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Abstract

This paper investigates the nature and quality of Web-based resources which support staff development in Australian universities. It details findings and recommendations derived from publicly accessible Web pages containing resources, information, activities and models provided by university centres concerned with the staff development for the online environment.

Frameworks for this investigation were adopted from the literature on staff development, reflective practice and quality teaching in Higher Education. Two rounds of investigation were undertaken. The first round identified 32 of the 41 university Web sites visited as having an identifiable Teaching and Learning Centre (or equivalent) home page, as a starting point. The resources linked to these pages were reviewed, classified and discussed. Six of the 32 Web sites were regarded as making available significant staff development resources pertaining to teaching and learning online. These 6 sites identified in the second round were reviewed in detail.

Recommendations are made for best practice in the role of university Web pages for staff development, particularly in the area of online teaching and learning. In terms of the dissemination of staff development resources the instantaneous, global, and searchable capability of the Web is not being fully exploited. Too few resources are openly and easily accessible. This presumably results in some universities repeating work already available elsewhere. One hopes the practice of placing resources on local password protected intranets is not a sign of the corporatisation of universities or an 'all out' competition mentality. The authors are assisting their own university to make its staff development resources more publicly accessible and would like to advocate all other universities do likewise.

Introduction

For educators, the Web is proving itself to be useful for distributing learning and information resources to an increasing number of students, as well as supporting dialogue and collaboration within a dispersed community of teachers and learners, novices and experts. Similarly, the use of Web resources and interactive functions can provide access to

staff development activities, resources and support, thus enabling the in-service training or reflections on professional practices to be undertaken in a tailored, self directed and timely manner.

Balancing university careers now goes beyond the challenge of maintaining disciplinary competence, relevance and currency. Continuing participation in staff development programs is considered imperative for the integration of skills in teaching, research, scholarship, networking and managing. Duderstadt (1999) suggests:

> The next decade will represent a period of significant transformation for colleges and universities as we respond to the challenge of serving a changing society and a profoundly changed world. Perhaps the most critical challenges facing most institutions will be to develop the capacity for change; to remove the constraints that prevent institutions from responding to the needs of rapidly changing societies; to remove unnecessary processes and administrative structures; to question existing premises and arrangements; and to challenge, excite and embolden all members of the campus community to embark on what I believe will be a great adventure (Duderstadt, 1999: 1).

If such a vision is correct then clearly demand for a wide range of staff development over the next decade will be enormous. To be adopting changes in the two convergent fields of communications and information technology, at the same time as orienting staff to them, is considered as a most authentic approach to staff development.

Given this convergence, our research question was: How are Australian universities best exploiting the online medium to provide for the development needs of academic staff?

Review of the Literature

A search of staff development literature indicates that there are a limited number of titles concerned specifically with online teaching and learning, although no doubt many of the broader traditional issues of staff development also apply in this context. To focus on the relevance of these broader issues, the authors considered the work of Brew (1995) in which the following staff development approaches appeared as indicators of good practice in Australia and UK:

> 1. conducting research in teaching and learning across the spectrum of disciplines;
> 2. completion by staff of accredited courses in teaching and learning;
> 3. self-directed study packages in a range of skills and knowledge areas;
> 4. training of senior management and allied staff (i.e. other than academic staff involved in innovations projects);
> 5. intra-organisational collaboration, staff development across the hierarchy;
> 6.active evaluation strategies;
> 7. support of the institutional framework; and
> 8.explicit academic scholarship in Teaching and Learning Centres (TLCs) or equivalents.

Although these eight approaches to staff development did not relate to the use of Web environment when discussed in Brew's (1995) work, they can be seen to underpin contemporary best practice in staff development.

