



REPORT OF THE MCEETYA ICT IN SCHOOLS TASKFORCE (ICTST)

Recommendations

It is recommended that MCEETYA:

a) endorse the revision and publication of a second edition of *Learning in an Online World: the school action plan for the information economy* as the national strategic blueprint to guide the implementation of information and communication technologies (ICT) in schools for 2003 - 2006;

b) endorse the need for particular priority to be placed on the provision of high bandwidth services to schools covering urban, rural and remote Australia and agree to the development, by the ICT in Schools Taskforce, of a national action plan on bandwidth provision involving:

- communication providers to achieve a mutual understanding of schools' and the industry's strategic needs and imperatives with a view to bringing a national focus to work on this issue in the manner that the [Le@rning](#) Federation has achieved with curriculum content provision;
- the Bandwidth Advisory Group and NOIE to ensure recognition of school education needs and the development of co-operative solutions through the present review process;
- all school jurisdictions, the other education sectors (VET, higher education) and the health sector, which faces many similar challenges, to encourage exploration of joint options for the provision of bandwidth, the management of internet traffic and communication of best practice;
- the relevant regulatory and policy agencies to address the needs of the schools and wider education sector in the evolving market and regulatory arrangements; and
- work with appropriate international agencies to benchmark school bandwidth provision.

c) endorse the development of a national K-12 Learning System Architecture Framework to provide a strategic guide to jurisdictions in ensuring that teachers will be able to effectively use the digital materials from the [Le@rning](#) Federation Initiative and other sources; and

d) endorse the development of an ICT in Schools Research Strategy for consideration by MCEETYA in 2003 which identifies the kind of research important to the successful adoption of ICT in teaching and learning and proposes models whereby this research is made readily available to practitioners and the community.

2. ICT in Schools Taskforce Operations

The ICT in Schools Taskforce is chaired by Dr Martyn Forrest, Secretary, Department of Education in Tasmania and draws members from all jurisdictions as well as the Catholic and Independent sectors. The Taskforce met three times during the year: in Brisbane in August 2001; in Hobart in November 2001; and in Adelaide in March 2002. The Taskforce's terms of reference are included at the end of this report.

In 2001 MCEETYA endorsed six priority areas of work for the Taskforce: implementation of *Learning in an Online World: the school action plan for the information economy*; support for The [Le@rning](#) Federation (the Schools Online Curriculum Content Initiative); support for joint action across the educational sector (schools, VET and higher education); development work in respect of the

use of research in ICT in teaching and learning; support for the Development of EdNA Online; and advocacy and policy development in other matters, including regulation, that influence the adoption of ICT in schools.

This report deals with the key issues that have emerged from this work.

2a) Strategic Planning: *Learning in an Online World: the school action plan for the information economy*

Background

In March 2000, the Ministerial Council for Employment, Education, Training and Youth Affairs (MCEETYA) endorsed the school sector strategic blueprint for the implementation of ICT in teaching and learning: *Learning in an Online World: the school action plan for the information economy*. The overarching goals of the plan are that:

- all students will leave school as ‘confident, creative and productive users of new technologies, particularly information and communication technologies, and understand the impact of those technologies on society’. (National Goals for Schooling in the Twenty First Century, MCEETYA 1999)
- all schools will seek to integrate information and communication technologies into their operations, to improve student learning, to offer flexible learning opportunities and to improve the efficiency of their business practices.

The Action Plan identified infrastructure (particularly bandwidth), professional development and the availability of online curriculum content as the three priority areas for implementation if schools are to take full advantage of ICT in teaching and learning.

The Taskforce has responsibility for monitoring and reporting annually to MCEETYA on national progress against the goals and strategies of *Learning in an Online World*. The 2002 Report concentrates on content and services. The Report is attached as Appendix Two to the full paper.

Key issues and next phase of work 2002-2003

The Report on Content and Services demonstrates that significant progress has been made on the development of high quality online learning materials for schools. In addition to the collaborative national initiatives (the [Le@rning](#) Federation Initiative, EdNA Online, the Careers Information Service – *my future*, and the materials available through the Curriculum Corporation), individual states and territories have been active in developing repositories of digital materials that are suitable for delivery within their own curriculum context.

