What can Australian students do with computers?

On Track

One Laptop Per Child

Moving from learning to read to reading to learn
Focus on ICT in education

Skills and knowledge in the use of Information and Communications Technologies (ICT) are vital in today’s world. Students who fail to develop adequate ICT skills are likely to be disadvantaged in the workplace and in life beyond school and work. The importance of ICT literacy is now widely recognised in education policies across the globe including here in Australia where ICT literacy is part of the National Assessment Program. In this edition of Research Developments Dr John Ainley discusses the report of the National Assessment Program - ICT Literacy, conducted by ACER for the Australian government. Considerable improvement was made by Year 6 students since the last assessment in 2005, while Year 10 students made a slight improvement. The report again highlighted the disadvantages faced by Australia’s Indigenous students and students from lower socioeconomic backgrounds and rural areas, showing limited progress where improvement is most needed.

In a separate article, Gina Milgate describes ACER’s evaluation of the One Laptop Per Child program – a program that provides children in remote areas with robust laptop computers built to withstand the harsh conditions in outback Australia. The early signs are positive.

This year has also seen ACER launch the Digital Education Research Network (DERN), a network of experts, leaders, researchers and colleagues interested in educational research into the use of digital technologies. DERN’s vision is to aggregate Australian research into the use of ICT in education and to stimulate discussion among researchers.

These projects illustrate some of the ways that ACER is contributing to developing the ICT literacy skills of Australian students.

Also in this edition of Research Developments, Sheldon Rothman’s article about the On Track program examines what students do after finishing high school, and finds an increase in students deferring their studies. Sue Thomson reports how, later this year, Australia will take part in the IEA Progress in International Reading Literacy Study (PIRLS), providing the first ever indication of how reading levels among Australian primary school students compare with reading levels in other countries.
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ACER Update
The use of Information and Communications Technologies (ICT) has become an integral part of schooling for Australian students of all ages. It is difficult to imagine future higher education or employment opportunities for today’s school students that will not require well-developed skills in ICT. The importance of ICT literacy – defined as the ability of individuals to use ICT appropriately to access, manage, integrate and evaluate information, develop new understandings, and communicate with others in order to participate effectively in society – is acknowledged by its inclusion in Australia’s National Assessment Program along with literacy and numeracy and civics and citizenship. Previous international studies have shown us that Australian students and teachers are among the highest users

What can Australian students do with computers?

John Ainley describes the latest findings of the National Assessment Program- ICT Literacy, conducted by ACER for the Australian government, which show some mixed results in Australian students’ proficiency with computers.
of ICT both at school and at home. The National Assessment Program – ICT Literacy helps to identify just what Australian students can do using ICT and how they use ICT at school and for leisure. Most importantly the assessment program provides a detailed picture of how well Australia is progressing towards meeting the objective set out in the 2008 Melbourne Declaration of education goals that ‘in this digital age young people need to be highly skilled in the use of ICT.’

The assessment program tests a nationally representative sample of students in Years 6 and 10 on their ICT skills. A questionnaire gathers information on student background factors such as socioeconomic status, Indigenous status and geographic location to pinpoint possible influences on ICT literacy.

MCEETYA (now the Ministerial Council for Education, Early Childhood Development and Youth Affairs - MCEECDYA ) contracted ACER to conduct the first national assessment of ICT in 2005. The earlier study provided the first detailed, national picture of the ICT literacy of Australian students. The second assessment was conducted by ACER in 2008 and provides the first opportunity to examine changes in ICT literacy over time. A detailed report on its findings was released by Deputy Prime Minister and Education Minister Julia Gillard on 22 April 2010.

In 2005 ACER developed assessment instruments designed to be as realistic as possible and allow students to demonstrate their skills in creating and using information with software packages. All students were assessed in ‘mini labs’ of purpose built laptop computers that were set up in participating schools.

There were some changes in the delivery method of the assessment in 2008. Most students completed the assessment using their school’s own computers. Just 14 per cent of participating schools required a mini lab to be set up for the assessment. The assessment was again designed to be as authentic as possible and mirror students’ typical ‘real world’ use of ICT. Students completed tasks on computers using software that included a seamless combination of simulated and live applications. Some tasks were automatically scored and others were stored and marked by human assessors. Three assessment modules from the 2005 test were repeated in 2008 to allow a comparison of results. These assessed general skills, use of a piece of unfamiliar software and tasks using common utilities.

The assessment was completed by a nationally representative sample of about 11 000 students from around 600 schools across Australia. The survey was administered during October and early November 2008.

The most pleasing result of the 2008 assessment was the considerable improvement made by Year 6 students. In 2008 average test scores achieved by Year 6 students increased from 400 to 419 scale points. There was also a slight increase in scores achieved by Year 10 students with an average score of 560 in 2008 compared with 551 in 2005.