Within the plethora of literature exploring the Web and its capabilities, there are similarly

few authors considering issues and effectiveness of staff development initiatives in Australian universities. Research conducted at Lincoln University, New Zealand (Hunt, 1998) showed that *information* was the staff development option most needed to support and enhance the instructional use of Information Technology. Academic staff desired information on available resources; strategies for redesigning study materials; and from colleagues who had experience with Information Technology. Interactive potentials of the Web were viewed by staff as most suited to active learning, the reflective and interactive processing of information (Hunt, 1998).

Latchem and Lockwood (1998) include several international references on the advice or supports available for staff adopting online teaching and learning, and how the necessary changes in pedagogical approaches are managed. For example, in their chapter which discusses staff development for adaptation to organisational change, Australian authors, Forster and Hewson write:

> Internet applications such as the Web provide both a mechanism and a metaphor for staff development strategies which will assist educational institutions in their efforts to reframe themselves for survival in the twenty-first century (Forster and Hewson, 1998: 221).

In 1998, Ellis, O'Reilly and Debreceny demonstrated an emerging move across Australian universities over the preceding year, towards providing staff development in an authentic context using the online environment, thus situating the learning of academic staff in an immediate and relevant way. Other Australian projects by Slay (1999), Bennett, Priest and Macpherson (1999) and Rossiter (1999) indicate university-wide changes resulting from staff development initiatives which support and enable staff use of the online environment. One comment from recent research on staff development states:

> The Web therefore is more than a means of providing access to relevant and updateable resources, for it also offers staff, particularly the later adopters, with a model or a framework for improving their own technological literacy; engaging them in the process of learning about the web as they explore the potential of the web as a learning resource (Rossiter, 1999: 560).

This comment further links with the principles of workplace learning. As Boud (1995) states, approaches to staff development which account for the effects of workplace learning and organisational development provide a far broader base for activities than those which simply focus on skills development or human resource development.

Our findings from the literature thus led us to adopt the eight key approaches to staff development found in Brew (1995) as a structure for initial data collection concerning what can be found on university Web pages to indicate online staff development activity.

Methodology

To answer the question 'What is the current scope and quality of Web-based activities that support staff development in Australian Universities?', a survey approach was adopted. Rather than employ the conventional paper-based questionnaire with the usual constraints of cost, rate of return, unanswered questions etc, the authors decided to survey the publicly accessible pages of all Australian University Web sites. The aim was to locate TLCs (or equivalents) as a starting point and then examine the scope and quality of the material presented on these pages, and associated pages, based on issues identified in the literature on staff development.

This approach while having the obvious restriction of not being able to access password protected pages (destined, for whatever reason for internal use only) is low cost, rapid and allows repeat passes of the material as questioning is refined. The authors also had the ulterior motive of wanting to publicise and encourage information sharing and the exchange of ideas. This cannot happen when material is hidden on password protected sites on local intranets. The sequence of data collection is summarised in Figure 1.

Steps in data collection	Description
1. Population , N=41 All universities on AVCC list	All Australian university home pages on the AVCC list [HREF1]: were searched to locate TLCs (or equivalent).
2. Sub-sample 1: n = 32 Universities with locatable TLC [HREF2] or equivalent Web sites.	A list of staff development approaches (from Brew, 1995) was used to search publicly accessible TLC Web sites. Best examples with respect to supporting online teaching and learning, were identified.
3. Sub-sample 2: n = 6 Teaching and Learning sites with significant number of pages and comprehensive resource materials.	A list of proposals for discussion on staff development (Boud, 1995) was used to guide our analysis and develop recommendations for best practice.

Figure 1. The sequence of events used to locate and search exemplary Web sites.

Of the total number of sites inspected, 78% had a range of publicly accessible pages linked from an easily locatable TLC home page or equivalent Web site. These sites were surveyed based on the eight criteria derived from Brew (1995) which represent approaches to staff development in a broad sense:

1. Action research
2. Courses
3. Self-directed packages
4. Training
5. Working across the hierarchy
6. Getting and using evaluation information
7. Institutional framework
8. Scholarship in teaching and learning

The results of this part of the survey are shown in Figure 2. The evidence found of the various approaches across all universities was then ranked. The Web sites which demonstrated the greatest range of staff development approaches and provided useful inclusions not found elsewhere, were ranked highest. Of the 32 sites identified during the

initial round of inspection, 6 were regarded as having a significant number of pages and linked resources, when the above 8 criteria were applied.

