

Success through partnership

Achieving a national vision for ICT in schools

Strategic Plan to guide the implementation of the Digital Education Revolution initiative and related initiatives

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Introduction

For more than a decade governments and school communities around Australia have been working to harness the power of information and communication technologies (ICT) to improve educational opportunities, boost outcomes and energise the learning experience.

Major investments have been made by state and territory governments and the Commonwealth to roll out infrastructure, develop online resources and build teacher capability. Progress to date has been impressive, but uneven. Most teachers and students now benefit in some way from access to computers and digital resources, but still only a minority are reaping the full benefits of the information technology revolution.

The Council of Australian Governments (COAG) recognises the important role of schooling, and the potential contribution of digital education, to the nation's productivity. As a result, Commonwealth, State and Territory Governments have commenced working together on the "Digital Education Revolution" (DER).

The DER is a five year \$1.2 billion Federal election commitment that will enable schools to better access the benefits of technology for their students.

Combined with the historical agreement through COAG for state and territory and the Commonwealth governments to collaborate in developing Australia's human capital and productivity, the DER provides a once-in-a-generation opportunity to establish and enable a new future-directed vision for education in Australia and the role that digital technologies should play in delivering better educational outcomes for all school students and to set the broader vision and strategic plan to optimise this investment.

The success of this strategic plan, and the DER, will be dependent on coordinated action by school systems and schools across Australia and the Commonwealth Government.

Purpose

This Strategic Plan outlines a vision for ICT enabled learning in our schools.

The Plan will guide the Governments, individually and collectively, through the identification of high level goals, and possible areas for investment.

The Plan also provides an outline of how the Digital Education Revolution will contribute to the achievement of this vision and establishes principles to guide the implementation of the DER strands. It also foreshadows a roadmap for change and a process for identifying opportunities for collaboration that will contribute to the success of the DER.

The Plan recognises that this vision will not be achieved by effort from a single jurisdiction and that states and territories and the Commonwealth need to work together to achieve the vision.

The Plan recognises that States and Territories are at different stages and will have different priorities.

The Plan will be revised by the end of June 2009, at which point it may be appropriate to consider annual implementation plans which would detail the actions and commitments by DER partners.

National vision for ICT in school education

Commonwealth, and State and Territory Education Ministers have long agreed that Australia's students should "be confident, creative and productive users of new technologies, particularly information and communication technologies" (Adelaide Declaration, 1999).

In recognition that information and communication technologies (ICT) have the potential to transform all aspects of school education and contribute to the achievement of all learning goals, Ministers adopted "Learning in an Online World", an action plan for the information economy for schools, in March 2000.

More recently, in May 2008, Ministers issued the third *Joint Ministerial Statement on ICT in Australian education and training:2008-2011* acknowledging that information and communication technologies "are enabling the transformation of the curriculum and changing the way learners and educators operate, learn and interact". Ministers have agreed that:

"Australia will have technology enriched learning environments that enable students to achieve high quality learning outcomes and productively contribute to our society and economy."

Joint Ministerial Statement on ICT in Australian education and training: 2008-2011.

The Joint Ministerial Statement commits Education Ministers to "National collaboration across Australian education and training jurisdictions and sectors to share resources and expertise, and to leverage existing initiatives while recognising the importance of innovation and experimentation."

In practice, this means:

- Students undertake challenging and stimulating learning activities supported by access to global information resources and powerful tools for information processing, communication and collaboration,
- Teachers devise student centric programs of learning that address agreed curriculum standards and employ contemporary learning resources and activities, and
- Parents support students in their learning by monitoring programs and progress and by communicating with teachers online.
- Commonwealth, States and Territories commit to National ICT Infrastructure including access to broadband bandwidth, access to digital learning resources and activities, access to national curriculum and access to continual ICT PD for teaching staff.

The Digital Education Revolution Policy Commitment

The DER is a Commonwealth Government initiative that will make a significant contribution to achieving the national vision for ICT in schools. The DER will:

- provide computer equipment to secondary schools through the National Secondary School Computer Fund (NSSCF)
- support deployment of high speed cost-effective broadband connections to schools
- increase access to online content
- develop web portals for parent interaction

This Plan will inform the implementation arrangements for the DER.

Related policy commitments

State and Territory Governments have made their own separate but related policy commitments to deliver and/or support:

- ICT infrastructure
- learning systems including learning management systems, eportfolios, collaboration and communication spaces
- digital education resources
- planning and teacher professional development
- school transformation

In the non-government school sector commitments are also being made to invest and collaborate in ways that potentially support the national vision, for example the Australian Catholic Education Network (ACEN).

Realising the national vision

The national vision for ICT in education is school based and complements other initiatives that will prepare schools and the teaching work force for effective 21st Century learning.