The change from 2005 to 2008 can also be expressed in terms of the percentage of students who attained the proficient standard developed with ICT experts as an indication of what students could reasonably be expected to do using ICT. (see box for description of proficiency levels.) In 2008, 57 per cent of Year 6 students reached or exceeded the proficient standard compared to 49 per cent in 2005. A small rise in the number of Year 10 students meeting or exceeding the proficiency standard was recorded. Sixty-six per cent of Year 10 students in 2008 reached or exceeded the Year 10 proficient standard compared to 61 per cent in 2005.

At the other end of the scale, the percentage of students achieving at the lowest proficiency levels remained similar to those seen in 2005. This indicates that the gains in achievement made by Year 6 students did not come as a result of improvement by the lower performing students. The gains were recorded at the middle and upper levels of proficiency.

ICT Proficiency standards

The proficient standard set for Year 6 indicates that a student at this level is able to: ‘generate simple general search questions and select the best information source to meet a specific purpose, retrieve information from given electronic sources to answer specific, concrete questions, assemble information in a provided simple linear order to create information products, use conventionally recognised software commands to edit and reformat information products.’

The proficient standard set for Year 10 indicates that a student at this level is able to: ‘generate well targeted searches for electronic information sources and select relevant information from within sources to meet a specific purpose, create information products with simple linear structures and use software commands to edit and reformat information products in ways that demonstrate some consideration of audience and communicative purpose.’

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The improvement in performance by Year 6 students was linked to an increase in the use of computers at home and school. In 2008 54 per cent of Year 6 students and 73 per cent of Year 10 students used a computer at home almost every day or more frequently. In 2005 the corresponding figures were 43 per cent and 58 per cent. The study showed that use of a computer at home – particularly when it was used for study purposes – had a positive impact on achievement.

While the overall achievement of most students is pleasing, the study also identifies some areas where achievement is not as good as we would hope. This report, like many before it, has highlighted a disadvantage for Australia’s Indigenous students as well as those from lower socioeconomic backgrounds and rural areas. These findings were perhaps not surprising as they reflect those of a range of studies on educational achievement over many years.

The largest influence on student achievement was socioeconomic background. In Year 6, 41 per cent of students whose parents worked in jobs described as ‘unskilled manual, office and sales’ attained the proficient standard compared to 72 per cent of students whose parents are ‘senior managers and professionals’. In Year 10 the corresponding figures are 52 per cent and 78 per cent. These differences are similar to those reported in 2005.

There is a substantial gap between the ICT literacy of Indigenous and non-Indigenous students. In Year 6, 24 per cent of Indigenous students attained the proficient standard compared to 59 per cent of non-Indigenous students. In other words, non-Indigenous students were more than twice as likely as Indigenous students to reach or exceed the proficient standard. At Year 10, the corresponding percentages were 32 per cent and 68 per cent. The gap in ICT literacy achievement between Indigenous and non-Indigenous students is greater in 2008 than it was in 2005.

Location also had an effect on performance. Students’ ability seemed to decline with distance from a metropolitan area. Students in metropolitan areas outperformed those in regional areas who in turn outperformed students from rural and remote locations. Access to computers and related services such as reliable internet connections may offer some explanation for the weaker performance of non-metropolitan students but this is uncertain. The differences between results attained for each geographic location are very similar to those reported from the 2005 survey.

ICT is part of life in modern society and students who do not develop proficiency in ICT are likely to be limited in their participation in later economic and social life. In general the results from the 2008 assessment of ICT literacy indicate that Australian students are well prepared to participate in contemporary life. However, the study does highlight that some students are at risk of being left behind in this vital area of their education. The percentage of students achieving in the lowest two levels of proficiency remained relatively unchanged from 2005 indicating a lack of progress where improvement was most needed. This also suggests there are some students struggling to master ICT skills. Some intervention may be required to help these students reach the desired proficiency standards.

Whether progress has been made or if the same groups of students continue to struggle will be shown in the results of the third National Assessment Program-ICT Literacy to be conducted in 2011.

Further findings and details about the assessment methods used are available in the full report of the National Assessment Program-ICT Literacy Years 6 and 10.

See <www.mceecdya.edu.au>
ACER – celebrating 80 years

ACER was the first significant national education organisation in Australia when it was established 80 years ago. The organisation pre-dated, and in many ways led, national thinking about education. ACER’s early focus was on research, as opposed to service activities, with an emphasis on primary and secondary education.

ACER was established in 1930 with a grant from the US organisation, the Carnegie Corporation. The official title ‘Australian Educational Research Council’ was selected, but then changed at the first council meeting in 1930 to Australian Council for Educational Research.

In its early years ACER was seen as devoted to the scientific study of education, a source of reference on what was the best and latest in educational practice, and a supporter of progressive education.

During the Second World War, ACER was involved in psychological testing for personnel selection to the Armed Services and government departments, with most regular work suspended. The war time work helped lead to government financial support for ACER from 1946 and confirmed it as a significant national institution. After the war ACER began to focus on schools again, with more emphasis on testing. ACER had become dependent on government finance. However, ACER increasingly generated its own income, and since 2003-04 ACER’s entire income has come from commissioned project work and the sale of products and services.

