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Abstract
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Pestering staff into online learning: An integrated plan for implementation

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Universities are striving to provide quality learning experiences for their diverse student population and online learning is one aspect of this changing environment. This paper notes barriers that have been recognised that impede faculty uptake of online learning and examines some of the strategies that can be implemented to overcome these barriers. A plan for integrated implementation of online learning is proposed which consists of Planning & Promotion, Education, Support, Training, Encouragement and Recognition & Reward (PESTER). The elements of the plan are described in detail and an example of an implementation plan is provided.

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Introduction

Universities and other institutions around the world are coming under increasing pressure to provide quality learning that is engaging and interactive, thus meeting the needs of a diverse student population (Fox, Yuen, Evers, Lau & Deng, 2007; Hanna, 2000a). One aspect of this engaging environment is the provision of high quality online learning. This could be a fully online course reaching students from around the corner as well as around the world or one component of a blended subject for on-campus students, where face to face lectures and tutorials are supported by online content and/or activities. There are many reasons for universities increasing and improving the quality and quantity of online learning and teaching including quality of learning experience, meeting the changing challenges of the knowledge society, increasing demands from students for flexibility due to work and home commitments and an increase in numbers of students undertaking lifelong learning (Bates & Poole, 2003; Fox et al., 2007; Naidu, 2003). This paper has been developed on the premise that universities are striving to create the best learning and teaching environment for our diverse student population whilst also considering the needs and restraints of staff and the institution.

This paper will examine strategies that can be implemented to overcome the barriers to faculty uptake of online learning that have been identified in the literature, and propose a new plan for integrated implementation of online learning activities, the PESTER Plan (Planning & Promotion, Education, Support, Training, Encouragement and Recognition & Reward).

Strategies to overcome barriers to online learning and teaching

There has been much discussion in the literature describing both the existing barriers that limit faculty uptake of online learning and strategies that can be implemented to overcome these barriers. (Berge, 1998 Deepwell & Syson, 1999; D'Silva, 2007; Fox & Trinidad, 2007; Hanna, 2000b; Hannan, 2005; Milheim, 2001; Olcott & Schmidt, 2000; Spratt, Palmer & Coldwell, 2000; Tallman, 2000,).

Different authors (for example Billig, Sherry & Havelock, 2005; Covington, Petherbridge & Warren, 2005; Ertmer, 1999 and Zhou & Xu, 2007) have categorised these barriers in different ways. This paper will use a classification similar to that of Covington et al (2005). The three categories are defined as

- *Lack of professional development* – these include any barriers that are related to staff training and development such as lack of knowledge of technology and how to work with this and lack of understanding of pedagogy.
- *Institutional constraints* - those barriers that are beyond the control of an individual staff member and are often the result of institutional policy and practice. Examples here include lack of support and/or understanding of resource implications from upper management, lack of

recognition in academic staff workload agreements and difficulty in planning strategically how technology can be used to advantage by a school, department or faculty (Bates & Poole, 2003). Academics are generally given more kudos for research into their discipline than for teaching innovations through monetary rewards and incentives as well as through the probation and promotion process (Naidu, 2003).

- *Staff resistance* – those barriers that are of a personal nature, including skepticism, a fear of the unknown and a fear that technology is driving the pedagogy. Some academic staff express concern that working with a team of support staff such as learning designers and multimedia experts will result in a loss of control of their knowledge and subject material.

The most commonly acknowledged barriers and those which have the greatest influence on staff uptake of online learning are a lack of time to develop materials and activities that use computers and the lack of reward for using computers in teaching (Bates & Poole; Zhou & Xu, 2007). This suggests that any plan to overcome these barriers needs to include strategies that focus on these elements. Some suggestions of how this can be done include relief from face-to-face teaching, reward through teaching grants and recognition of teaching innovation through the promotion and evaluation processes (Zhou & Xu, 2007).

Also widely discussed throughout the literature are strategies that can be put in place to assist staff to overcome these barriers. Some of these are specific strategies targeted at a particular barrier and others are more integrated approaches that provide solutions to a range of barriers. Some of the specific strategies include

- *Professional development* A challenge for institutions is finding the right mix of development and support. This needs to include centralised workshops and seminars and more individualised and faculty-specific training (Bates and Poole, 2003). As staff adopt educational technologies and become more familiar with these technologies, their professional development also needs to change from a focus on how to use the technology to how to *effectively* use the technology (Zhou & Xu, 2007). Different models of professional development are considered and Zhou and Xu (2007), along with Covington et al (2005) emphasise the importance of mentoring and peer support which needs to be discipline specific rather than generic workshops.
- *Institutional constraints* Specific mention of innovations in online teaching and learning in probation and promotion processes as well as implementation processes to include development and maintenance of online materials in workload models will assist staff in overcoming these barriers (Rockwell et al, 1999)
- *Staff resistance* One example of a specific strategy as offered by Bates and Poole (2003) to overcome staff resistance is to hold brainstorming sessions within a school or faculty to develop a vision of how staff would like to teach in the future. This serves to give staff some ownership of implementation and opportunities to have their concerns heard by senior management. Ertmer (1999) comments that overcoming second order barriers, which are those that are intrinsic to teachers, will require "challenging one's belief systems and the institutionalised routines of one's practice." It is these challenges that will require the most careful consideration by management.