Furthermore, because of the specific demand to maintain a research focus and provide clear rationale for reconceptualising the pedagogy in the online environment, we chose to search for more evidence of the final approach, that of 'scholarship in teaching and learning'. The 6 top ranking sites were thus subjected to a second round of investigation based on the work of Boud (1995). In his investigations of 'scholarship in teaching and learning' as one conception of staff development, particularly in the 'learning organisation', Boud's (1995: 208-212) proposals for discussion hinge on the following considerations which influence staff development:

1. Does the staff development take account of what is known about learning?
2. Is the contextualised nature of learning in organisations considered?
3. Is there consideration of individual differences among staff and within work units?
4. Does the staff development take account of the university's philosophy, priorities or policies for teaching and learning?
5. Does the staff development recognise the aspirations of the staff for development?
6. Is the staff development recognised through a process of assessment of competencies and accreditation?
7. Are normal groupings of staff recognised by staff development activities?
8. Is the staff development research-based and reflexive?
9. Is the staff development becoming devolved and diverse?

Results

Of the 41 University sites inspected, 32 had readily identifiable TLCs [HREF2] or equivalent sites]. Furthermore these sites could be categorised as:

- a specialised online TLC or flexible learning/online learning project (n = 4)
- a range of options spread across more than one section of the university e.g. TLC in conjunction with library, IT and course development unit (n = 27)
- collaborative across universities e.g. consortium members of National Council for Open and Distance Education (n = 1).

The findings of a detailed survey of these 32 sites based on the 8 staff development approaches derived by the authors from Brew (1995) are summarised in Figure 2.

Examples of Staff Development Approaches Identified	Nos. of Sites
1. Action research **a.** Written action research about the online project (e.g. a link to papers showing reflective research about the university's online teaching and learning) **b.** Statements or resources encouraging an informal sharing of experiences of online teaching (e.g. a comment box for staff to submit reflective comments about problems and issues)	9 10
2. Courses	

a.Information and program of workshops (e.g. Online teaching and learning methods).	19
b.Information and program of seminars (e.g. invited sharing experiences of online teaching and learning)	7
3. Self-directed professional development packages **a.**Online courses, could be interactive or text only (e.g. Pedagogical guide for online course development)	13
b.Online discussion areas for staff, often related to a workshop program (e.g. discussion group with other universities used for workshop)	7
c. Online teaching aids-usually in the form of a Resources List- (e.g. links to articles; links to other online teaching sites; examples of "good" online course sites)	17
Focus of training approaches **a.** Senior Managers **b.** Academics **c.** Allied staff	1 18 4
Working across the hierarchy Collaboration between different groups in the university evident (e.g. links to collaborative papers written by more than one faculty; discussion groups sharing ideas across faculties; developing peer support groups within faculties)	11
Getting and using evaluation information **a.** Student survey data of online courses and evaluation of these results (e.g. student questionnaire) **b.** Evaluation of sections of the online teaching and learning project (e.g. evaluation of costings; reports of working party) **c. Evaluation** of online delivery at the university-teaching implications (e.g. papers evaluating pedagogical issues arising)	1 1 4
Institutional Framework Statement of how staff development or the online project relates to the university's philosophy or goals, (e.g. statement from the VC; statement of the university's teaching philosophy)	10
Scholarship in Teaching and Learning Staff development includes a scholarly approach to pedagogical issues or aims (e.g. a structured sequence for self-paced learning; research linked to practice; 'best practice' guidelines for online teaching and learning).	5

Figure 2. Summary of survey findings of TLCs' (or equivalent) Web sites based upon eight selected staff development approaches.