ACER grew rapidly in the post-war decades, outgrowing several premises. The original staff of two in 1930 grew to five by the end of the first decade, 150 by the end of the 20th century, and more than 300 today.


ACER has strengthened over 80 years, and today aims to be the independent, national education organisation with expertise in research, assessment, curriculum, pedagogy and educational leadership – a body that is able to speak with authority on education issues because of its familiarity with research evidence.

For further information visit <www.acer.edu.au/media/improving-learning-for-80-years/>
On Track
School completers who defer tertiary study

A recent survey of Victoria’s school leavers has revealed a third of those living in regional areas put off university study and enter the workforce to qualify for Youth Allowance. Sheldon Rothman explains why.
The global economic situation and the rising cost of living are leading young Victorians to re-think which path they take once they finish school according to the latest findings of Victoria’s On Track study of the state’s school leavers. Twelve per cent of Victorian school leavers offered a place at university, TAFE on a similar institution have deferred their studies. While some just need a break from study and others want to work to earn their own money, some young people in regional areas, faced with the financial burden of leaving the family home to attend university, put off their studies to qualify for Youth Allowance.

As many as one in three school leavers in Victoria’s regional areas deferred tertiary study and took on full-time or part-time work to qualify for Youth Allowance, compared to just one in 10 in metropolitan areas the 2009 On Track report shows. Qualifying for Youth Allowance is the number one reason young people in regional areas decide to defer tertiary study. In metropolitan areas, school leavers are more likely to defer because they want to take a break from study or to travel before continuing their education.

The global economic situation also appears to have some school leavers reconsidering career plans. One in four young Victorians who defer their tertiary studies consider a different career or study path to find a more stable, better paying or more secure job. Some have already changed their study or career plans.

On Track, a study of more than 36,000 young Victorians, provides a comprehensive picture of what happens to them after they finish school. ACER carried out On Track for the Victorian Government in April and May of 2009, speaking to 2008 school leavers six months after they had completed their secondary studies. The On Track report reveals a total of 4,430 school completers surveyed for the study had been offered a place at a university or other tertiary institution but had deferred their place for at least a semester.

Who defers?

Young women are more likely than men to defer their studies. Just over 10 per cent of men deferred studies compared to 13 per cent of women.

Only 3.8 per cent of people with a language background other than English deferred compared to 12.9 per cent of those who speak only English at home. Looking at achievement, 7.5 per cent of those from the lower General Achievement Test (GAT) quartile deferred their studies compared to 15.9 per cent of those from the highest GAT quartile. The findings suggest that young people with lower prior achievement, as measured by GAT, are less inclined to defer their tertiary studies than those with high GAT scores. But, it should be remembered that tertiary applicants in general tend to be high achievers.

What are they doing?

Almost all of the young people who deferred their studies (95.8 per cent) said they were either working or looking for work. The remaining school leavers were NILFET (Not in the Labour Force, Education or Training). Most of the deferrers worked part-time, although the proportions varied across Victoria’s regions. More than four in every ten deferrers in the Grampians, Hume and Loddon Mallee regions had secured full-time work, while in the metropolitan regions between one in four and one in three deferrers worked full-time. Rates of unemployment and being NILFET were higher among deferrers in metropolitan areas, with 17.1 per cent of young people in the Northern Metropolitan region looking for work, compared to 11 per cent for all of Victoria. Greater numbers of men were in full-time work and greater numbers of women were in part-time work. Among deferrers who were NILFET, 52.5 per cent said they had deferred to travel, while 16.1 per cent
At a glance…

- 36,022 young people who completed school in 2008 were surveyed.
- 4,340, or 12%, of those surveyed indicated they were offered a place at university, TAFE or similar institution but had deferred their studies for at least a semester.
- 95.8% of deferrers entered the labour force and were either employed or looking for work.
- The most common occupation among deferrers is Sales Assistant, following by Travel Agent and Tour Guide.
- Greater numbers of males were in full-time work, whereas greater numbers of females were in part-time work.
- The most common reason for deferring was that school leavers needed a break from study. The second most common reason was they wanted to start earning their own money.
- The most common reason for deferring in regional areas was the need to wait to qualify for Youth Allowance to finance future studies.
- One in four young people had been influenced by the global economic situation when considering their post-school plans.
- Preliminary data from the latest survey indicate that 10% of young people who left school in 2009 deferred a tertiary place for 2010.

What jobs do they do?

The most common job for deferrers was Sales Assistant, with 10 per cent of all employed deferrers working in this area. The second most common job among men was Store Person (11 per cent), and for women it was Travel Agent/Tour Guide (15.1 per cent).