The Report also highlights that whilst the availability of a diverse range of digital content and services is essential to the effective adoption of ICT in teaching and learning, it needs to be complemented by a number of parallel programs. These include the previously identified priorities of:

- support for the professional learning of teachers so they have the confidence to exploit the new technologies to expand, extend and modify their practice; and
- the provision of adequate affordable bandwidth and internet access to support teaching and learning and administrative functions;

as well as two emerging priorities:

- the development of a Learning System Architecture Framework that provides seamless access to the information held in a variety of software system applications that teachers, students or administrators need to effectively plan, design, deliver, assess, and report on progress; and
- the provision of accessible research for policy makers and teachers.

Each of these issues is taken up in the sections below.

The strategic plan, *Learning in an Online World*, has been highly effective, to date, in providing the strategic blueprint to guide national and jurisdictional developments during the first major phase of the implementation of ICT. To maintain its effectiveness, the document needs to be revised to take into account emerging needs such as those just identified, as well as the opportunities and challenges that are presented by new and emerging technologies.

Consequently, it is **recommended** that MCEETYA endorse the revision and publication of a second edition of *Learning in an Online World: the school action plan for the information economy* as the national strategic blueprint that guides the implementation of information and communication technologies (ICT) in schools for 2003 - 2006;

2b) Bandwidth

Background

Connectivity is a major barrier to the long-term growth and effectiveness of the use of ICT in schools. The problem centres on the absence of access to high bandwidth communications infrastructure in many rural and regional locations, the pricing of access, and the challenge of effective management of bandwidth and its use. Resolution of these issues will require, inter alia, consideration of the regulatory environment for communications, long-term investment in high bandwidth infrastructure, appropriate resourcing in the overall delivery of school education and the solution of a number of significant technical issues. This set of issues can only be addressed through co-ordinated national action combining the efforts of the Commonwealth and individual jurisdictions as well as involving the telecommunications companies, the other educational sectors and, it is proposed, the health sector which is facing many similar problems.

Key issues and next phase of work 2002-2003

Investigation by the ICT in Schools Taskforce has demonstrated that the compounding effect of greater use of ICT, the provision of more equipment at school level, significant advances in teachers' skills and expectations of the use of ICT, and the rapid growth in the availability of curriculum content is putting enormous pressure on the capacity of the school data communications link to connect to external resources. [A more comprehensive report and references are provided as Appendix One to the full paper.]

As schools have moved to the forefront of ICT use and broadband demand, the gaps in this data communication provision are becoming very evident. Jurisdictions are spending increasing amounts on connectivity, but providing the network investment issue needed to properly support teaching and learning is generally beyond the capacity of individual jurisdictions to address. In many locations there is an absence of a communications network infrastructure appropriate to the demands now being experienced.

Jurisdictions moving to increase connection speed are encountering major challenges in managing the volume of download and determining what is appropriate. Those serviced at low connection speeds are faced (where an upgrade is possible) with very high costs and, where this is not possible, with continuing low ICT performance and poorer educational outcomes. This raises questions of equity in consequence.

In common with other aspects of ICT implementation, the cost of telecommunications is not a substitute for other resources. In compulsory education the teacher and the school facility remain the

major cost elements. Introducing ICT to a classroom does not diminish the need for a teacher, nor reduce the need for a classroom. It adds to the effectiveness and the range of the teaching and learning strategies. As such the use of ICT is not an efficiency tool to be funded through trade offs in other services.

Bandwidth provision is thus emerging as a significant new cost. As demand rises, both for higher capacity links and greater volumes of traffic over links, schools and education systems are likely to be faced with dramatically increased charges without compensating savings.

The outlook for growth in high bandwidth services depends heavily on investment plans by communication providers and innovation in the use of existing communication infrastructure. The needs for high bandwidth services in rural and regional Australia remain a point of primary concern.

The availability and affordability of communication links is thus a critical issue for schools which is unlikely to be resolved without national co-operative action. This needs to include not only schools, but the other education sectors (VET and higher education), the telecommunications providers, the regulatory authorities and the health sector which, with education, is becoming the major user of bandwidth outside urban areas.