From the data collected on all 32 sites, there was a cluster of 6 sites displaying significant staff development resources and these are shown in Figure 3. Note that the NeTTL site was removed from its location in the three months between initial data collection (January 2000) and completion of the paper (April 2000) as this online project has been completed.

http://www.anu.edu.au/CEDAM/
http://www.aulit.adelaide.edu.au/
http://www.cpd.mq.edu.au/
http://cea.curtin.edu.au/
http://nettl.usyd.edu.au/nettl/default.htm
http://www.une.edu.au/dec/resources.html

Figure 3. List of URL's for Web sites displaying significant staff development content for online teaching and learning.

Discussion of Results: Staff Development Approaches

Figure 2 provides details of the staff development approaches identified on Web sites. In the following discussion, results are reported by percentage of sub-sample 1 with percentage of total population (all universities) shown in parentheses.

Action research

According to Gibbs (1995) one approach to staff development with significant impact uses action research as a way of encouraging staff to reflect upon their conceptions of learning and teaching, i.e. researching their teaching using action research tools. Evidence shows an action research approach being promoted on 28% (22%) of Web pages through their links to published reports of action research, and 31% (24%) of Web sites indicate staff are encouraged to contribute to action research projects.

It is widely accepted that a culture of reflection on practice and the adoption of teaching innovations can be fostered, and in this way staff development can enable a closer link between theory and practice. The percentages shown in our study suggest a trend for critical reflection on practice, some form of action research to inform staff development activities for the online context, and the importance of collaboration.

Courses

Our study found 59% (46%) of universities offer short courses concerning online teaching and learning, though it cannot be assumed that these accrue any credit. This represents a reasonable responsiveness by universities to provide opportunities for staff development in the context of online teaching and learning.

Examples of staff development credit programs were not easy to discern from the Web sites, despite the 1995 investigation by Ramsden for the Committee for Advancement of University Teaching (CAUT), which found that a 'large proportion of universities now offer their academic staff a course of study which leads to formal qualification in university teaching' (Ramsden et al, 1995: 135). The difficulty in finding such evidence may be because graduate programs for credit are listed among the general programs offered by each university and are not specifically shown as being reserved for academic staff. It may also be due to the range of organisational units providing staff development encountered in this study.

Self-directed packages

Our study shows a high proportion of Web sites offer links to self-contained learning resources reflecting the convergence of communications and information technologies via the Web. Approximately 53% (41%) of Web sites link to online teaching aids such as lists of collated, referenced and evaluated resources for online teaching and learning; 41% (32%) of Web sites link to online instructional resources such as pedagogical guides to online course design and development; and 21% (17%) of Web sites provide an open discussion forum for staff which either supplements a workshop program or is for campus wide participation.

This finding indicates an increasing responsiveness towards authentic delivery of staff development via online resources for online learning. As Ross and Pittman (1995) claim, a

reflective, self-paced, self-directed package of resources and activities has the potential to provide a preliminary focus for academic staff. Such self-directed packages provide busy staff with a great deal of flexibility in regard to time, pace and place of learning. However, Ingliss, Ling and Joosten (1999) caution that self-contained learning packages have higher design and development costs, and are somewhat less adaptable to individual learning needs.

Training

56% (43%) of Web sites pitch their training content to the middle range of academic staff, while 3% (2%) directly address senior management training needs, though presumably all were sanctioned at a senior level. 13% (10%) of Web sites explicitly target allied staff, a significant point of note, in view of the collaborative and multi-disciplinary nature of online course design and development.

There seems to be a gap in staff development for this online context in respect to senior management. If the policy makers are to appreciate the imperatives in preparing staff for organisational transformation in this online environment, more participation in staff development at senior levels is needed (Forster and Hewson, 1998). Ramsden (1998) highlights critical issues for supervisory staff in the online context. He advises managers to 'show personal commitment by asking your colleagues to help you improve your own teaching' (Ramsden, 1998: 172).