Reasons for deferring

All of the school leavers who had deferred their studies in 2009 were asked to indicate, from a prepared list of reasons, why they had chosen to defer. For young people living in regional and rural parts of Victoria, waiting to qualify for Youth Allowance to finance their future studies was the most common reason for deferring their studies, with between 24 per cent of responses in Barwon South Western and 33.6 per cent in Hume. Under new eligibility rules, young people who wish to be counted as independent to claim Youth Allowance must work full-time for at least 18 months or work part-time for at least two years after leaving school. New eligibility criteria will place tougher restrictions on young people living in metropolitan and inner regional areas.

The second most commonly cited reason young people in regional areas gave for deferring was the need to take a break from study (19.2 per cent in Hume and up to 25.4 per cent in the Grampians). Overall, the most common reasons for Victorian school leavers deferring were the need to take a break from study and wanted to start earning their own money, with more than 80 per cent saying that these factors had been a reason for their decision. One in ten young people said they had deferred because they wanted to do some other sort of study or training before undertaking tertiary study.

When asked to give their main reason for deferring their studies, the most commonly cited reason for men was needing a break from study (28.2 per cent) while women said they wanted other experiences, such as travel, before continuing with their education (28.3 per cent).

Post-school transitions in an uncertain economic climate

In 2009, questions were introduced into the On Track survey to gain some insight into what impact, if any, the global economic situation had on young peoples’ plans. One in four deferrers said the economic crisis had influenced their decisions about what to do after finishing school (23.8 per cent). These young people were then asked to indicate the ways in which the economic situation had influenced their planning. More than 25 per cent of those respondents felt that their post-school transitions had been affected by the economic situation and the main influence had been to highlight the importance of finding a job or having an income, while 20 per cent said that they were having difficulty finding a job or had lost a job because of the economic situation. Some of the young people surveyed said they were re-thinking their plans, with 11.4 per cent considering a different study or career path in order to find a more stable, better paying or more secure job. A further nine per cent had already changed their study or career intentions.

The wellbeing of deferrers

School leavers were asked about their happiness with the work they do – studying, at home or in a job – their career opportunities and their lives as a whole. There were very few differences in the levels of happiness reported by young people who had deferred their studies and those who had not. There was also not a great difference in the happiness levels of male and female deferrers. The vast majority of young people who had deferred their tertiary studies were happy or very happy. Satisfaction was lowest with career opportunities, with almost seven per cent of males and nine per cent of females saying that they were unhappy or very unhappy with this particular area.

were involved in voluntary work or doing some other form of unpaid work.

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Gina Milgate describes her visit to a remote Aboriginal community as part of ACER’s review of the One Laptop Per Child program.

The Indigenous community of Punmu, situated in the very remote Pilbara Region, is just a dot in the heart of Western Australia’s outback. When the weather’s right, it’s a good eight hour drive along a dirt track in a four-wheel-drive to the closest town, Port Hedland. Punmu is home to around 120 of the Martu people.

I visited Punmu with fellow ACER researcher Dr Michele Lonsdale in November 2009 as part of our review of the One Laptop Per Child Program (OLPC), an international initiative providing laptops to children in developing areas. The program aims ‘to create educational opportunities for the world’s poorest children by providing each child with a rugged, low-cost, low-power, connected laptop with content and software designed for collaborative, joyful, self-empowered learning.’

Rawa Community School – an independent Aboriginal school situated within the Punmu community – is one of three remote Indigenous school communities taking part in the evaluation of the “XO” laptops, named because if you turn the logo 90 degrees to the left it looks like a child. The XOs themselves are unique. They are rugged, light-weight, low-power units that can be dropped or thrown across a room with no ill effect. They come with built-in wireless, allowing for internet access, and include educational software that teachers can modify to suit their students’ needs. Each unit has a video camera, microphone, word processing software, music and drawing programs and...
games and come in a variety of bright colours.

As well as Rawa Community School, Shepherdson College in the East Arnhem region and Newcastle Waters School in the Northern Territory are taking part in the OLPC trial and evaluation. Rawa is an Aboriginal independent community school while both Shepherdson and Newcastle Waters are government schools. Michele and I were compiling an interim report on the early stages of the program after the laptops were delivered to each of the schools in early 2009. OLPC Australia contracted ACER to undertake an evaluation of the program. The main purpose of the evaluation is to measure the impact of the OLPC program on teaching and learning in the three trial schools. Our contact with the schools since the beginning of the program indicates that each school has a different approach to the XO technology and that the nature and extent of laptop use in the classroom also differs across the three schools.

Rawa Community School is not your typical school. There are around 40 students, with another 20 at the Kunawarritji campus on the Canning Stock Route. There is a strong desire in the school community to provide the best educational opportunities possible for its young people. This was one reason the school was so keen to be involved in the OLPC trial and evaluation.

The arrival of the laptops at Rawa in early-2009 was a very special occasion. Each student was presented with a ‘special’ laptop that was their very own to use, reinforcing the OLPC principle that students take ownership of their laptops and in turn accept the duties and responsibilities that come with accepting a special gift.