To help achieve the national vision, the DER will require coordinated action, not only with regard to ICT, but also in respect of approaches to learning and teaching, staff development, administrative processes, resource management and relationships to the broader community.

There are four strands of change, in particular, that may be appropriate for joint national action in association with the DER. These are:

Leadership – that ensures schools have a coordinated plan for the provision of infrastructure, learning resources and teacher capability to address the educational challenges of the 21st Century.

Infrastructure – access to digital teaching and learning resources and tools for processing information, building knowledge and for communication and collaboration.

Learning Resources – that stimulate, challenge and assist students in achieving desired learning outcomes. These include collaborative and interactive activities as well as instructional and reference materials

Teacher Capability – teachers have the skills and tools to design and deliver programs that meet students needs and harness the benefits and resources of the digital revolution

Despite significant investment and progress, there are potential improvements that can be made to help realise the national vision.

Table 1 describes the current situation and the possible areas for improvement.

Commonwealth and State and Territory policy and program elements will work together to achieve the national vision. These overarching elements overlap with, but are also broader than the Digital Education Revolution. Not all elements would therefore form part of a national partnership on the Digital Education Revolution. The following analysis helps to identify the improvements required and how best the new policy landscape can help deliver those improvements.

Table 1: ICT in Education - Where are we now? Where do we want to be?

Current Situation	Improvements	Aspirational Goals
- ICT use and deployment (including ratios, etc) is different based upon the school sector (ie Primary, Secondary or Colleges) - Computer to student ratio approx 1:5 nationally but highly variable - some schools 1:1 others 1:10 or worse - Many computers in labs with limited or no access in other learning areas – most students do not have personal access in all learning areas - Limited access to online information – one third of schools have bandwidth below 2 Mbps - Quality of digital content highly variable – high dependence on content from the Internet, significant risk of exposure to unsuitable content and to high copyright fees for Internet sourced content - Deployment of TLF content highly variable – full value yet to realised - eLearning often regarded as separate to mainstream learning - Some schools limit access to the Internet despite having broadband, because of the cost of downloading content. Risk of students without home access being worst affected. - Cyber safety education and policy at the jurisdiction and local school level may not allow innovative use of ICT	Infrastructure - Sustainable provision of access devices (computers, laptops, PDAs, ultra-mobile devices) - high speed affordable network access provided to all learning areas, including wide area and local area networks to support flexible learning options - facilities and technical support that ensure high availability of access devices - access to “learning portals” supporting curriculum planning and delivery, progress monitoring and communication between students, teachers and parents - Interoperability framework enabling sharing of systems and information between sectors and jurisdictions	- All students have personal access to an appropriate information access and/or computing device in all areas of learning - Teachers devise student centric programs of learning that address agreed curriculum standards and employ contemporary learning resources and activities. - Students engaged in rigorous and stimulating programs of learning that meet their individual needs and prepare them for success in 21st Century - Courses and resources are available anywhere, anytime - Parents able to view student programs and progress at anytime online and communicate with teachers and school leaders - Students and teachers routinely collaborate, build and share knowledge using digital technologies – blogs, file sharing, social networking, videoconferencing, etc. - Students and teachers are able to innovate in their use of ICT to achieve learning outcomes. - School leaders routinely plan at the school and system level for ongoing improvement enabled by ICTs
	Learning Resources - high quality digital learning resources and software for students linked to state and national curricula and skills agenda - tools for safe and secure online knowledge sharing and collaboration including social networking (Web 2.0) systems - national model for content supply – supported by interoperability frameworks and systems, jurisdictions, minister owned companies, cultural organisations, commercial providers, etc. - Integrated approach to managing copyright and intellectual property issues	
	Teacher Capability - promote models of learning and teaching that effectively harness digital resources in the delivery of high quality education programs - ICT capability standards for teachers applied to pre-service training and in-service professional development - transfer of effective practice between schools, jurisdictions and sectors	
	Leadership - Training for principals and school leadership teams - Planning at school and system level for the use and integration of ICT - Community engagement (Parents and Friends, School Associations) in the use of ICT by their schools	

Enabling Success

Commonwealth and State and Territory policy and program elements will work together to achieve the desired outcomes. Achieving the vision may be assisted by enabling systems and processes provided by the DER program, school systems and school communities.

Enablers include provisioning programs for hardware and software, school improvement and professional development programs and knowledge sharing initiatives.

Examples of enablers for each of the program elements are included in **Table 2** and it should be noted that the Digital Education Revolution is a sub-set of these.

