Investing in an integrated infrastructure – the Digital Education Revolution in Australia

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Australian Government

Australia's System of Governance

State and Territory Governments' Role in School Education

- State and Territory Governments are responsible for provision of school education to students in their state/territory and also
  - Student assessment and certification
  - Curriculum and course accreditation
  - Resource allocation for Government schools
  - Teacher employment and professional development in Government schools

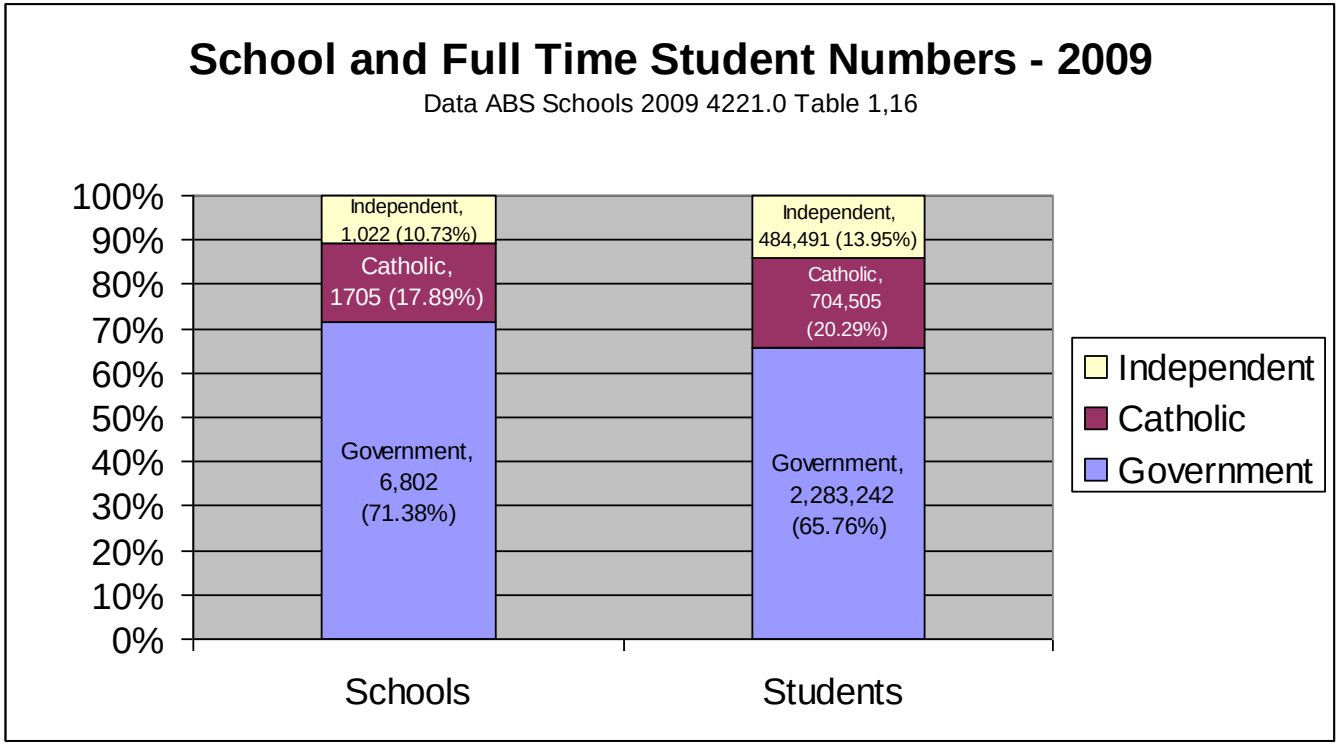
Australian Government's Role in School Education

- National leadership in school education issues, including leading development of a National Curriculum
- Supplementary funding to government and non-government schools
- The Commonwealth is the principal funder of non-government schools
- Support for effective transition beyond school education
- Funding for Indigenous students

Local Government does not have a role

- Australia has no equivalent of school districts or local education authorities
- Local or regional structures play no significant role in the delivery of education in Australia
- Government schools are controlled directly by State Government education departments
- Catholic systemic schools may be organised on a State-wide basis or a diocesan basis
- Independent schools operate independently