On the other hand, evidence can be found of a consensus approach to changing organisational policies and improving teaching and learning online (Ellis and Phelps, 1999). Such collegial reflection further supports our findings of the adoption, in several instances, of action research models of staff development.

Working across the hierarchy

Our study revealed that 34% (27%) of university Web sites provide cross-faculty and collaborative staff development initiatives. Again this indicates that where online projects are undertaken in collaborative ways, it is also appropriate to offer staff development to groups and across functional units. Cross-faculty initiatives have the potential for developing commitment to staff development in a 'snowballing' way.

Getting and using evaluation information

3% (2%) of sites made reference to evaluation information and a further 3% (2%) referred to reports of working parties regarding online teaching and learning. 13% (10%) of Web sites in our study indicated the availability of evaluation information such as online proformas. It is pleasing to see evaluations of online teaching are represented on university Web sites as a way sharing information and promoting online activities. However, it would be understandable that only some of the evaluation information would be placed on public access Web pages.

The purpose of obtaining evaluative information is, in part, to enable continuous improvement in the quality of teaching and learning within the institution. One would therefore expect staff development Web sites to openly indicate how such feedback information can be accessed, at least by their staff, if not in the public domain.

Institutional framework

The staff development role for the online context of teaching and learning within Australian university frameworks appears to be well established. 31% (24%) of Web sites indicate a clear relationship between staff development for online projects and the university's philosophies and goals. Furthermore, these examples clearly state the alignment of the role of staff development for online teaching and learning with the organisation's vision and mission, from the Vice Chancellor's level through to the underpinning philosophies of the organisation as a whole. With a significant relationship between staff development and organisational goals, comprehensive Web site information appears to further disseminate and reinforce this internal cohesion.

Scholarship in teaching and learning

Our study found approximately 16% (12%) of university Web sites support the research-based approach to academic staff development. This is evident by the provision of best practice guidelines, explicitly stated pedagogical aims for adopting the online environment, and fostering research activities in this context

Discussion of Results: Considerations which Influence Staff Development

Figure 3 lists the URLs of Web sites that display significant staff development resources. Of the 6 universities, both traditional providers of External Studies and Distance Education, and Universities which have their traditions in on-campus teaching are represented. This suggests that changes to staff development for online teaching and learning are relevant and current across the board.

The questions used from Boud (1995) were applied to 6 Web sites as a way of investigating 'scholarship in teaching and learning' through the following considerations which influence staff development

1. Does staff development take account of what is known about learning, particularly related to online learning?

From the Web sites investigated, staff development activities can be said to generally indicate their underpinnings from the research and theories of adult learning, experiential learning, reflection on practice and learning in the workplace. Recognition of the range of learning theories are reflected in the use of formal, informal, problem-based and social approaches to instruction, situated and relational contexts of learning, the recognition of prior learning and the reflective processes of further learning (Boud, 1995). To illustrate such approaches, we found a series of examples including:

• practical /hands on workshops where staff are encouraged to experience, discuss and evaluate different aspects of online teaching and learning

• statement of expected time commitments required for training

• examples and templates of 'good' online lessons

• facilities for feedback from staff to share examples of innovative teaching

• lists and forums for discussion of problems and feedback

• structured online learning of new skills e.g. Web publishing, new course shell

• structured course about online teaching and steps in setting up an online course

• guide to pedagogical issues in online course design (e.g. a checklist of pedagogical best practice for developing web sites that is used by the Academic Board to monitor online course development)

• listserv for communication and dissemination of material from staff development program.

2. Is the contextualised nature of learning considered for staff development?

The disciplinary context and background of staff are significant in determining usefulness and applicability of the staff development activities. Staff development programs need to be consciously aligned with priorities of senior staff and management. Examples where Web-based staff development has taken account of the context of learning are as follows:

• articles on practical topics, e.g. 'Enhancing students' medical skills', 'Encouraging my students to contribute to online discussion'

• reference list covering online teaching and learning issues from the perspectives of both pedagogy and technology

• representative of each faculty becomes liaison person with the TLC/Online Project

• detailed list of Online Projects in the university with contacts, URL and description.