Covington et al (2005) adopted a triangulated approach incorporating administrative support, professional development, peer support. The limitations of this model are that it focuses only on support and does not include elements of planning or recognition and reward for staff.

Bates and Poole (2003) have suggested the Sections Model (Students, Ease of use, Costs, Teaching and learning, Interactivity, Organisational issues, Novelty, Speed) as a model for selecting and applying technology for specific teaching applications. This appears to be a very practical and workable model; what it does not consider is the staff development that will be required to allow full implementation of a new technology. This model also concentrates on a specific innovation for a particular reason, rather than looking at an integrated approach across a faculty or school. Bates and Poole do consider strategies for planning for using technology in teaching, just not as part of this model.
The key elements of these models have been combined with other key strategies for overcoming the barriers to online learning to formulate the following plan. These ideas have been presented in a manner that is easily reproducible, sustainable and readily understood by staff.

In addition, an institution's approach to academic development and change management will also have an influence on the successful implementation of innovations or increased adoption of online learning. Ertmer (1999, p.47-48) suggests that the "more integrated one's technology use becomes, the more fundamental the required changes."

Spratt et al (2000, p.7) pose the following series of questions in regards to academic staff development and suggest that addressing these questions will result in a staff development program that will be considered as relevant, timely and valuable by academic staff.

1. How can we demonstrate to academic staff that, in certain circumstances, technology-based teaching provides an appropriate solution to identified pedagogical problems?
2. How can we convince academic staff that technology-based teaching, while generally requiring more time and support to effect change, is worth the effort?
3. In what ways and by what means can we implement staff development strategies to demonstrate that successful introduction of technology needs to begin with teaching and learning problems?
4. What kinds of professional development strategies can meet the real-world, just-in-time professional development needs of busy academics?
5. If academic staff are reluctant to adopt technology-based approaches to teaching where they feel less than expert, how can we implement strategies to assist them to learn (a) how to use technologies in pedagogically appropriate ways, and (b) to develop pedagogical practices that are defensible in terms of student learning?

Zhou & Xu (2007) have suggested that "more studies are necessary to develop solutions" (p. 508) to help academic staff overcome these many barriers. The following plan is presented as one such solution that can be readily implemented across a faculty or school and which addresses these issues.

PESTER Implementation plan

A six stage plan for implementation of online learning has been developed, based upon a review of the literature and the personal experiences of the author. Whilst it is targeted at a university level, the basic plan could be implemented in any teaching and learning context. The six elements of the plan are: Planning & Promotion, Education, Support, Training, Encouragement and Recognition & Reward (PESTER). The following sections provide a brief overview of the elements of the Plan.

The elements of the plan are directed at staff and aspects of staff development. It is noted that many, or all, of these ideas are currently in existence to varying degrees in institutions , what this plan does is bring the elements together in an integrated approach. The plan can be compared to a wheel where all components are vital to keeping the vehicle in motion. However, at any given moment the part of the wheel at the bottom is the most important as that keeps the vehicle grounded. Notably, if one section remains at the bottom (ie is given most weighting) for too long, progress will grind to a halt. It is also possible to move back to a previous element to regain momentum on the overall forward path. Ongoing evaluation will ensure that all sections are successfully implemented and allow for continual improvement and re-assessment when necessary.

Ideally the elements should be considered in a continuum, commencing with Promotion & Planning and progressing through the stages to Recognition & Reward. Once a full cycle has been completed further progress could be achieved by continuing through a further cycle to progress implementation to the next level. This could include improvement of staff understanding of online learning, implementing more technologies or investigating further uses of technology already being utilised and collaborations across faculties and/or institutions.

It is recommended that the plan initially be implemented at a faculty level in a university. At a lower level, for example discipline level, there is often not enough authority to implement the plan and make some of the decisions needed. At a higher level, for example university-wide it will be difficult to effectively disseminate information to staff and allow ownership by staff. This does though depend on the size of a faculty and the level of autonomy given to schools. The plan could equally be applied in the school or VET sectors. Applying the plan can help to ensure a unified approach to implementation of online learning across a faculty.

Students are placed at the hub of the plan as a reminder that the ultimate aim is to create a more effective and engaging learning environment for students. This helps to ensure that sound pedagogical reasons are the basis for implementing online learning activities, rather than the changes being driven by more administrative (eg cost-saving) or technological (eg a new technology tool or software) pressures.

