ABSTRACT

Online learning is a major paradigm shift, a fundamental change in education that has the power to transform learning, the curriculum and the structure of schools. Schools are looking for ways to provide more relevant programs for a greater number of students in ways that are more flexible, technology rich and appropriate for the contemporary learner.

Tasmanian is well established at the leading edge of this change in Australia. A significant investment has been made in online learning which is already a reality in Tasmanian schools. The Department of Education has developed and implemented:

- an appropriate vision of what the future holds shaping strategic directions;
- an enabling and expanding range of online services and infrastructure;
- innovative online programs and projects at school and system level;
- processes for the development and provision of online content; and
- effective professional development programs to support teachers moving into a new paradigm.

There are four factors driving this major innovation in Tasmania:

- the convergence of classroom teaching and online learning;
- the push for technology enhanced collaborative learning;
- the changing relationship between student and teacher in the quest for lifelong learning; and
- a system wide Curriculum Consultation process supporting online learning approaches as a catalyst for change in relation to the school curriculum and the structure of schools.

This presentation will highlight the values, beliefs and constructs underpinning online learning in Tasmania. It will showcase best practice in online learning, in infrastructure development, in online content development and in the professional development of teachers moving into the new paradigm.

Mick Chalmers - November 2001
e-magine Centre of Excellence in Online Learning

MANY observers would agree that in the last two decades little has changed in the dominant culture and structure of our schools. Despite considerable investment in change processes and in innovative initiatives to improve the quality of education, significant change aimed at increasing flexibility and relevance in curriculum structure and educational delivery has not been achieved.

It is certainly not an absence of innovation that is responsible.

"The biggest problem facing schools is fragmentation and innovation overload" (Fullan: The New Meaning of Educational Change p21)

Change has been constrained by other factors including the inherent inflexibility of school timetables and a lack of connectedness and coherence in innovation. Online learning and the integration of ICTs in teaching and learning has the potential to enable us to overcome these constraints and to make schooling more responsive to the needs of learners.

Values and beliefs

Online learning offers opportunities for curriculum renewal, pedagogical change and educational restructuring. Online learning is seen as providing a catalyst for Tasmanian schools to achieve the vision and goals established in the State Government’s Learning Together strategic policy. "Tasmanians will have a world-class education, training and information system which matches the best anywhere. We will achieve this through:

...Responsive and continually improving services - that ensure all Tasmanians develop the knowledge, skills and confidence they need"
...Enriching and fulfilling learning opportunities – that enable people to work effectively and participate in society

...Safe and inclusive learning environments – that encourage and support participation in learning throughout all of life

...An information-rich community with access to global and local resources”.

(Learning Together)

Tasmanian schools and colleges now have technology infrastructure and access to make online learning a reality. The challenge is to translate current understandings of curriculum and pedagogy into a new paradigm of online learning to prepare young people for a new world.

All educators recognise that...

“School education provides the foundation for the information economy and the knowledge society...children living in an online world must have a school education that enables them to participate in and contribute to that world” (Forrest; Learning in an Online World)

“Schools are educating students from diverse and complex cultures and communities, for new workplaces and technologies, new economies” (New Basics: Theory Into Practice, Dept of Education Queensland)

The education we provide our children must be responsive to the reality that we are increasingly dependent upon the internet. Australians are making significant use of the internet in the workplace, to undertake consumer transactions and for leisure purposes. Online experiences must be a part of the broad education we provide young people with if we are to provide them with relevant skills and understandings.

Online learning is a major paradigm shift, a fundamental change in education that has the power to transform learning, the curriculum and the structure of schools. Schools are looking for ways to provide more relevant programs for a greater number of students in ways that are more flexible, technology rich and appropriate for the contemporary learner.

There are several factors motivating online innovation in Tasmania:

• the convergence of classroom teaching and online learning
• the push for technology enhanced collaborative learning
• the changing relationship between student and teacher (Westera, 1999) in the quest for lifelong learning and
• a system wide Curriculum Consultation process supporting online learning approaches as a catalyst for change in relation to the school curriculum and the structure of schools.

