

Overcoming Fear of the Unknown! Staff Development Issues for Promoting the Use of Computers In Learning In Tertiary Education

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Abstract

The haves and the have nots. Those with knowledge and skills, and those without. The computer whizzkids and the rest, holding defensively to 'the human factor' ... The polarisation which undoubtedly occurs in many academic departments and faculties is not conducive to implementing successful innovations in the use of information technology in teaching and learning (IT in T&L). This paper will describe a project at La Trobe University which aims at breaking down these barriers and enabling all staff to learn about potential uses of computers in teaching and learning.

Resources are being moved into substantially improving the equipment infrastructure of the information technology facilities at La Trobe University. The key to using these new facilities for the enhancement of the quality of teaching and learning is effective staff development. The project (supported by Commonwealth Staff Development Fund grants for 1995 and 1996, and by institutional funds) uses several different approaches to involve staff in the use of IT in T&L. The design of the project is a multi-faceted one, with initiatives at all levels from institutional policy, programs in Faculty and Schools, and work with individuals.

Keywords

staff development, innovation, change strategies

1. The Nature of Innovation in Higher Education

In recent years there has been a rapidly growing uptake of computer-based learning in higher education (Cochrane, Ellis and Johnston, 1993) and clearly expressed concerns about the need to understand the influence of such technology on student learning (Laurillard, 1993; Wills and McNaught, in press).

Reeves (1991) outlines several constraints on the use of computers for educational purposes in higher education. These constraints range from those associated with costs, training and infrastructure to more fundamental issues relating to academic teachers' conceptions of teaching and learning, and their willingness to restructure both the content and their teaching methods when they are planning to introduce computers into their teaching programs. Also, at present there are more examples of inappropriate uses of information technology in teaching and learning (IT in T&L) than there are of well-designed and evaluated examples of how the use of computers can enhance student learning. This situation has lead to

a polarisation of staff into those who 'embrace' new technology with enthusiasm and those who scorn its use—not a healthy situation in which to plan for balanced and appropriate educational innovation.

We should not underestimate the difficulties involved in innovation. Marris (1978) parallels the sense of loss in bereavement to the resistance one can feel when letting go of known ways of doing things and embarking on new strategies. For many academics the increasing emphasis on the use of computers for administration, research and teaching is highly threatening. We need to recognise these fears and devise plans which build staff confidence and motivation, and provide adequate support and training opportunities.

2. Provision of Information Technology at La Trobe University

The use of information technology at La Trobe has increased substantially in recent times as the University carries out a major activity to improve the information technology facilities on its campuses. The vast majority of the University's Quality Grants have been spent in several areas related to information technology:

- introduction of a new computer network for all campuses with high speed connections inside and between campuses and to other networks in Victoria;
- installation of videoconferencing facilities, including appropriate suites;
- establishment of two new computer student study halls with network connections;
- upgrading of the Library's information technology by the installation of public electronic access workstations tapping into Internet and University information services; and
- general upgrading of teaching spaces at La Trobe and the development of standards required for all new teaching spaces, especially with respect to the provision of IT facilities.

These initiatives are supported by key strategic documents. This strong institutional commitment has been vital to the establishment and implementation of this project. The key to using these new facilities for the enhancement of the quality of teaching and learning is effective staff development. A multi-faceted plan has evolved which has the following components. It is a dynamic and responsive process with constant evaluation, reflection and redesign. At present all these staff development initiatives are available at no cost to staff or their Schools.

The components of the staff development plan include:

- Faculty-based work;
- School-based and individual support for new users;
- workshops and seminars across the University;
- the Academic Development Unit's World Wide Web page which has a section which provides descriptions of teaching and learning projects at La Trobe;
- an *ITALICS* (Innovative Teaching And Learning Involving Computer Systems) listserv with over 200 members;

- the *ITALICS* newsletter which is aimed at providing educational ideas for relatively new users of information technology;
- a series of pamphlets about the use of IT in T&L;
- small teaching and learning development grants (\$2,000-\$5,000); and
- coordination with an intensive IT training program

Each of these initiatives will be described in more detail.

3. Faculty-based Work

A Faculty IT Liaison Officer was appointed at the start of 1995 in each of the five Faculties at La Trobe. These Liaison Officers are academic staff on part-time secondment to the Academic Development Unit. They have visited all Schools in the University and undertaken a survey of:

- computer infrastructure,
- ways in which information technology is currently being used in teaching and learning, and
- needs for staff training.