Government and Non-Government Schools



The Digital Education Revolution

Announced as a $1 billion four year election commitment in 2007

- Now a six year $2.4 billion program
- The core rationale for the policy was described as follows: *"Information and communications technology is no longer just another subject taught by schools, it is a means of learning across all subjects – from English to mathematics and science, to the humanities, technical and applied studies, music and visual arts. It is also a driver of productivity and growth across all sectors of the economy, from farming and mining to manufacturing and services"*

Digital Education Revolution Funding

- Investment of $2.4 billion over six years (2008-2012) to improve student access to world class ICT
- Key funding elements:
  - National Secondary School Computer Fund - $2.3 billion over 6 years for provision and effective utilisation of computers for all Year 9 to 12 students
  - $10 million over three years to develop support mechanisms for schools
  - $32.6 million over 2 years for online curriculum tools, resources and supporting technical frameworks
  - $40 million for projects to support professional learning on the use of ICT in schools
- $100 million for fibre connections for schools, as part of the roll out of the $43 billion National Broadband Network

National Secondary School Computer Fund Implementation

- Commonwealth is providing funding, not provisioning computers
- It has conducted three rounds of funding intended to bring the ratio of computers to students to 1:2
- ICT requirements for students with disability are being handled flexibly
- Funding to move schools to a 1 to 1 ratio is based on numbers of students in years 9 to 12 and distributed under a National Partnership
- $807 million has been provided upfront to meet 'on-costs'
- Details are at: http://www.deewr.gov.au/Schooling/DigitalEducationRevolution/Pages/default.aspx

Multiple approaches to the same objective

- The actual deployment of computers under the Fund reflects the diversity of Australian schooling system
- New South Wales is
  - issuing all students with a personal netbook as they enter Year 9, with the devices being retained by the students
  - installing a uniform wireless network
  - centrally managing support services
- States with self managing schools are:
  - providing centralised support, including comprehensive installation of wireless networks
  - establishing comprehensive ICT readiness certification
  - allowing schools to make choices about device provision
- Independent and Catholic schools largely make decisions about deployment at the school level
- Sufficient funding is available to:
  - provide computers for all students
  - ensure that all necessary infrastructure and support services are available
- What we want is a ubiquitous ICT provision which just works
  - so that teachers can get on with being effective teachers, not bad computer technicians and network administrators

What is happening

- All schools are well on the way to a 1 to 2 ratio
- The supporting infrastructure is being transformed
  - New South Wales, for example, has installed the second largest 802.11 wifi network in the world
- We are hearing many accounts of the transformation of approaches to teaching and learning
  - Some examples are at this blog: https://www.det.nsw.edu.au/blog/9881-digitaleducationrevolutionnsw/
- We are seeing a dramatic impact on the volumes of data being served by State Government school networks

The central challenge which remains

- ICT is not still not central to the teaching process in schools
- It supports administration and private study for individual students
- But it is often peripheral to classroom instruction
- In most other facets of our lives, ICT is becoming central
- It has transformed how business processes operate and has had a major impact on social interactions
- The impact in education has been far less wide and deep
- Technology is pervasive in students' private lives and in employment, not in schools

Beyond the infrastructure

- Ubiquitous computing capacity and a fully effective national network are essential preconditions for the transformation of teaching and learning
- But they are not enough
- There has to be compelling content, linked to curriculum and designed according to sound pedagogical principles
- And there need to be easy to use tools which can connect learners with resources, services and each other
- Teachers need tools which make it easy to carry out their core educational role using technology
- All the elements of an integrated solution need to be developed
- Otherwise individual elements will not deliver their potential

The need for a global approach

- Australia is attempting to address all of the key challenges facing the effective use of ICT in schools education under the DER
- But we are conscious that some of the central problems need the coordinated attention of a wide range of players around the world
  - particularly in the areas of provision of compelling content aligned to curriculum
  - and tools which are designed to fit the complex, time poor, one to many information management environment of the normal classroom
- Software providers and commercial publishers potentially have a major role to play
- Conversations at the policy decision level such as the current event are a vital contribution to getting coordinated action on the key problems to be addressed