warrant institutional research elsewhere:

- projected investment by the University in research and development concerning the effectiveness of TBDL,
- projected investment by the University and its faculties in TBDL delivery systems,
- projected expenditure on face-to-face and TBDL compared with technology-related revenues, and
- projected expenditure on technical, production and educational forms of infrastructure in the University.

These issues relate intimately to the capacity of any faculty development unit to achieve any targets set regarding TBDL forms of professional development. They also relate to the management of the relationship between organizational learning and institutional competitive advantages in a globalized learning environment.

Two caveats are appropriate. The first is that past and current technologies define current planning perspectives and make it difficult to discern fresh futures clearly. Formative evaluation should be commissioned to monitor TBDL initiatives, dual-mode delivery and virtual structures in order to critique the changing assumptive base of organization (Argyris and Schön, 1978). Second, it is crucial to mobilize all available intellectual capital in the University to meet the challenge of the I&CT revolution. The nature of universities as organizations is in fundamental transition. And, as Katz and Oblinger (1999:313) observed, 'the learning revolution is now underway and is creating the opportunity for faculty to join their administrative colleagues in a collaborative discussion about renewing the higher education enterprise'.

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