Online learning can refer to quite distinct approaches to learning via the Internet. On the one hand it can refer to a form of resource-based learning in which the resources are electronically delivered; on the other hand, it can refer to virtual classroom learning, centred on the use of asynchronous and synchronous conferencing (Inglis, 1999). Most online learning offers a combination of both.

For school-based teaching and learning purposes, online learning is conceived as a rich, dynamic resource that promotes interactivity amongst a community of learners. It can be web-based or use videoconference. An online learner accesses learning that provides resources and links to other learners through a set of collaborative communication tools (email, web forums, chats, interactive whiteboards and students presentation galleries). The communication facilities enhance online education and training by creating virtual student networks and student support facilities which promote collaborative, supportive learning environments similar to those found in regular classrooms.

Online learning is thus essentially a blend of three elements: instructional design of content; communicative learning activities; and appropriate support for the learner. It is the ability of teachers as designers to provide this rich mix of learning and to facilitate an active learning community that is the crux of quality online learning.

The e-magine Centre of Excellence in Online Learning

The Tasmanian Department of Education is creating a vision for education that encompasses:

• a shared view of how online learning can facilitate improved student learning outcomes through the effective integration of information and communication technologies in teaching and learning
• support for the transformation of schooling within a supportive, collaborative culture of knowledge management
• access to educational opportunities and learning technologies for all, particularly those in rural and isolated communities
• support for quality online content development, online professional development and relevant infrastructure to enable ease of access and use

The e-magine Centre of Excellence in Online Learning was established in late 2000 as an initiative of the State Government. e-magine’s Strategic Directions are focused on achieving the vision and goals outlined in the State Government’s ‘Tasmania Together’ and ‘Learning Together’ documents, specific to improving student learning outcomes through the use of ICT, building a highly capable and ICT competent workforce and developing strategic partnerships.

e-magine is now fully established as a business unit of the Department of Education, Tasmania. For the past 12 months the Unit has focused on bringing together the three previously separate units:

• Discover Online Learning Unit
• Educational Computing Professional Learning Group
• Open-IT Project Team (online content development)

The e-magine Centre of Excellence is now well positioned to assist schools and colleges to move forward rapidly in the utilisation of ICT to improve, impact on and transform teaching and learning.
Infrastructure Development

Several years of dedicated funding for a roll-out of ICT services to Tasmanian schools and colleges has enabled the integration of online services into the teaching and learning process.

The government initially committed $20M over three years (1998-2000) to provide for IT infrastructure in all schools contingent upon their development of a Learning Technologies Plan and an IT budget consistent with Departmental standards that include recommended servers, LAN network cabling, technical support and computer hardware. This funding has become recurrent enabling schools to plan for hardware upgrades, cyclical replacement and to take advantage of leasing options.

All Tasmanian schools are connected to the Internet via ISDN lines with varying bandwidth from 64 kbs to 1 mbs.

In addition schools are supported with a Managed Networks Project which provides dedicated ICT support at school level. School networks are maintained through this project, not by teachers.

A set of innovative online services has been developed as a platform for online learning for the education community which is accessible to all students, teachers and the community.

The Department commissioned a redesign of the formerly “corporate style” Education website with a view to providing services more appropriate and relevant to teaching and learning that could be accessed quickly and simply in the classroom. Following a needs analysis and a rethink of teaching and learning needs into the future, an innovative, dynamically changing, interactive website was designed and built with a view to providing a collaborative workplace for the whole education community. This rich array of online services has given teachers a reason to utilise their skills as a natural part of their work in classrooms.

The Discover website, launched in August 1999, is an interactive, dynamic resource for teachers, students and the school community http://www.discover.rased.edu.au/ It has become a workplace for the education community, housing such things as a digital resource databank. The site also features an online centre for easy access to online learning modules, forums, online conferences and chats. The site promotes interaction amongst teachers, students, parents and the community in general.

- Forum Centre – Web Forums using the Ultimate Bulletin Board technology have seen teachers and students involved in collaborative online experiences ranging from online conferences to professional forums and student projects. Chat facilities such as comic or text chat are also provided at times that can be specified by the facilitator for added security. Teachers and members of the education community can request online a forum or chat which they then facilitate and manage.