Six months on from our first visit to the school, our second visit in November 2009 showed that the excitement of the laptops for the students had outlasted the initial novelty period. Sitting among the students, I saw eyes glued to screens, fingers quickly tapping on keyboards, confused expressions on some faces and finally a triumphant, ‘I got it! I got it right!’ as comprehension dawned on one small boy. He excitedly jumped up and down in his seat as the class clapped his achievement.

Comments from Rawa teachers involved in the OLPC trial indicate that the introduction of the laptops has helped some students to work more independently and has increased their willingness to work harder, while also encouraging students to listen more carefully and improve their behaviour. As one teacher noted: ‘A positive is that with these and other school computers, if I lean over to try to demonstrate something, I’m often getting my hands pushed away so that they can do it themselves. This is great from a group of kids who are often afraid to try to do things they’re not sure they’ll succeed (in doing). I’ve also seen students helping others, forming small groups and working together, which is great to see.’

The IT teacher at Rawa has developed content for the laptops taken from the students’ everyday lives, the environment in which they live, and aspects of Martu culture. The students, whose first language is Manyjiljarra, mostly use the laptops for literacy, but also for English and mathematics classes. Many of the students use the Speak software to type their weekly spelling words into the program so that they can hear the work out loud. Teachers have commented that the laptops have increased students’ letter recognition and computer literacy skills.

The XOs have given the Martu children access to the world beyond the red soil and spinifex grasses of the outback, although not without some technical and other difficulties along the way. Despite these difficulties, the staff at Rawa school community have been able to make good use of the laptops in their classes with benefits for both teachers and students.

It is hoped there will be a reduction in some of the technical difficulties that have been raised by teachers when a newer version of the laptop with better functionality, the XO1.5, will soon be available to the trial schools. A second phase of the OLPC evaluation will measure the impact of the new laptops.

For now, some short-term gains are apparent. Sitting in the classroom in Punmu and seeing for myself the enjoyment the students get when using their laptops, it’s obvious the wonderful sense of pride and self-worth they experience when successfully completing an activity, not to mention the acknowledgement from their friends and teacher. It’s also obvious that a lot of thinking and hard work has gone into getting the most from these machines in the interests of improving student learning.

Perhaps the impact of the OLPC program to date is best summed up by one of the teachers in this way: ‘The community is proud of the students’ efforts and most of the elders are now aware of the new tool that is being given to the children for their personal use and to share with family.’

Further information about the One Laptop Per Child project is available from <www.olpc.org.au>
In 2010 a specially selected group of Australian Grade 4 students will be the first to represent their country and state in one of the world’s largest reading assessments. **Sue Thomson** outlines the first Australian administration of the Progress in International Reading Literacy Study (PIRLS).

International studies such as the OECD Programme for International Student Assessment (PISA) and the IEA Trends in International Mathematics and Science Study (TIMSS) have provided Australian teachers and policy makers with valuable insights into the educational achievement of Australia’s students in comparison to other countries. PISA has shown us that our 15-year-old students have performed consistently very well on mathematics, science and reading literacy. Since the mid 1990s TIMSS has helped to highlight some areas of strength and weakness in Australia’s performance on mathematics and science achievement at Years 4 and 8.

Comprehensive information about how Australia compares to the rest of the world in the reading achievement of primary school students has to date been missing from the picture. This is set to change later this year when, for the first time, Australia takes part in the IEA Progress in International Reading Literacy Study, known as PIRLS.

PIRLS 2011 is the third in a five-year cycle of assessment that measures trends in children’s reading literacy achievement and policy and practices related to literacy. It is conducted in...
over 50 countries by the International Association for the Evaluation of Educational Achievement (IEA), the same organisation responsible for TIMSS.

Reading achievement is acknowledged as being a cornerstone of education. As noted in the PIRLS framework ‘reading literacy is one of the most important abilities students acquire as they progress through their early school years. It is the foundation for learning across all subjects, it can be used for recreation and for personal growth, and it equips young children with the ability to participate fully in their communities and the larger society.’

PIRLS focuses on the achievement of young children in their fourth year of schooling (Grade 4 for Australian students) as well as the experiences they have at home and at school in learning to read. PIRLS was previously administered in 2001 and 2006 but 2011 is Australia’s first year of participation. Results will provide an important collection of information about Year 4 students’ level of reading achievement, as well as home, school, and classroom influences on that achievement.

The previous administration of PIRLS, undertaken in 2006, found that the Russian Federation, Hong Kong SAR and Singapore were the three top-performing countries. That study also showed that, on average, girls outperformed boys in reading literacy across all countries, and that children’s enjoyment and appreciation for reading was declining.

Forty countries participated in the 2006 study, and more than 50 will participate in 2011. Among the countries joining Australia as first-time participants are Finland, Ireland, Croatia, and the United Arab Emirates.

The aim of Australia’s participation in PIRLS is not simply to see where Australia sits on an international literacy league table. Its purpose is to look closely at Australian students’ reading abilities and examine what they know and don’t know in relation to reading literacy, identify strengths as well as any gaps in knowledge and consider what we might need to do to make improvements.