3. Are individual differences considered in staff development?

While staff development programs and services may take account of differences in individual learning styles and professional backgrounds of staff, often it proves difficult to consider underlying equity concerns as in the case of casual staff or groups of staff carrying high levels of additional administrative loads. In some cases staff who embark upon teaching innovations may feel unsupported by staff development services since these can be targeted for the majority (of later adopters) rather than for staff who move ahead with their ideas and who can thus feel isolated. Good examples of inclusive approaches to staff development are found on sites offering:

• range of resources, workshops, demonstrations, case studies, online courses, online discussion groups, seminars, lists of links to resources, visual diagrams, text

• well-structured online or workshop courses for learning new technologies

• self-paced online or offline courses about new technologies or pedagogical issues

• list of staff within the TLC/Online Project, description of roles and contact links

• workshop program, description of course, contact details and summary (handout), online references or complete course

• range of training programs &emdash; short course, workshops, long course (6 weeks or more)

• workshops provided at a range of times of day and repeated throughout the year

• workshops that build on skills learnt in previous program

• individual support on request

• to establish workshop participants' experience before the workshop.

4. Does staff development take account of the university's philosophy, priorities or policies for teaching and learning?

The eternal paradox for staff development services has been to tread the fine line between responding to the identified needs of staff while honouring the priorities and policies of the organisation. The evidence on Web sites of activities which look in both strategic and opportunistic directions were not abundant, though a few clear-cut examples emerged which showed:

• stated aim or mission statement of TLC/Online Projects' staff development, e.g. improve collaboration between faculties; increase effectiveness of teaching through appropriate use of technology

• statement explaining how Online Project evolved and how it relates to other sections/services in the university.

5. Does staff development recognise the aspirations of staff for development?

Contributing towards progression along the chosen learning pathway is more often a tacit activity of staff development support services. Where there are structures in place for staff to articulate their professional development goals in the context of their workplace, there is of course greater chance of responding appropriately. Examples of such possibilities reflected on Web sites include:

• statement about the TLC support of staffs' training needs &emdash; emphasis on a collaborative approach

• list of services provided by TLC/Online Project for staff development

• links that reflect these services and refer to appropriate resources or contact people.

6. Is the staff development recognised through a process of assessment of competencies and accreditation?

With the increased push towards accreditation, effective staff development activities will ideally provide course components which aggregate into an award. Securing tenure and promotions can be seen in some Australian universities as being dependent upon completion of in-house courses, particularly at postgraduate level. We found:

• accredited online professional development courses

7. Are normal groupings of staff recognised by staff development activities?

With increased use of the online environment for teaching and learning strategies and resources, the need for development in teams has become critical. No longer are academic staff expected to work entirely on their own in preparing their lesson materials. In this way, staff development has begun to respond with programs for the natural work-groupings found within departments, across institutions within disciplinary boundaries and within course related partnerships. Good examples of staff development tailored to work teams have been found such as:

• training for Faculties project-based workshops

• subject developers kit online &emdash; contains tools, templates, policies and procedures

• representative of each Faculty included in meetings/Online Projects

• peer development groups in each Faculty

• regular special interest group meetings

• workshops on specialised features of courses, e.g. problems with foreign language character scripts, implementing sound

• workshops on a wide range of topics e.g. project management, implementing online curricula, using discussion groups.

8. Is the staff development research based and reflexive?

The need for supporting reflective practice is now greater than ever, where online effectiveness is under scrutiny and a worldwide constituency is awaiting to hear of the insights gained. To observe the results of one's own ideas and to share these outcomes with fellow staff members both on and off campus can form the basis for collaborative quality improvements. Examples from Web sites are:

• indications of the type of research being done within TLC /Online Project with links to relevant articles or reports of that research

• links to relevant research in other universities, and critiques of these

• stated monitoring and evaluation role for TLC/Online Project, evidence of reports

• getting, evaluating and using student feedback &emdash; results published

• archive of discourse on research questions regarding online teaching and learning distributed over the discussion list for analysis and reflection.

