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Learning with digital technologies in Australian schools: a summary

Gerry K White, ACER

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Gerry White (PhD), Principal Research Fellow at the Australian Council for Educational Research and Adjunct at Flinders University of South Australia.

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Introduction

The last two years (2012-2014) in Australia have seen many changes in national Australian education policy in relation to learning with digital technologies. Although the Federal national government provides the funding and much of the coordination of education in Australia, the State Government jurisdictions are directly responsible for the delivery of education. From time to time, this situation can lead to Federal/State tensions in education.

In addition, in September 2013, the previous Labour Government, which had been elected in 2007 on a program of change, was replaced by a conservative government.

Highlights

The following three Australian programs have made important contributions to the development of evidence based knowledge about teaching and learning using digital technologies.

School improvement

A major program for improving schools called the Teaching and Learning School Improvement Framework (http://www.acer.edu.au/documents/C2E-Teach-and-learn-no-crop.pdf) was developed by Professor Geoff Masters at the Australian Council for Educational Research (ACER). This program is dependent on the appropriate collection, analysis and interpretation of student assessment data using technology, in order to develop differentiated classroom learning and effective teaching practices.

Digital Education Research Network

The Digital Education Research Network (DERN) accessible at http://dern.org or http://dern2.acer.edu.au is a service that provides school and teacher education staff with timely information about quality research which appears to be lacking in the field of teaching and learning with digital technologies. DERN is believed to be the only such
dedicated online service in the world. The front page has been included below to enable readers to recognise the web service.

Figure 1: Section of DERN front page

DERN at http://dern.org is the place to find out about research, and emerging trends and technologies for education in the one place. DERN saves time for education leaders, teachers, teacher educators, policy developers, students of education and technology coordinators.

ICT literacy online testing

The Australian education ministers, through their national council, have sought school information about Information and Communications Technology (ICT) literacy since 2003, with national reports released in 2005, 2008 and 2011 (http://research.acer.edu.au/ict_literacy/3/). This sample Australian report has found that the differences between students in year 6 and year 10 in ICT literacy competency achievement is not marked, whereas one would expect significant improvement from year 6 to year 10.

The online tests for ICT literacy competency that were used between 2005 and 2011 in Australia have been globally published by the International Association for the Evaluation of Educational Achievement (IEA) (http://www.iea.nl/). The study titled International Computer and Information Literacy Study: Assessment Framework (ICILS, 2013) is accessible at http://www.iea.nl/fileadmin/user_upload/Publications/Electronic_versions/ICILS_2013_
This landmark international study has defined, tested and developed ICT literacy within a framework that is straightforward and can done fully online.

Selected national education programs

A number of national programs have been terminated, matured, or initiated recently. Some of these are briefly outlined below, beginning with the winding up of the first national education network which was also cross-sectoral.

National Education ICT agency

The Australian national education and training agency, Education.au Limited, responsible for national cooperation in the development of web based learning programs and services began to wind-down in 2010. The process was completed in 2012 when all online services were closed and the office was closed in December, 2012.

The national education resource, reference and community space portal, Education Network Australia (EdNA), was reviewed in 2011 although users not consulted. EdNA and Education.au’s web-services were shut down. All of their resources, research, references and community discussion group information were lost because they were not archived. This has been regarded by some as digital vandalism.

Digital Education Revolution

The Digital Education Revolution (DER), which primarily provided a computer for every student in years 9 to 12, that is 954,000 computers, commenced in 2008 and was completed, in June 2012. An expert panel called the Digital Education Advisory Group (DEAG) was responsible for two valuable reports which highlighted the achievements of the DER. These Advisory Group reports can be accessed at

http://www.education.gov.au/technology-schools?resource. They are:

- Commonwealth of Australia. (2013). Beyond the Classroom: A New Digital Education for Young Australians in the 21st Century. Canberra: 2013, and

The DER’s achievements were formidable and were summarised by Dandelo Partners (p. 7) as show the diagram below.
Figure 2: Summary of DER achievements to date

The take up of learning and teaching with digital technologies was diagrammatically shown (p. 22) in the diagram below:
Figure 3: Uptake of and commitment to the DER initiative by schools

**National Schools Interoperability Framework (NSIF)**

The NSIF, which can be seen at [http://www.nsip.edu.au/](http://www.nsip.edu.au/), was initiated to implement the Schools Interoperability Framework (SIF) in Australian education, in order for education jurisdictions to be able to exchange data and resources.