It is therefore **recommended** that MCEETYA endorse the need for particular priority to be placed on the provision of high bandwidth services to schools covering urban, rural and remote Australia and agree to the development, by the ICT in Schools Taskforce, of a national action plan on bandwidth provision involving:

- communication providers to achieve a mutual understanding of schools' and the industry's strategic needs and imperatives with a view to bringing a national focus to work on this issue in the manner that the [Le@rning](#) Federation has achieved with curriculum content provision;
- the Bandwidth Advisory Group and NOIE to ensure recognition of school education needs and the development of co-operative solutions through the present review process;
- all school jurisdictions, the other education sectors (VET, higher education) and the health sector, which faces many similar challenges, to encourage exploration of joint options for the provision of bandwidth, the management of internet traffic and communication of best practice;
- the relevant regulatory and policy agencies to address the needs of the schools and wider education sector in the evolving market and regulatory arrangements; and
- work with appropriate international agencies to benchmark school bandwidth provision.

2c) **K-12 Learning Architecture Framework**

Background

The Taskforce provides strategic advice to the [Le@rning](#) Federation Initiative on issues including the development of the technical standards, interoperability standards, metadata standards and the learning exchange architecture development.

Key issues and next phase of work 2002 - 2003

The [Le@rning](#) Federation Initiative is raising new and significant infrastructure and standards issues that need to be resolved by jurisdictions to ensure that the curriculum content developed can be delivered to, and used in schools. It is critical that teachers will be able to readily and effectively use the range of digital resources available to them not only to realise a return on the significant investment in the Initiative, but to capitalise on the educational opportunities that the availability of high quality digital materials affords. There is a time imperative to the resolution of the standards and infrastructure challenges.

The Taskforce's work on this issue has raised jurisdictions' awareness of the educational and business imperatives for their ICT infrastructure decisions to be informed by standards and interoperability considerations. There is a critical need to progress this work at a practical project level that will provide a broad blue print to guide jurisdictions as they acquire, develop and introduce new software to ensure that they will have the capacity not only to effectively deliver the digital curriculum materials from the [Le@rning](#) Federation but also to integrate it with the many other systems and sources available to teachers in preparing their work.

The Taskforce has applied to AESOC for project funding to help develop a K-12 Learning System Architecture Framework that will assist jurisdictions to establish clear priorities and strategies for technology developments; to enhance the flexibility and performance of their technology portfolios; to minimise risk in technology investment decisions; and to promote to the greatest degree practicable agreements on interoperability in the context of national collaboration. [A more comprehensive report is provided as Appendix Three to the full paper.]

It is therefore **recommended** that MCEETYA endorse the development of a national K-12 Learning System Architecture Framework to provide a strategic guide to jurisdictions in ensuring that teachers will be able to effectively use the digital materials from the [Le@rning](#) Federation Initiative and other sources.

2d) ICT Research Strategy

Background

Ministers agreed at MCEETYA 2001 that there is a need for further research into the impact of ICT in school education. The Taskforce has undertaken an audit of research commissioned by the Commonwealth and jurisdictions and implemented a process to articulate priorities for research. A National ICT Research Forum was held in June 2002, involving the sector, university researchers, the Australian Research Council, the Australian College for Educational Research, university researchers and others.

Key issues and next phase of work 2002-2003

An ICT in Schools Research Strategy is needed to identify principles and priorities for ICT research in the school sector and to address the potential of ICT to make educational research more accessible: in particular to meet the demands of policy makers for just-in time packaged research; to meet the needs of teachers for immediate access to best practice ICT techniques and results; and to support parents interested in supporting their child's learning. The strategy will be informed by the outcomes of the National Research Forum and is consistent with the proposal, recently approved by AESOC, to give greater focus to and to collectively fund, research on schooling issues of national importance. The Taskforce will be applying to AESOC for funding to progress this strategy.

Current educational research is not easily accessible to teachers, policy makers, parents and the community. The Strategy will examine international initiatives and work with higher education, the VET sector, **education.au limited** and the Curriculum Corporation to develop models to utilise the transforming capacity of ICT to make research readily available and accessible to those who need to use it.

It is therefore **recommended** that MCEETYA endorse the development of an ICT in Schools Research Strategy for consideration by MCEETYA in 2003 which identifies the kind of research important to the successful adoption of ICT in teaching and learning and proposes models whereby this research is made readily available to practitioners and the community.

2e) Support for Teachers

Background

Effective ongoing professional development for teachers was endorsed in *Learning in an online world* as one of the highest priorities for the school sector to support the integration of ICT in teaching and learning. Students will only achieve the outcomes required if teachers are committed to a vision of the integration of new technologies into the curriculum and their daily work, and have the skills to exploit the new technologies to expand, extend and modify their practice.