- Digital Resource Databank – The digital resource databank in Discover is a repository to which education community members can contribute their ideas, strategies, contact details, teaching and learning resources, online learning resources, and share those used by others. Refinements have been added to the databank to enable quick and easy searches that return relevant data to the user and a remote searching ability that enables users to access the databank from remote sites has been added. The databank is based on the latest XML technology and has been used as a basis for further developments across government.

- WebCT as a Learning Management System - Teachers are able to create their own password protected online learning environments within WebCT. A range of high quality modules are available on Discover for teachers to customise and deliver. Some of these have been developed by teachers, the majority, more than 100 through the $3 million OPEN-IT Project (1999-2001, funded by Rural Telecommunications Infrastructure Fund).

- List Serve – Using Lyris discussion list software teachers are able to set up mailing lists to support professional interaction. These lists are rarely used in online teaching as they require participants to have an email address, but they are effective tools for teacher networking.

Online learning as a concept is dynamic in nature and evolving. There are infrastructure implications for this.

The importance of fostering social, supportive and instructional relationships in an online learning community within a live virtual classroom has prompted the Department to investigate ICTs which will complement the Discover online services by improving synchronous conferencing.

“without the support and participation of a learning community, there is no online course” (Palloff R. M. & Pratt K.’99)

Audio and video conferencing also have the potential to greatly enhance online collaborative projects and delivery of some programs particularly LOTE.

The increasing prevalence of an objects based, rather than module based approach to online learning creates a need for an improved resource discovery system and content management system.

The Construct of the Online Classroom

The provision of infrastructure and access in Tasmanian schools and colleges has created the concept of the online classroom. Given appropriate decision making at school level each regular classroom teacher should have access to at least 3 or 4 modern computers connected with reasonable bandwidth to the internet. Within any class there is an online classroom. Some of the students in a class may be engaged in regular offline activities clustered in groups or around desks, others may be around the computers working in the online classroom.
Within the one class students in a Tasmanian school may be working in many different ways (see fig. 1). Some students may be involved in normal offline activities, others may be involved in online collaborative projects with students in other classes or schools. Some students may be involved in an online activity delivered by a teacher in another school. The teacher of the students may be delivering a program in the regular classroom and to students in another school.

This model retains the positive characteristics of the regular classroom in that it is expected that teachers maintain a relationship-rich online classroom that is supportive and secure. The learning management system offers a range of content delivery, assessment, student management and evaluation tools. Videoconferencing facilities, the Forum Board and Chat Server provide synchronous and asynchronous interactive experiences.

The online classroom is not one online tool. As in the regular classroom teachers and students use the most appropriate tools and resources. The online classroom caters for different learning styles and is flexible and dynamic.

Professional Learning

The critical factors in achieving the transformation of schools and the adoption of the new paradigm is professional learning and support for the early adopters.

A significant proportion of funding has gone into the professional development of teachers in ICT. Over recent years, a skill development program has been successful in building teachers’ skills, confidence and positive attitudes towards learning technologies. Professional learning accreditation statistics indicate that over 90% of teachers are skilled in basic computing, 80% in word processing and publishing, 75% in internet and email use, 40% in multimedia and web publishing and 10% have completed the module “Integrating ICTs in Teaching and Learning”.

The professional development model has traditionally been the on-site practical workshop each week, same time, same place. Although this is seen as the “injection model”, it proved to be a good basis as an initial attempt to upskill teachers. A workplace learning model of flexible delivery was trialled and evaluated in 1998, along with an in-school resource teacher model. The success of both models led to the implementation in 1999 of a fully fledged workplace learning model, facilitated by a team of curriculum officers who supported teachers’ learning in flexible, contextualised ways in the classroom.

Despite this intensive professional development program, the application and integration of learning technologies in the classroom has been a barrier for a high proportion of teachers. Fear, anxiety and a lack of confidence, coupled with inadequate access to appropriate up-to-date computer technologies, made the process more difficult. For many teachers, a lack of practice meant that newly acquired skills were lost quickly.