Table 2: Possible enablers for achieving the national vision

	Program elements	Desirable Outcomes	Possible Enablers
Leadership	Leadership Development	School principals and leadership teams are equipped to plan and lead change that delivers digital learning to all students in all areas of learning	• School sector leadership development programs
	eLearning Planning	All schools have a digital learning plan covering Infrastructure, Learning resources and teacher capability	• School system planning guides and requirements • MCCETYA ICT planning Framework • DER ICT in Schools Guide
Infrastructure	Access devices	Every student has access to digital resources and tools to enable 21 st Century learning across the curriculum	• National Secondary Schools Computer fund support access for all students in years 9-12 • Jurisdiction ICT provisioning • Possible national sharing of ICT purchases and purchasing power.
	Interoperability	Agreement across Commonwealth, States, Territories and school sectors on a co-ordinated approach for managing digital information	• An agreed national interoperability framework based on international standards used for the exchange of data between jurisdictions • AICTEC sponsored interoperability initiatives • DER funding for Interoperability Projects
	Connectivity	Schools are provided with affordable high speed broadband connections with associated low download costs	• DER Fibre to the school initiative • School sector connectivity initiatives • Local area networks
	Access Portals	Learners, teachers and parents have access to resources, digital tools and agreed performance data anywhere, anytime	• DER parent portal initiative • Jurisdiction, sector and school provision of portals
Learning resources	New content creation	New curriculum content for teachers, parents and students in areas of identified need	• Collaborative content creation supported by Commonwealth, state and territory funds • Content developed and procured by schools and school systems
	Access to existing resources	Access to national pool of high quality resources from school sectors, cultural, scientific and academic institutions free of download and copyright charges. Teachers routinely share resources and best practice	• DER funded content in new priority areas • School system content cleared for sharing • Online resources from partner organisations • Education friendly copyright arrangements
Teacher Capability	Pre-service training	All new student teachers achieve competence in the use of ICT before they graduate including how ICT can effectively support improved student outcomes	• DER agreement with Deans re pre-service ICT capability standards • Access to ICT tools for pre service teachers
	In-service Professional Development	All existing teachers are progressively trained to upgrade or develop competence in the educational use of ICT and routinely engage in sharing professional knowledge	• AGQTP funding targeted at ICT capability • School system capability benchmarking and professional development programs • Knowledge building and sharing systems for teachers

How will we get to where we want to be?

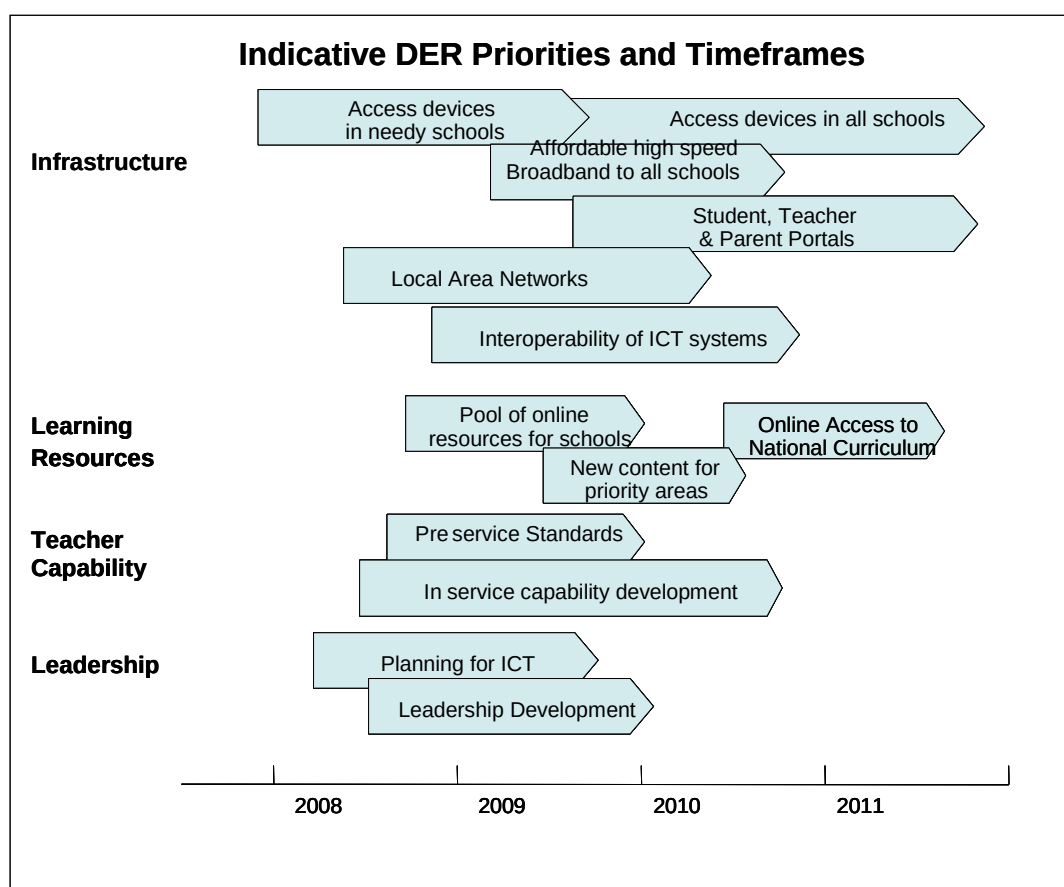
COAG has agreed that Governments will collectively and individually take this strategic plan into account in making policy and program decisions pertaining to ICT in schooling.