Key issues and next phase of work 2002-2003

Quality professional learning programs and policies to support pedagogy are critical to ensuring integration of ICT into the school curriculum and teacher practice. Priorities for the Taskforce include ongoing strategic work with:

DEST and the Teacher Quality and Educational Leadership Taskforces to progress recommendations of key reports: a) *Making Better Connections- The Models of Professional Development for the Integration of ICT into Classroom Practice*; and b) *Raising the Standards - A Proposal for the Development of ICT Competency Framework for Teacher*; and the Student Learning and Support Services Taskforce and the Teacher Quality and Educational Leadership Taskforce to support the development of a national pedagogy statement that articulates principles and pedagogical strategies for *Learning in an online world*.

2f) Cross Sectoral Co-operative Activity

Background

Strategically, as ICT is integrated into education, and online learning is implemented, it is increasingly important that the three education sectors work co-operatively to: leverage opportunities to influence national policies including digital rights, telecommunications, and research; and progress the interoperability agenda to enable education, cultural institution and commercial digital resources to be shared nationally and internationally.

Key issues and next phase of work 2002-2003

The ongoing priority for the Taskforce is contributing to AICTEC's working groups on the edu.au Domain Administration, Bandwidth and Interoperability Standards (see the AICTEC Report at agenda item 2.1.3) to ensure consistency and compatible solutions to common problems across the education sector. Additionally the Task Force works with *education.au* limited to promote collaborative online projects and the effective development of the EdNA Online service which uses sophisticated search and harvesting tools to enable teachers across all education sectors to find the best available materials.

2g) Regulation and Policy

Background

The *Copyright Amendment (Digital Agenda) Act 2000* has significant financial and practice implications for digital copying in the school sector. The ICT in Schools Taskforce has a key role in providing advice to the Schools Resourcing Taskforces (Copyright Advisory Group) on the development of a legal and regulatory framework that supports the use of new technologies to enhance learning. The Act places legal and moral responsibilities on schools and their communities. The management of digital rights is becoming a critical issue for all education sectors. National projects

including the [Le@rning](#) Federation, COLIS (Higher Education) and AE Sharenet (VET) are providing both practical management solutions and contributions to policy and regulatory development.

Key issues and next phase of work 2002 –2003

The Commonwealth funded Copyright Aware Website (www.copyrightaware.gov.au) provides information and practical advice to raise awareness of legal responsibilities and to promote responsible information use. Advice to the Copyright Advisory Group on digital copyright issues and joint work on developing and marketing the website are priorities for 2002-2003.

3. Work With Other Taskforces

Background

The interface with other Taskforces focuses on ensuring the transforming capacities of ICT are fully incorporated into teaching and learning and efficient business practices.

Key issues and next phase of work 2002 – 2003

- collaborative work and consultation with all taskforces in the revision of *Learning in an Online World*;
- consultation with relevant taskforces on the development of the K-12 Learning System Architecture Framework;
- work with the Student Learning Support Services Taskforce on the development of an e-learning pedagogy statement within the context of the revised strategic plan, *Learning in an Online World*;
- representation on advisory groups for the Performance Measurement and Reporting Taskforce Student ICT Competencies Project; and
- work with DEST and the Teacher Quality and Educational Leadership Taskforces to promote better practice in classroom teaching involving ICT.

4. Terms of Reference

The MCEETYA ICT in Schools Taskforce (ICTST) reports to each meeting of the Council on ICT initiatives that will ensure achievement of the agreed National Goals for Schooling. Specifically the taskforce:

- provides strategic advice to the Australian Education System Official Committee (AESOC) and MCEETYA on the use of information and communication technologies to support teaching and learning;
- provides leadership to the Australian education community in the effective use of information and communication technologies;
- advances the information and communication technologies that meet the needs of education;
- initiates, implements and supports national projects related to the use of information and communication technologies in education; and
- provides a forum for Australian education representatives to share information and advance collaborative initiatives in the use of information and communication technologies in education.

The Taskforce works with the Australian ICT in Education Committee (AICTEC) on issues relating to information and communication technologies (ICT) in teaching and learning, and provides advice to education.au limited regarding strategic directions for EdNA Online and associated developments.

The taskforce also works collaboratively with the [Le@rning](#) Federation: Schools Online Curriculum Content Initiative