One of the outcomes of the project is the development of Faculty IT actions plans. The work in 1995 will be directed partly at the development of Faculty actions plans with designated priorities for the use of information technology in teaching and learning. A stated commitment is seen as essential if optimal use is to be made of information technology for teaching and learning. The Faculty Undergraduate Teaching Committees are also involved in this process.

Each Faculty IT Liaison Officer has assisted in the design and delivery of workshops, seminars and support structures within his or her Faculty. This local work is time-consuming but appears to result in staff having a greater awareness of the potential of IT in T&L because offerings are more closely tailored to needs, and examples chosen have more contextual relevance. This is a difficult time in some areas of the University where IT facilities are still being upgraded but it seems important to begin the process of providing support to staff and building awareness as soon as possible.

4. School-based and Individual Support for New Users

Both technical and educational support are needed. In this project we have done this by providing three types of support:

- An experienced teacher is available to staff on an individual or School basis to discuss the use of particular software, and assist with customising personal computers. This is a new initiative and its impact has not yet been assessed.
- The Academic Development Unit provides educational design and consultancy support to teaching and learning projects involving information technology at La Trobe. Several of these projects are CAUT-funded.

- While the design of administrative operations is not normally handled by teaching and learning staff, it has been valuable to assist staff to use IT networks to facilitate efficient communication in some administrative units. This is being done by a needs analysis followed by workshops in the use of new IT for innovating administrative practices. This preliminary work acts as a pilot for more comprehensive plans under the IT training program (see section 8 below).

5. Workshops and Seminars

The staff development workshops and seminars focus on educational uses of information technology. In 1994, a series of 22 specialised multimedia workshops were held. This culminated in a half day showcasing of ten computer-based teaching and learning projects in November 1994. In 1995, workshops and seminars have covered a wide range of topics, including:

- series of case study explorations of specific projects,
- several courses on educational uses of Powerpoint,
- workshops on visual design and on existing computer-based audiovisual resources at La Trobe,
- use of electronic mail,
- the World Wide Web,
- using videoconferencing effectively, and
- demonstrations and courses on the use of authoring software such as Hypercard, Toolbook and Authorware.

Some of the workshops and seminars have been organised on a Faculty basis; others are University-wide. Attendance is variable but evaluation feedback has always been positive. The audience comes from right across the University, and there have been several follow-up queries. At the time of writing 1995 activities are still ongoing; we expect that during 1995 about 300 staff members will have attended an *ITALICS* event.

6. Use of the World Wide Web

The Academic Development Unit's World Wide Web page

(address <http://www.latrobe.edu.au/ADU/ADU.html>)

was developed for this project. It has a section which provides descriptions of teaching and learning projects at La Trobe. It is planned that this will build up to be an effective directory on the use of IT in T&L at La Trobe.

7. The *ITALICS* Image

ITALICS stands for Innovative Teaching And Learning Involving Computer Systems. (Note the subliminal linking of Innovative Teaching with Information Technology...)

7.1 *ITALICS* support mechanisms

An email discussion group and a paper newsletter have been set up. An *ITALICS* (Innovative Teaching And Learning Involving Computer Systems) listserv with over 200 members has been set up.

A data base of staff who have expressed interest in using IT in T&L has been established. It is planned that as far as possible communication will be carried out by electronic postings. The group which these staff have joined is *ITALICS*; it replaces the Computer Assisted Learning Special Interest Group (CALSIG) and brings a broader emphasis by including the educational use of networks as well as stand-alone computers.

At this stage the listserv is mostly used to deliver information from the *ITALICS* staff, but queries and comments are starting to come from other members. We are hopeful that this will develop into a useful discussion group. New subscriptions come in regularly as the network reaches more of the University. There have been very few requests to unsubscribe.

7.2 *The ITALICS newsletter*

This is aimed at providing educational ideas for relatively new users of information technology now exists. At the time of writing two editions have been produced.

Some starting points which were adopted:

- The content will not have the technical detail of the Information Technology Services' newsletter.
- Explanations will be given about the uses staff can make of the upgraded network facilities at La Trobe.
- There will input from staff including Information Technology Services staff, the IT Faculty Liaison Officers and other experienced IT users.
- Innovative ideas gleaned from elsewhere will be added.
- Educational issues will be incorporated into each newsletter.

