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Research in Progress: Learning from Adopters and Resisters of E-learning in New Zealand Polytechnics and Institutes of Technology

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INTRODUCTION The exponential growth of e-learning practices in higher education has resulted in an increasing interest in the ways in which faculty members in tertiary institutions perceive e-learning and the ways in which they apply e-learning in their courses. Faculty who might be described as "innovators" or "early adopters" have generally embraced e-learning enthusiastically; other faculty remain disengaged or disinterested. Disengagement may be due to faculty concerns about access to technology, software, and networks or it may stem from concerns about time allocations and staff support. Disinterest may be due to a perceived lack of relevance of e-learning strategies to particular courses, or it may simply reflect faculty members' dispositions to change, innovation, and adoption. The project briefly described in this paper seeks to determine the causes of disengagement and disinterest in the adoption of e-learning approaches among teaching faculty.

Hodas (1993) points out that technology is never neutral. Its values and practices must always either support or subvert those of the organisation into which it is placed. Hodas claims that the failure of technology to alter the look and feel of institutions results from a mismatch between the values of the institution's organisation and those embedded within the contested technology. The introduction of technology inherent in e-learning not only requires faculty to learn how to use new technologies—it also requires a paradigm shift in how educators orchestrate the act of learning. As important as learning how to use the technology appropriately, faculty need to learn how to personalise their instruction, regardless of the technology they use, and incorporate student involvement activities into their instruction. Some faculty remain sceptical about this process and they can feel overwhelmed by the knowledge and technical expertise required to deliver new courses.

It has long been recognised that teacher beliefs have a significant impact on the relative success of innovation in traditional settings. Teacher beliefs heavily influence what is possible or appropriate within an institution. These beliefs fulfil two functions: the need to know and understand and the need to ward off threatening aspects of reality. It is the interaction between these two that can make or break flexible learning initiatives.

THE PROJECT Our project is concerned with teacher beliefs and with investigating the factors that lead tutors in New Zealand's twenty polytechnics and institutes of technology to adopt or resist the incorporation of e-learning approaches into their teaching practices. In the project we will consider acceptance of and resistance to e-learning from the perspectives of both tutors and institutional management. Specifically the project seeks to:

- Establish a database showing the extent to which polytechnics and institutes of technology in New Zealand utilise e-learning in their teaching programmes;

- Identify the critical factors that influence early and later e-learning adopters to commit to this approach;

- Ascertain why some tutors resist or refuse to adopt e-learning approaches;

- Examine the relationship between institutional policies and on-the-ground realities with respect to e-learning;

- Use data and conclusions from the project to draw up a set of institutional guidelines that might be used to encourage greater adoption of e-learning in polytechnics and institutes of technology.

The rates at which members of any organisation accept new technologies or innovations have been most often regarded according to the categories devised by Rogers in his seminal text on innovation. Rogers (1995) describes innovation using five attributes: rate of adoption, relative advantage, compatibility, complexity, and trialability.

The rates at which members of a social system adopt innovation can be similarly categorised. Rogers uses the terms *innovators, early adopters, early majority, late majority,* and *laggards* to describe these categories. The Wintec team has modified and rewritten

Rogers's descriptors to develop five new categories that are neither positive nor negative.

We assert that narrow visions of e-learning are overly restrictive and potentially counterproductive. For the purposes of this project, we have used the definition provided by the Ministry of Education's Interim E-learning Framework to describe e-learning as:

> E-learning is learning that is enabled or supported by the use of digital tools and interaction between the learner and their teacher or their peers. E-learning opportunities are usually accessed via the internet though other technologies such as CD-ROM are also used in e-learning. (New Zealand Ministry of Education, 2001)

RESEARCH METHOD The project will use both quantitative and qualitative research methods. Quantitative national surveys will be balanced through the use of data from policy statements and from individual and group interviews. Advocates of qualitative research point out that techniques like case studies produce much more detailed information than is available through a statistical analysis. Moreover, while statistical methods might be able to deal with situations where behaviour is homogeneous and routine, case studies are needed to deal with creativity, innovation, and context.

Qualitative case studies will involve the collection and presentation of detailed information about particular participants and groups. Conclusions drawn from the case studies will emphasise exploration, description, and the interplay of a number of variables in order to provide as complete an understanding of a situation as possible.

The research methodology includes an extensive review of international literature, case studies, focus group interviews, and national surveys. In Phase One of the project, directors of learning technologies in all twenty polytechnics and institutes of technology will be surveyed to determine the nature of their institution's e-learning policies and the extent to which e-learning has been adopted in that institution. In Phase Two the research team will complete case studies in three institutions. In each of these case studies, the researchers will analyse policy documents pertaining to e-learning, interview key management personnel with relevant roles in e-learning, and conduct a number of focus group interviews with a range of tutors. The main feature of Phase Three will be an online survey of 300 to 400 tutors in all New Zealand polytechnics and institutes of technology. In this survey tutors will be asked to identify those factors that influence their adoption or rejection of e-learning and to list the relevant and related technologies they currently use.

The project will yield three major reports, which will include guidelines for future practice. One will be based on a survey of e-learning managers, a second will explore factors that have led to tutors incorporating e-learning in their teaching, and the third will look into problems tutors experience in adopting e-learning into their teaching. These reports will be aimed at providing evidence that could lead to increasing the uptake of quality e-learning in tertiary institutions in general, and polytechnics/institutes of technology in particular.

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