The elements of the PESTER Plan are:

Planning & promotion: For successful implementation across a faculty there first needs to be a definite plan of how and why online learning is to be incorporated into the overall teaching and learning strategic plan (Bates and Poole, 2003; Ertmer, 1999). The development of a plan needs to be followed by promotion of that plan and its benefits for students, staff and the institution, in conjunction with the ideals of a student-centred approach to teaching and learning and the reasons for implementing online learning. It is important at this stage to include all stakeholders, including staff, students and professional and accreditation bodies.

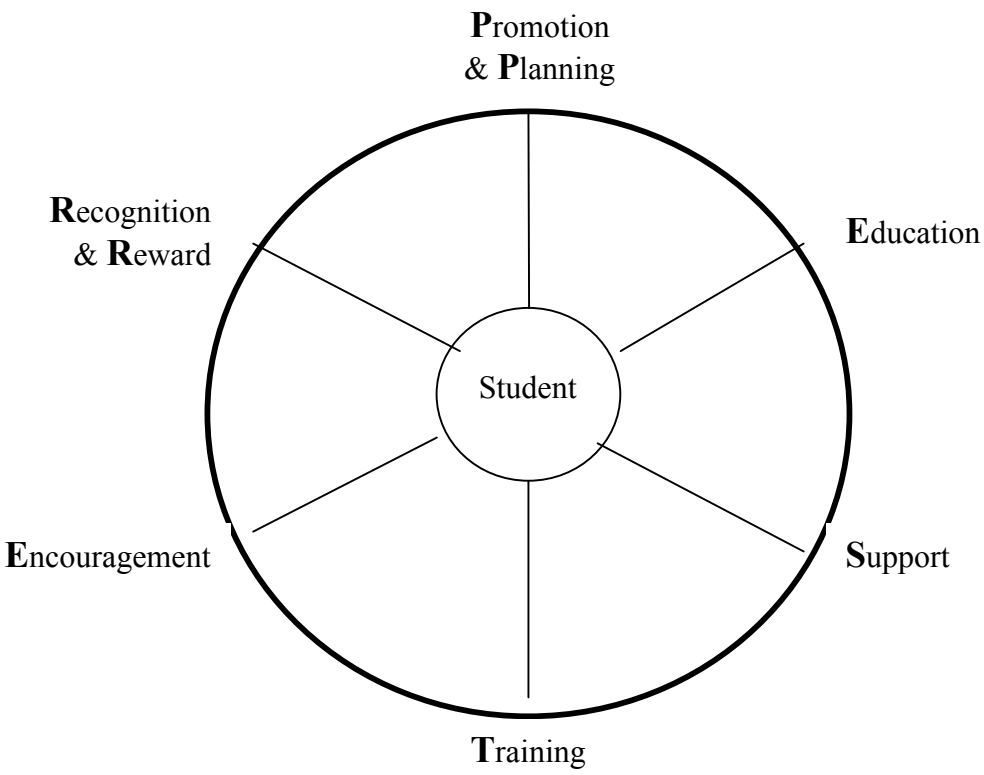

Figure 1: The PESTER plan for an integrated approach to implementation of online learning

Education: of staff into the various models of incorporation of online learning and how the different models are appropriate for different contexts. Education of staff is vital to overcome resistance to the uptake of online learning. It should be clear why management want to move to online learning and how this can be accomplished can be illustrated with concrete examples situated in context. External experts, including senior academics who have already implemented online learning could be enlisted to assist in this process. Education in this plan is about explaining why an innovation is being implemented, including the pedagogical reason, rather than how to use the new technology. Zhou and Xu (2007) for example, comment that staff need to be provided with a rationale for why computers should be used for teaching.

Support: includes provision of support for individual staff members as well as access to support staff such as learning designers, academic developers, information technology and multimedia experts and pedagogical experts. Peer support in the form of networks, mentors and discussion groups is also an essential ingredient as is practical assistance such as teaching relief (Covington et al, 2005; Kirkpatrick et al, 1997). Provision of support is important for both staff and students and can be provided on an individual and/or group basis.