**Online resources and community programs**

There are several Australian projects to provide online teaching and learning resources. They include:

National Digital Learning Resources Network (NDLRN) accessible at [http://www.ndlrn.edu.au/default.asp](http://www.ndlrn.edu.au/default.asp) which includes some resources from each of:

- Scootle, a national program, is accessible at [http://www.scootle.edu.au/ec/p/home](http://www.scootle.edu.au/ec/p/home)
- FUSE, a Victorian program, accessible at [https://fuse.education.vic.gov.au/pages/Teacher.aspx](https://fuse.education.vic.gov.au/pages/Teacher.aspx), and
The Australian Broadcasting Commission (ABC) and Education Services Australia (ESA) have cooperated to produce SPLASH which is a site that uses ABC resources to provide online resources related to the national curriculum. Splash can be accessed at http://splash.abc.net.au/home.

Scootle community, a national resource and community space for teachers, can be accessed at https://community.scootle.edu.au/login

**Online assessment and reporting**

The Australian Government has developed and implemented national annual student assessments for all Australian students in years 3, 5, 7 and 9, in literacy and numeracy. Work in now underway on making those tests under the National Assessment Program in Literacy and Numeracy (NAPLAN) available online in the NAPLAN online project (http://www.education.gov.au/delivering-naplan-online) with a target of 2016.

The NAPLAN test results are available at the MySchool website accessible at http://www.myschool.edu.au/ which shows results for schools. The site suggests that NAPLAN results can be seen that indicate literacy and numeracy student achievement progress at school year levels and also between schools and districts.

The Australian Institute for Teaching and School Leadership (AITSL) is a major national initiative that has provided professional standards for teachers (proficient, highly accomplished, lead) and initial teacher education (graduate) has included information technology. The standards which have been organised in the professional teaching domains of knowledge, practice and engagement are accessible at http://www.teacherstandards.aitsl.edu.au/Standards/Standards/AllStandards.

**National curriculum**

National curricula for Foundation to year 10 have been developed by the Australian Curriculum, Assessment and Reporting Authority (ACARA). Progress for developing and implementing national curriculum can be seen at http://www.acara.edu.au/curriculum/curriculum.html. *Australian curriculum: Technologies*, which separates teaching with digital technologies from computer studies, is an area that is accessible at http://www.acara.edu.au/curriculum/learning_areas/technologies.html.

A review of school funding called the Review of School Funding or Gonski report can be viewed at http://www.appa.asn.au/gonski-report.php along with the Terms of Reference for the school’s funding review. The Gonski report recommended funding to Australian schools on the basis of need which included factors such as socioeconomic background, disability, English language proficiency, the particular needs of Indigenous students, school size, and school location.
**Initiatives since September 2013**

A national curriculum review accessible at [http://www.studentsfirst.gov.au/review-australian-curriculum](http://www.studentsfirst.gov.au/review-australian-curriculum) has been announced by the new Education Minister.

A national teacher education review has also been announced. The review will focus on pedagogical approaches, quality content and professional experience (theory into practice). It can be accessed at [http://www.studentsfirst.gov.au/teacher-education-ministerial-advisory-group](http://www.studentsfirst.gov.au/teacher-education-ministerial-advisory-group).

A new initiative has been announced recently called the Independent Public Schools project, which aims to have 25% of Australian public schools being managed as independent schools, similar to the Charter Schools, by 2017. The project is accessible at [http://www.studentsfirst.gov.au/principal-autonomy](http://www.studentsfirst.gov.au/principal-autonomy).

A major Australian initiative that was developed and initially managed by Education.au Limited and is now managed by ESA, was re-launched recently. The MyFuture web-service, accessible at [http://www.myfuture.edu.au/](http://www.myfuture.edu.au/) focusses on people, mostly school leavers, who are seeking to find a job or a course.

**Conclusion**

Australian education has accepted the powerful learning and teaching roles that digital technologies and digital media can enable. The Digital Education Revolution (DER) was instrumental in the acceptance of that perspective in education and so too for implementation were the allied programs that DER seeded. The focus in Australia is now on the integration of ICTs into learning and teaching, especially in relation to pedagogy and classroom practice, in order to achieve digital normalisation in education.