MCA Online Implementation

Project Summary:

This proposal aims to establish a project to promote, use and evaluate MCA Online - a web based learning environment within the TAFE Division of Victoria University. The project aims at developing a unit of learning (a module) that introduces MCA Online to students and promotes its use by nearly 300 TAFE students studying various modules and units. Another aim of the project is to provide professional development to teachers and also build their confidence in using new learning technologies to enhance their classroom based teaching and in allaying fears that increased use of online technology is intended to replace traditional classroom contact with students. Finally, the project will carry out an ongoing evaluation of the use and effectiveness of online flexible learning support of targeted maths groups and thereby identify strengths and weaknesses of such a support system.

Project Context and Rationale:

The use of Internet based technologies is increasing rapidly in schools, TAFE and universities worldwide. Email based communication and use of worldwide web for research and publishing within the education institutions has increased significantly in the past three years. Several Australian TAFE colleges and Universities have adopted innovative technology solutions to provide more flexible and innovative learning opportunities to students and to reach students in a global marketplace. One example of this shift in educational innovation is evident within the Victoria University of Technology. The university has established a Centre of Educational Development and is using Topclass web based educational delivery system with nearly 2000 students. In the TAFE division of the university the Virtual Campus initiative by the Office of Training and Further Education (OTFE) is being trialled and several TAFE departments are participating by developing and running modules using the VCTAFE facilities.

The proposed project is based on one such initiative taken within the School of Further Education and Employment in the TAFE division. The School has established a Maths Learning Centre (MLC) to support TAFE students in this subject area. The MLC facilities were further enhanced during 1999 through the development of a web based learning environment to further enhance Maths learning via the web interaction. This web site was recently launched and several workshops and seminars show a positive response from teachers who are keen to introduce their students to online learning.

Learning maths has traditionally been one of the difficult areas in TAFE courses as many adult students come ill prepared with limited background in mathematics. This trend in reflected in a significant drop out rate in several courses. The University is attempting to
address the situation by funding support services such as students learning unit, self access centres and maths learning centre. Provision of some of these services via online medium has a potential to significantly improve access and use by students resulting in greater participation and success rate.

The proposal aims to undertake a project to promote, use and evaluate Maths Concurrent Assistance Online within the TAFE Division.

Literature and Current Practice Relating To The Proposal:

Along with most other technologically developed countries, Australia is rapidly becoming an information society. Forty five per cent of Australian households (3.0 million) had a home computer and 38 per cent of households (2.6 million) had a computer that was used frequently. Nearly 5.7 million Australians aged five years and over used a home computer frequently (34 per cent of the total population). (ABS No.8146, 1999).

Governments are also becoming aware of the role that education and training must play in equipping the workforce and community for the information society. In the Australian context there have been a number of key reports and initiatives, including the establishment of Education Network Australia (EdNA, 1996) by the Department of Employment, Education, Training and Youth Affairs with the purpose of providing a collaborative framework for cooperation between the Australian States and Territories in relation to online services. Office of Training and Further Education (OTFE) in Victoria is playing a key role in promoting online services for the vocational education and training sector. A number of OTFE initiatives, including the development of TAFE Virtual Campus (1999) are clearly targeted at increasing participation by the use of online learning.

At Victoria University in Melbourne online learning and web based course delivery is being promoted through the establishment of the Centre for Educational Development and Services. This Centre has established Topclass web based learning system and currently nearly 2000 students are registered users on this system (July 1999). In the TAFE division, the use of TAFE Virtual Campus have begun with a number of modules at the School of Business and Hospitality. With the increasing use of online services in educational delivery questions about its relevance, impact and perceived benefits are also beginning to emerge.

A Maths Learning Centre located within the School of Further Education and Employment Services is providing concurrent assistance to many of these students currently doing modules leading to certificate and diploma awards in engineering,
business and VCE courses. During 1998, approximately fifty percent of the concurrent assistance delivered via the Maths Learning Centre has been provided to students enrolled in the above cited modules at one campus. Only a small percentage of students would actually travel to another campus for purposes of visiting the MLC for maths concurrent assistance. As a result, face to face assistance is unable to meet the needs of many students who can not attend MLC regularly at scheduled times. Timetabling and work commitments of staff make it difficult for students to see individual teachers or attend MLC at their convenience.

During the first semester of 1999 an Open Training Services funded initiative led to the development of an online learning environment in the form of Maths Concurrent Assistance (MCA) Website. This online learning environment was developed by the teachers working for the Maths Learning Centre and comprises of learning resources, a discussion board and an online live tutorial facility. Learning content specific to Engineering, Business and VCE students has been put online with several interactive practice links, solved examples and glossary. A set of 12 learning units in basic maths topics have been developed to assist students learn and practice basic skills associated with these topics. This web based learning environments aims to complement face to face learning and provides enrolled students access to maths support in an ongoing manner. Students can post messages on the discussion board for their teachers and seek assistance.

The Learning Units section of the website is the main content area where students can access maths units under topics of Algebra, Numbers, Fractions, Decimals, Measurement, Indices, Percentages, Geometry, Graphs, Trigonometry, Statistics and probability. Each unit provides an introduction to the topic, solves examples of questions and gives practice questions. More interactive practice and learning resources on that topic are provided by links to relevant websites on the Internet. These external sites open up in a separate window so that the students can easily switch back to MCA site.
MCA online is an interactive website and offers opportunities for synchronous and asynchronous communication. It offers the students opportunities to practice maths problems in their own time and if they have a question or inquiry they can quickly jump to the Message Board and post their question or comment. Other students and concerned teachers can make replies to these questions. Similar facilities for communication are being use widely in online courses.

The MCA online website working in conjunction with the Maths Learning Centre has a potential to increase the motivation and learning opportunities for many students who are struggling with their maths and need individualised access and support. The Victoria University TAFE is aware of the needs of these students and has continually supported establishment of services such as Students Learning Unit, Centre for Educational Development and Support, Self Access Centres and Maths Learning Centre.

**Linkages to Action Areas in the University's Learning and Teaching Strategy:**
This proposal has direct links with the following action areas in the University's Learning and Teaching Strategy:

a. *Improving facilities in on-campus learning and teaching spaces*
It is anticipated that improving student access to open access computer laboratories will enable students to use MCA Online and therefore improve access to this flexible learning support service.

b. *Implementing flexible learning approaches*
The proposal aims at strengthening educational design support for flexible learning. MCA Online is a web based flexible learning and support environment. Its use by students will enable them to access learning in a more flexible way. The proposal aims to induct relevant staff from selected TAFE departments in using MCA Online thereby providing opportunities for professional development in supporting online learning.

c. *Implementing a coordinated approach to student learning support and development*
MCA Online provides opportunities for peer assisted learning to augment formal teaching. Using Web board message board MCA Online encourages learner - learner as well as learner - teacher interaction. This concurrent assistance service via online mode targets at students with learning difficulties in maths.

**Anticipated Outcomes:**
1. Development and Trailing of a MCA Online Module with TAFE VCE, Business, Engineering and General Education students.
2. Evaluation of the use and effectiveness of MCA Online
3. Further development and extension of learning resources on MCA website
4. Professional development of staff in using an online learning environment
5. Training of students in learning to learn strategies in online environments