Training: includes training in the use of technology to assist facilitation of online learning as well as training in pedagogy. The training can include workshops, one-to–one training, online training and "How-to" documents, seminars from pioneers and examples of best practice case studies (Kirkpatrick Jakupec and te Riele, 1997). Training that focuses on finding a solution to a specific teaching problem is often considered more effective and efficient than a generic course on learning technologies. (Bates and Poole, 2003)

Encouragement: includes time allocated to attend some of the training opportunities outlined above. Allocation of Teaching and Learning awards and grants for online learning initiatives is a further way staff can be encouraged as is inclusion of design, development and maintenance of online learning materials in the faculty workloads model. Evidence and examples of best practice in the use of technology can also be disseminated to staff through the faculty/institutions webpages. (Zhou and Xu, 2007)

Table 1: Example of an implementation plan using the PESTER plan

Stage of PESTER Plan	Barrier(s)	Strategies	Action
Planning & **P**romotion	Lack of strategic planning Lack of understanding, Unwillingness to change teaching styles Perception of teachers losing their power and control Poor articulation of vision re e-learning	Development of strategic plan for implementation of online learning, aligned with faculty and institution strategic plans Dissemination of rationale to staff students and professional/ accreditation bodies through meetings, memos, emails Identification of benefits to all stakeholders	Open discussions at Faculty/School and Discipline meetings Bulk emails to all students Inclusion of session on online learning during student and staff orientation Forums with businesses and professional bodies
Education	Lack of understanding Skepticism/ Fear of the unknown Some subjects not easily transferable to online learning context	Exemplars of current best practice Models of implementation – blended learning approach; different utilisation of online learning and technological tools	Open discussions at Faculty/School and Discipline meetings
Support	Lack of time Lack of support and acknowledgement	Teaching relief Mentoring Peer support groups Technological and learning design support	Formation of faculty online learning working group for those staff actively involved in design and development of online learning materials – regular meetings to share ideas One semester relief from f2f teaching load Learning design support
Training	Lack of skill level / perceived ability to adapt to new tool Some subjects not easily transferable to e-learning context	Workshops in online pedagogical practice Small group training on Learning Management System and associated tools Centralised help desk Online help manuals and "How-To" documents	Faculty-specific training sessions Presentations of Best Practice case Studies Workshops linking practical uses of technology tools to sound online pedagogies
Encourag-ement	Lack of time Much more emphasis on research	Raise profile of online learning Provision of Teaching and Learning grants and awards	Show and Tell sessions presented by early adopters Support provided to prepare applications for grants and awards
Recognition & **R**eward	Lack of support and acknowledgement Much more emphasis on research	Recognition of time required to develop, deliver and maintain online learning materials in faculty workloads model Provision of Teaching and Learning grants and awards Increase emphasis on online learning achievements in probation and promotion process	Working Party develop guidelines for faculty workloads model and implement across faculty All achievements noted in faculty-wide email bulletins

Recognition and reward: includes recognition of the time and resources required to design, develop and implement effective online material and reward for staff members who do implement online teaching and learning initiatives. Recognition of innovative use of technology in teaching through the teacher evaluation and promotion process is one example of how staff can be rewarded (Kirkpatrick et al, 1997) Whilst it is acknowledged that financial reward could also be important to some staff, this has not been included in the plan for two reasons:- monetary rewards are generally seen as providing little or no motivation to staff (Rockwell et al, 1999) and it is unlikely that universities would consider this a viable or sustainable plan.

Implementation of the PESTER plan

Effective and thorough implementation will require a strong commitment to the plan by senior management in a faculty and a strong leadership team. This will ensure that all affected staff have a thorough understanding of the implementation plan being used, the pedagogical rationale for this as well as a sense of purpose and ownership. Staff need to be assured that the management team are truly committed to creating a quality learning experience for their students in a supportive and collegial environment and that their efforts will truly be appreciated. This will need to include a commitment of funds and resources and consideration of how the plan can be sustained.

Once a faculty has made a decision to take an integrated approach to the implementation of online learning into their subjects and courses the PESTER plan can be utilised to develop an implementation plan that considers the barriers that may need to be overcome, and strategies that can be put into place to overcome these. Each plan will be unique, depending on the specific barriers that need to be overcome, existing processes and policies, available staff development opportunities and the desired outcomes for students and staff. Table 1 summarises one example of how this can be developed.

Conclusions and future directions

This paper has described an integrated plan to online learning that can be implemented by a faculty, or other unit, to assist staff in overcoming barriers to online learning. The PESTER Plan has been developed as a tool to assist faculties implement effective and pedagogically sound online learning with an integrated approach that will motivate, encourage and support staff. It is envisaged that the plan will continue to evolve as pilot projects are implemented and completed and future research will concentrate on how the plan has been adopted by faculties and schools in different contexts. Research will also need to be conducted into the effectiveness of the plan in helping staff implement strategies to overcome barriers to online learning and improving student engagement and results, the ease of implementation and acceptance of the plan by faculties and senior management. A further area of research will be a discussion of ways in which central support units such as Learning Designers and Academic Developers can support the implementation of the PESTER Plan.

Once this research had been conducted, evidence of its effectiveness collected and analysed and the plan further modified and improved it may be possible to describe this as a model rather than a plan.

While this plan has been developed for the implementation of online learning in a higher education setting it is envisaged that the plan will also be easily adaptable for other educational institutions as well as more general applications for implementation of innovations in education, business and personal life.

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