The e-magine Centre of Excellence in Online Learning provides a professional development program for teachers moving into the online teaching and learning paradigm. Based on the philosophy that the only appropriate way to learn about online learning is through an online learning experience, the program is customised around various online experiences supported by practical workshops which develop practical skills in using online tools and through reflection on the online experiences an understanding of online pedagogies.

ONLINE INNOVATIONS

Online learning is being embraced by the broad education community

Two significant projects managed by the e-magine Centre of Excellence in Online Learning 2001-2002 are

• the Innovative Environments Project
• the Discover Online Centre

The Innovative Environments Project enabled schools and clusters to pilot innovative and best practice in the use of ICTs and in the adoption of new teaching practices. The schools have begun work in the following areas, designed to maximise the effective use of online learning to promote improved student learning outcomes:

• cross school delivery of online programs within a cluster;
• development of Year 6-7 Transition Programs Online;
• trial of rich multimedia content over ADSL broadband through Telstra E-Lab;
• identification, customisation and delivery of online digital content;
• community or parent involvement in online learning forums;
• alternative timetabling and organisational structures;
• online mentorship between students in schools and the University of Tasmania and the University of Third Age;
• developing intranet materials to support classroom delivery;
virtual excursions; and
developing a virtual fish farm for
online VET Aquaculture.

The Discover Online Centre facilitates and
coordinates the delivery of online pro-
grams. In essence it is an online school
which seeks to provide:

• curriculum diversity and richness for
  rural and small schools;
• online extension, challenge and enrich-
  ment programs involving inter school
  collaboration;
• online programs for specific groups eg
  students at risk;
• opportunities for schools and colleges
to use online approaches to reshape
  curriculum delivery and structure.

Online Classrooms enable distributed stu-
dents to receive programs from teachers in
other locations. Teachers may deliver pro-
grams to students in their own regular
classroom and to students in other places.
A variety of online programs such as
Japanese, VET Aquaculture and Sports
Science are delivered to small groups in
schools to make viable class sizes and to
support new curriculum structures.

Conclusion
Teaching is part of a new and still emerging
paradigm. Observations of online teaching
in Tasmania reveal that successful online
teachers appear to have a new staffing
profile reflecting their qualifications, moti-
vation and experience, and they utilise
different pedagogies and approaches.
Many of the teachers are mature and expe-
rienced teachers keen for new challenges
and looking for ways to make the cur-
riculum more relevant and flexible.

There is no doubt that online learning is
being embraced by the education commu-
nity in Tasmania. There are on average
800 visits to the WebCT server each day.
Over 300 modules were active in 2001.
The Forum Board has 3663 participants
currently enrolled. It hosted approximately
150 forums for teachers and students in
2001 on topics including:

• Reporting on the Physico-Chemical
  Water Quality;
• Plate Tectonics and Gondwana -
  Where Did Tasmania Come From?;
• Mollie the Bunyip;
• Access Asia – India;
• How we Celebrate Christmas;
• Harry Potter and the Philosopher’s
  Stone;
• Bridge to Terabithia;
• Australian Author Studies;
• Contemporary Wood Design;
• Child Studies;
• How Do Groups Work?;
• Mathematics;
• Legal Studies of Australia; and
• Globalisation, the Good, the Bad and
  the Debatable.

Over 600 students and educators from all
over Australia became involved in two
Online Conferences convened by the ei-
magine Centre of Excellence in Online

The considerable investment made in Tas-
mania to establish an infrastructure for
online learning and support for teachers
and students moving online has provided
educators with the opportunity to make
real, significant and sustained changes in
curriculum structure and flexibility.

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Biography

Mick Chalmers has extensive experience
in the delivery of online learning to
students in schools and to adults. He
jointly developed the Discover Online
Professional Development Program
which is leading teachers in Tasmania
into the new paradigm. He has been
employed as a consultant in online
learning in several states. At present
Mick is Manager of the Discover
Online Centre, a virtual school which
is coordinating online programs in
Tasmanian schools. Mick has pub-
lished widely in the area and in
2001 convened the Online Hothouse
http://www.discover.tased.edu.au/online
hothouse/ which involved educa-
tors from across Australia.