ACER is managing Australia’s participation in PIRLS with the support of the Commonwealth and state and territory governments.

Schools are randomly selected to join the study based on strict international criteria to ensure that the students chosen to participate make up an accurate sample that is truly representative of Australia’s whole school system. Schools from all states and territories and all school sectors will be included. One Grade 4 class in each school will be selected at random and those students will undertake the assessment. Australia’s PIRLS testing will coincide with the 2011 administration of the Trends in International Mathematics and Science Study (TIMSS). Australian Grade 4 students taking part in TIMSS will also complete the assessments for PIRLS.

From May this year schools will be contacted and invited to participate in the assessment. ACER will then send all materials to schools along with detailed information about how the assessment is to be conducted. In the IEA assessments, whole classes are selected within schools, and PIRLS, like TIMSS, is generally administered by another classroom teacher, minimising disruption at the school level.

From the end of October to late November Australian students will complete the PIRLS assessments. While the assessment is officially known as PIRLS 2011, all students in the Southern Hemisphere will complete the tests in late 2010. This is because students around the world need to be assessed on what they have learned in the school year near its conclusion. Northern Hemisphere countries, where the school year tends to finish in the middle of the calendar year, will conduct testing in early 2011.

During the assessments students will be provided with passages of text and asked to answer questions either by multiple-choice or constructing written answers of a few sentences in length. The texts will be presented in the format of a magazine or section of a book to make them appear as close as possible to the types of texts children of this age are used to reading. The assessment will take approximately two hours to complete including a student background questionnaire.

Test booklets and questionnaires are then returned to ACER, where expert markers will score the constructed response items and other data will be entered.

As part of the administration of PIRLS parents will also be asked to complete a survey about reading practices with their children. It’s important to gather this information from parents as it will help researchers to identify possible home influences on reading achievement and, in turn, help policy makers identify children who may be at risk of being left behind.

Feedback on student performance will be provided to schools. The public report on PIRLS will not report on the performance of individual students or schools.

When the first Australian study is completed PIRLS will provide Australian educators with international comparisons of Australian students’ reading literacy at a critical stage in students’ development where they are, according to the PIRLS framework, moving from learning to read to reading to learn. Participation in future cycles of PIRLS would enable educators to track progress over time.

For further information see <www.acer.edu.au/timss/overview>
Interested in the use of digital technologies in education?

Join the Digital Education Research Network

Researchers and educators with an interest in the use of digital technologies in teaching and learning are now able to debate issues and share ideas following the launch in March of the Digital Education Research Network (DERN).

DERN is a network of experts, leaders, researchers and colleagues interested in educational research into the use of digital technologies. Users of DERN may be experts in ICT, media, pedagogy, emerging technologies and related areas and are probably well briefed in the area of elearning research, as well as scholars seeking details about what research has been done, possibly for their own research purposes.

ACER established DERN as a communications, discussion, networking and storage service. The vision is to develop a place to aggregate Australian research into the use of ICT in education and to stimulate discussion among researchers.

DERN focuses mainly, although not exclusively, on Australian research. Specific focus topics include: teaching strategies, pedagogy and student achievement using ICT in learning disciplines such as English language, mathematics, science, history, languages, art and more. The use of digital assessment is of special interest to DERN. In time, these areas of research may be expanded.

Visit <www.dern.org.au>
Uni students lacking staff contact

The largest ever survey of current higher education students in Australia and New Zealand has revealed worrying findings about interactions between students and their teachers.

The 2009 Australasian Survey of Student Engagement (AUSSE) involved over 30 000 students from 35 higher education institutions. A public report on the results was released by ACER in May. AUSSE 2009 reveals that:

- A small, but still significant proportion of students (12.5 per cent of first year and 9.8 per cent of third year students) say they ‘never’ receive timely feedback on their academic performance from their teachers.
- Many Australasian students do not ever discuss their grades (32 per cent), ideas from classes (46.7 per cent) or career plans (52.6 per cent) with their teachers.
- Being supported by teaching staff plays a dramatic role in keeping students involved, particularly in first year, and in the quality of education.
- A very large proportion of students (more than 70 per cent) have ‘never’ worked with teaching staff outside of coursework requirements.

The AUSSE is a collaboration between ACER and participating universities. Around 45 institutions are participating in 2010. The full report, Doing More for Learning: Enhancing engagement and outcomes, and further information on AUSSE is available from <http://ausse.acer.edu.au>.

Turning up and tuning in key to Indigenous education

Indigenous students are performing well below the Australian average in international tests and student attitudes, behaviours and backgrounds could provide some of the keys to understanding this, according to a report based on findings from all three completed cycles of the OECD’s Programme for International Student Assessment (PISA).

This report focused on the psychological factors that can affect student achievement, and found that while Indigenous students on average have lower levels of confidence, less interest in learning, lower levels of motivation and engagement with reading and higher levels of anxiety about education than non-Indigenous students, they still put in as much effort and reported similar levels of persistence with learning, and felt similar levels of general engagement with school, as their non-Indigenous peers.