COAG has also agreed that, in the first instance, this plan will inform the roll-out of the DER, recognising that negotiations regarding implementation are still underway.

Implementing the DER

The DER is a four/five year program aimed at taking schools from a variable base to a situation where there is equitable access to digital resources and tools. Benefits will be progressively delivered and priorities will change during the life of the program. For example, the priority early in the program will be to help equip schools most in need of computers. Later in the program the priority will shift to accessing and enabling use of digital resources and online activities in everyday learning and teaching. Another early priority will be to foster eLearning plans in schools that will ensure every school is adequately prepared to install, operate and take advantage of the digital revolution.

Indicative timelines and indicative priorities for the DER elements and contributing activities are included in the following diagram.



The need for annual plans to provide the basis for coordinated action and annual funding agreements between the Commonwealth, states and territories, school systems and schools will be determined following the review of this plan by the end of June 2009.

Principles to guide the implementation of the DER

A digital education revolution is one contributor to achievement of the national vision. A shared approach to implementing the DER will increase the likelihood that the DER initiative will complement and facilitate the achievement of the overall outcomes agreed by COAG.

Specifically, implementation of the DER will be based on the premise that greater efficiencies and better outcomes will be achieved through the development of state and territory based ICT plans which facilitate the pooling of state, territory and commonwealth resources in a joint approach to achieve the agreed outcomes, based on local priorities for States and Territories. These state and territory jurisdiction based plans would be supported by agreed national initiatives that ensure:

- o coherence between Commonwealth, State and Territory based initiatives;
- o implementation plans are balanced and sustainable at the school and sector levels; and
- o effective leverage of existing infrastructure and programs

In this context, strategies for implementing elements of the DER will be assessed against the following principles:

- **Flexibility** - program guidelines should incorporate maximum flexibility to produce the best outcomes both within and across the DER elements and also over the life of the initiative.
- **Decentralised and highly collaborative** – states and territories should develop a variety of models to manage their contribution and participation to be agreed with the Commonwealth Government
- **Strong coordination** - strong formal communication between the Commonwealth Government and the authorities responsible for the state/territory, Catholic and independent schooling sectors, and effectively linked with work on other elements of the broader Education Revolution;
- **Highly consultative** - involving strong and ongoing communication between the Commonwealth and state/territory governments, Catholic and independent sectors, school communities and their representative bodies, other sectors of education and training, bodies charged with responsibility for implementing other elements of the wider Education Revolution agenda and the wider community.

Overview of the elements

Element	
1. Personalising and extending student learning	Personalising and extending student learning refers to the school's capacity to use ICT to extend and differentiate student learning opportunities, and to support students to manage and direct their learning.
2. Enabling leadership	Enabling leadership refers to the ways in which school leadership establishes the ICT vision for the school and supports all aspects of implementation and change—management across the school.
3. Supporting professional learning	Supporting professional learning refers to the school's planning for and implementation of professional learning that contributes to improved teacher quality and the integration of ICT in curriculum, pedagogy, assessment and administration.
4. Connecting learning beyond the school	Connecting learning beyond the school refers to the school's use of ICT to support communication and collaboration with the wider school community, and to connect students and staff to external knowledge and learning networks.
5. Improving student assessment and reporting	Improving student assessment and reporting refers to the ways the school collects, collates and communicates student assessment data to inform learning design and to report on student achievement.
6. Developing measuring and monitoring student ICT capabilities	Developing measuring and monitoring student ICT capabilities refers to how the school supports and collects evidence of students' confidence, engagement and skill in using ICT, and uses this data to improve learning programs.
7. Accessing and utilising student information	Accessing and utilising student information refers to the school's use of ICT to manage all student information as a single, integrated, interoperable system across the school, for efficient communication with external bodies and institutions.
8. Providing, accessing and managing teaching and learning resources	Providing, accessing and managing teaching and learning resources refers to the school's systems for planning for, selecting, creating, storing, retrieving, and making use of digital learning and teaching resources in all learning areas across the school.
9. Automating business processes	Automating business processes refers to the school's planning and implementation of ICT systems across the whole school and how they support and improve the school's business processes.
10. Providing reliable infrastructure	Providing reliable infrastructure refers to the school's planning, implementation, ongoing maintenance and development of ICT infrastructure that meets the full range of learning, teaching and administrative needs across the school.