9. Is the staff development becoming devolved and diverse?

In a devolved system individuals would accept responsibility for their own staff development and that of their work team. Not surprisingly there was no concrete evidence

for this agenda. It would require a search at the level of individual staff activity, staff room discussions, impromptu presentations etc to determine activities at this level. The indications we found of a devolved approach to staff development were (a) the existence of several self-directed learning packages, suggesting learning possibilities for the more self-actualising members of staff and (b) a prevalence of action research projects.

Summary of Results

Our two-step investigation beginning with the TLC sites and continuing on the basis of our eight approaches to staff development, found significant activity in:

1. action research;

2. provision of short courses and workshops; and

3. self-directed professional development packages.

Results also showed that training was principally targeted for academic staff (rather than senior management or allied staff) and a significant number of universities demonstrated an explicit connection to both their own organisational philosophies as well as enabling inter-departmental approaches to staff development.

One example was found of inviting guest facilitators to support staff development activities in the online context. Evidence of getting and using evaluation information was also not so apparent through our investigation of public Web sites. Finally, the evidence of 'scholarship in teaching and learning' was indicated largely by the high visibility of action research found.

Conclusions and Recommendations

The environment of online teaching and learning is rapidly changing and staff development initiatives must respond appropriately. The authors view a comprehensive Web site presence in the public domain as being a critical strategy for supporting staff development. Use of the online medium further ensures rapid dissemination of information and appropriate responsiveness to new teaching and learning situations.

Evidence to illustrate an increased devolution of responsibility for staff development was suggested in that Web sites identified as providing comprehensive staff development support for online teaching and learning were not all within traditional TLC structures. Our study leads us to suggest that this devolved model needs an anchor and provision of links from the TLC Web pages would readily facilitate the location of sought after staff development resources and supports for the online context.

We saw many examples of links to self-directed professional development packages as well as a substantial number of links to resources and scholarly references. We detected several references to action research projects in this context of staff development and organisational change. To quote Forster and Hewson:

> The lure of this technology lies in the fact that it is so easy to use. Its technical brilliance and potential can certainly lead to superficiality and inefficiency, but used well, the technology can provide the means of transforming staff development, creating previously unachievable relationships and activities and helping universities and colleges not only to be great places to learn, but also great learning organisations

(Forster and Hewson, 1998: 229).

Overall, our investigation of the role of Web sites in supporting staff development for the online environment, found a range of levels for this role. At one end, strategic applications of technology in teaching and learning are accompanied by centralised training programs or support services, and at the other end we see a diffusion of options such as the provision of seminars, workshops, ad hoc staff development opportunities, self-managed resources and cross-institutional collaborative initiatives.

In summary, a staff development Web site which effectively supports online teaching and learning will include links to (no priority order):

• accredited courses or components of courses

• a diversity of options e.g. structured online workshops, resource-based and facilitated lessons, online discussion groups (mutual assist among advanced users)

• core values of the university as indicated by vision and mission statements

• evaluation reports on effectiveness of online innovations, or references to reports

• exemplars of effective online teaching and learning from a range of discipline areas

• information about technical innovations and their potential applications to teaching and learning

• faculty-based and discipline-based support

• lists of advisors or possible mentors for staff support and strategic guidance

• self-directed professional development packages which link theory with practice

• possibilities for feedback and individual requests for support

• published research or works in progress and proformas for research proposals, including action research.

The authors are in the process of implementing the above list of recommended features within their own University's Teaching and Learning Centre's Web site. We hope this study goes some way to influencing more universities to do the same.

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Hypertext references

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HREF2
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