However, the report also found that Indigenous students are less likely to attend pre-school, and are more likely to be late to school on a regular basis, to miss consecutive months of schooling and to change school several times. Some absences may be due to ceremony and Sorry business (Indigenous bereavement rituals).

These factors contribute to Indigenous students’ underperformance in international tests of educational achievement.


Connell Collection launched

The personal library of books and materials gifted to ACER by the family of Bill and Margaret Connell was officially opened at ACER’s Cunningham Library on 28 May. The Connell Collection includes over 6000 items. It covers subjects including teaching and learning, sociology, history, psychology and psychometric testing within Australia and internationally. It has been catalogued onto the Libraries Australia national database making it accessible to researchers. Emeritus Professor William F. (Bill) Connell was Professor of Education at the University of Sydney from 1955 until his retirement in 1976, then a Fellow in the Faculty of Education at Monash University. He authored the history of the first 50 years of ACER and was foundation editor of the Australian Journal of Education, published by ACER since 1957. ACER also published three of his books.

ACER Appoints Indigenous Liaison Officer

Gina Milgate, a proud Aboriginal woman from the Kamilori (North Western) and Wiradjuri (Central Western) clans of New South Wales has been appointed as the first Indigenous Liaison Officer (ILO) at ACER. In this role Gina will contribute to raising the profile of ACER in the Indigenous education community and will assist in identifying opportunities for ACER to contribute to the Indigenous education agenda.

ACER recognises the significant challenges confronting Indigenous children and youth and is committed to improving educational outcomes and facilitating smooth transitions to school, further education and employment through targeted research, educational resources and quality learning programs for teachers and school leaders. In her role as Indigenous Liaison Officer, Gina will provide cultural intelligence and connect with the community to support all areas of the organisation in pursuing these objectives. Gina works in ACER’s Melbourne office.

PISA 2012

ACER has been appointed as National Project Manager for the OECD Programme for International Student Assessment (PISA) 2012. This assessment is currently under development but will have a focus on mathematics for the second time (mathematics was also the focus of the assessment in 2006). ACER’s work will involve updating the framework and initiating a computer-based assessment of mathematics and problem-solving in addition to the computer-based assessment of reading that was introduced in PISA 2009.

Collaboration with Indian authorities

The Central Board of Secondary Education (CBSE), India and ACER signed a Memorandum of Understanding in April to collaborate on programs and initiatives which will apply international best practices in educational research and assessment to support educational development.

The signing of the Memorandum of Understanding coincided with a Joint Ministerial Statement to build on the cooperative ties between the two nations in the education sector signed by Australian Deputy Prime Minister and Minister for Education, Julia Gillard, and India’s Minister for Human Resource Development, Kapil Sibal in Melbourne.

Kids who walk on track to better health

Results from an ongoing study being undertaken by ACER for VicHealth suggests that children who walk to school are significantly more connected with their local community. ACER researcher Catherine Underwood presented the first findings of a three-year evaluation of VicHealth’s Streets Ahead initiative at the inaugural International Healthy Parks Healthy People Congress in Melbourne in March.

The research presented to the Congress involved analysing surveys and pictures drawn by 659 primary school aged
children between the ages of 9 and 12. Twenty-six per cent of children surveyed had walked to school in the previous five days. Children who walked to school drew detailed elements of green space such as parks, trees, grass, flowers, sporting ovals and children playing football, people riding bikes, walking their dog and playgrounds. In contrast, children who travelled to school by car tended to depict abstract, isolated images of their neighbourhood environment with the car and the road as the central theme. Further Information on the Streets Ahead initiative is available from VicHealth <www.vichealth.vic.gov.au>.

**Schools First public report released**

ACER chief executive Professor Geoff Masters launched the Schools First 2009 public report at the inaugural Schools First conference on 19 March. The conference marked the end of Schools First Week during which successful school-community partnerships were celebrated across Australia and Schools First was launched for 2010.

The public report revealed that about one in six schools nationwide submitted an entry to the awards program last year, exceeding the Schools First Board’s expectations. Almost $5 million was awarded to 68 winners of the Schools First Impact Awards and 20 winners of Seed Funding Awards.

The Schools First concept was developed by the Australian Council for Educational Research and the Foundation for Young Australians and was brought to life by NAB. Applications for Schools First 2010 open in June with this year’s winners to be announced in September and October. For more information visit <http://www.schoolsfirst.edu.au>.

**Recognising accomplished teachers**

In an *Australian Journal of Education* article, ACER Principal Research Fellow Dr Lawrence Ingvarson looks at efforts since the 1970s to strengthen the teaching profession by making teaching a more attractive career, lifting the quality of teacher training, retaining and rewarding quality teachers, promoting effective professional learning and supporting workforce mobility.

There are two main purposes for teacher evaluation. One is for all teachers to meet basic standards of professional performance. The other is to provide high standards of professional accomplishment and incentives for teachers to attain them, usually through professional certification.