8. Pamphlets

A Series of Pamphlets about the use of IT in T&L is in production.

Some titles are:

- The university teacher's guide to selecting presentation media
- The university teacher's guide to overhead projection: Issues of appropriateness and quality
- The university teacher's guide to using images in teaching
- The university teacher's guide to portable multimedia projectors
- Understanding the components of computers

- Understanding the jargon of the internet

9. Small Teaching and Learning Development Grants (\$2,000-\$5,000)

The availability of a small number (about 10-15) Vice-Chancellor's Teaching Developments Grants were advertised, about half of which could relate the use of IT in T&L. Sixty-one applications were received, most of a very high standard. It is expected that these projects will support pilot work in applying for grants such as CAUT grants. In 1995 ten IT grants were awarded for a wide variety of ways in which IT can be used in teaching. A broad range of disciplines were covered. The topics included:

- An Internet database of microfilm collections (History)
- The use of Powerpoint in lectures (Economics)
- Introducing micro-media approaches in clinical situations (Social work)
- Use of electronic bulletin boards (Zoology)
- Developing self-paced materials (Three projects: Philosophy, Computer Science and Mathematics)
- Developing materials for staff and students about IT in T&L (range of projects at Bendigo)
- Animated graphics (Mathematics)
- An on-line manual for using HyperCard

10. Coordination with an Intensive IT Training Program

The IT training program (largely under the auspices of Information Technology Services) and the *ITALICS* project (based in the Academic Development Unit) work together in that staff need to be confident and skilled in basic uses of computers before they are likely to get involved in using computers in their teaching.

A comprehensive plan for information technology training for all staff has been devised. The purposes are to enable all staff at the University to achieve a general computer literacy and confidence in using a range of basic commercial software applications, and to be able to make efficient use of the local and global network. This plan involves the use of commercial computer-based training (CBT) software, supported by classes. This will enable all staff to have access to training materials in word processing, spread sheets, data base use, drawing packages, electronic presentation software, etc. A training officer post has been created and a new IT Staff Training Centre is planned.

This IT training program builds on existing staff training initiatives which are in place. For example, Information Technology Services offers courses twice a year in February and June. The content of these courses is based on the analysis of the use of the Help Desk. These courses are always oversubscribed. Special courses are also offered on request.

In designing any IT training program, it is important to bear in mind three factors:

- The *skills level* of staff, both academic and general, encompasses a broad spectrum. This program is designed to concentrate on basic skills in 1995. However, plans for 1996 need to include provision of additional training at a more sophisticated level. This will include training for new administrative systems for student records, finance, etc.
- Both *Macintosh and PC platforms* are widely used at La Trobe University. Training programs need to be available for both platforms.
- Any training policy needs to be *campus inclusive*. The use of computer-based training (CBT) software which is available on all campuses is appropriate but the need for training support staff on all campuses is an issue to be addressed.

The CBT materials are context free. Training staff in the use of local and global networks should be designed with the specific set-up at La Trobe in mind. Therefore, the network training is somewhat separate from the training using CBT materials. Due to the diversity of electronic mail packages and computers in use, a variety of documentation and training programs will be needed. This process will contribute to the establishment of appropriate network standards for La Trobe.

11. Evaluation

The design of this staff development program, with several components, precludes a simple evaluation. And any real benefits will be seen progressively over the next few years. Regular reflection sessions occur both electronically and in meetings between the *ITALICS* coordinator, the Faculty IT Liaison Officers and the technical officer in the project. Evaluation questionnaires are used for all workshops and feedback from those who attend is favourable. More staff are constantly joining the *ITALICS* listserv.

The most useful evaluation for the project is the extent to which individuals and schools become involved in using the facilities for information technology which are available. Data on this will be upgraded on an ongoing basis and this will be a valuable monitoring mechanism. This ongoing evaluation will continue for some years; the development of the process by which this essential evaluation data will be obtained has now been established.

12. Summary

The experience of the last year in setting up staff development work for the use of information technology in teaching and learning at La Trobe University has strengthened the beliefs that:

- Changing work practices is a slow process.
- Once staff have gained new skills and can see how they use them, their own commitment becomes high.
- Change requires commitment at all levels—institutional, Faculty and School.
- A wide variety of initiatives which act together are needed in order to effect change.
- Training and educational support schemes need to dovetail together.

13. References

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