**More still needed in overhaul of early childhood education**

The radical overhaul of Australia’s preschool sector will require better legislating for the sector and increasing the number of early childhood education teachers, according to a policy paper released by ACER in December.

The policy brief, *Preschool Education in Australia*, summarises the current structure of preschool in Australia in contemplation of major policy shifts announced by the Commonwealth.

The policy brief highlights a need for more nationally consistent and comparable preschool data. Information about the preschool sector is currently 15 to 20 years behind what is available about schools. Inconsistencies are also noted in how early childhood education is regulated across Australian states. Stark differences can be found in the qualifications and salary of staff employed in ‘stand alone’ preschools and Long Day Care settings.

The policy paper, *Preschool Education in Australia*, was prepared by ACER Principal Research Fellow Dr Andrew Dowling and Research Fellow Kate O’Malley. It is available from the ACER website at <research.acer.edu.au/policy_briefs/1>.

**Indigenous school attendance and retention**

ACER has been appointed by the Australian Institute of Health and Welfare Social and Indigenous Group to prepare a paper on Indigenous school attendance and retention. The purpose of the paper is to review the quality and breadth of the available evidence on strategies for improving school attendance and retention, evaluate the evidence base in relation to this, and identify any gaps in the available research.

**Assessing early childhood education and care**

The Australian Government, in partnership with all state and territory governments, is making important changes to early childhood education and care in Australia. A National Quality Framework will be implemented progressively from 1 July 2010. The framework will put in place a new National Quality Standard to ensure high quality and consistent early childhood education and care across Australia.

ACER has been contracted by the Department of Education, Employment and Workplace Relations to provide technical advice in the development of an assessment and rating process for the National Quality Standard for Early Childhood Education and Care. The project is scheduled to be completed by December 2010.

**Social networking provides new opportunities for learning**

Information Communication technologies (ICT) including social networking and games provide new opportunities for education, a recent review of research released by ACER argues. But, according to Australian Education Review 56, the ‘off the shelf’ mentality which currently underpins the provision of computers in Australian schools may be stifling rather than enhancing innovation.

The review *Building Innovation: Learning with technologies* by University of Canberra academic Kathyrn Moyle explores national and international policy priorities for building students’ innovation capabilities through information and communication technologies (ICT).

Australian Education Review 56 is available from the ACER Research Repository at <http://research.acer.edu.au/aer/10>. Print copies can be purchased from ACER Press.
Mathematics has a central place in the school curriculum at all levels. Mathematics contributes to ways in which all people interpret everyday situations and make personal decisions in their homes, society and workplaces. People who are well educated in mathematics are able to respond better to the demands of a global economy, technological change and social challenges.

Mathematics also provides a foundation for studies in many fields and applications based on those fields of learning. Sufficient numbers of mathematics specialists and mathematically expert professionals are required for the development of society and enhancing economic competitiveness by generating new ideas and applications.

Research Conference 2010 will focus on mathematics teaching. It will draw together research-based knowledge about effective teaching and learning of mathematics. It will consider approaches to teaching that develop the mathematical proficiency of students and that catch and hold their interest in mathematics from the early years through to post-compulsory education. It will be relevant to those directly involved in mathematics education as well as those concerned more broadly with the place of mathematics in education.

Registration: www.acerinstitute.edu.au

Australian Council for Educational Research
This book includes practical and, at times, challenging images of leading learning in a small school. It identifies what the research says about small school leadership and then relates five compelling stories from across Australia. 

Michelle Anderson et al | $34.95

This book is the first major work which defines and explores the concept of the Networked School Community and details the challenges and opportunities of its implementation from the perspective of the system, the school, the teacher, the student, the home, and the parent.

Mal Lee & Glenn Finger | $69.95

Ideal for educational leaders, this book uses guidelines, advice and case studies to show how schools can integrate digital technologies creatively and wisely to enliven teaching and support student learning.

Leading a Digital School includes chapters written by leading educators engaged in policy, research, consultancy and day-to-day practices in schools and education systems.

Michael Gaffney & Mal Lee | $49.95

The role of school leaders has changed as countries attempt to transform their education systems to prepare young people to function in today’s world. This book argues there is a need for new paradigms of schooling and offers practical advice on how to bring about such breakthrough change from within schools.

Leoni Degenhardt & Patrick Duignan | $39.95

The Interactive Whiteboard Revolution provides a wealth of information on:

■ selecting the right IVB technology
■ getting your school started with IVBs
■ principles and strategies for effective IVB teaching
■ lesson design and software tools.

The book contains eight case studies of leading educators talking about how they use IVBs.

Chris Betcher & Mal Lee | $34.95

The Use of Instructional Technology in Schools examines teachers’ use of the major instructional technologies over the last century — from silent film and radio to the interactive whiteboard and the Web. It explores the reasons why so few teachers have used these technologies and identifies what is required to achieve teachers’ universal acceptance of instructional technologies.

Arthur Winzenried & Mal Lee | $49.95

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