

rd

RESEARCH DEVELOPMENTS

ISSN 1442-6625

No. 15 Winter 2006

Teaching reading: Findings from the National Inquiry

Science lessons around
the world

Using data to support
student learning

Missing out on a
university place

ACER develops higher
education research

Research for Learning



Professor Geoff Masters
Chief Executive Officer

This edition of Research Developments looks at the results of the National Inquiry into the Teaching of Literacy. The inquiry was chaired by ACER's Dr Ken Rowe and examined how reading is taught in schools, as well as the effectiveness of teacher education courses in preparing our teachers for reading instruction.

Science teaching practices were also under the spotlight in the Third International Mathematics and Science Study (TIMSS) Video Study. In this study a sample of Year 8 science lessons in five countries was videotaped to identify common features and distinctive characteristics. The quality of Australian Year 8 science teaching was endorsed, however there was some concern about the low emphasis placed on student directed investigations and the generally basic level of content covered in the lessons.

In her article, Professor Gabrielle Matters discusses the use of data collected in and about schools to support learning. She says data are currently being collected without enough strategic thought as to what they are being collected for or how to use them. The article is based on a review which was recently released as part of the *Australian Education Review* series.

Dr Gary Marks explains in his article the reasons behind the "unmet demand" for university. Those who are not offered a place at university usually have lower levels of academic achievement, and possibly unrealistic expectations.

The report commissioned by the Commonwealth government to investigate and report on models for an Australian Certificate of Education was released in May. Some further details are in the ACER Update section at the back of this edition, but look out for a full article in the next edition of *Research Developments* later in the year.

We hope you find the information in this edition of *Research Developments* useful.



Contents

RESEARCH DEVELOPMENTS

No. 15

Winter 2006



2



Science lessons around
the world **2**

6



Using data to support
student learning **6**

Teaching reading:
Findings from the
National Inquiry

10

14



Teaching reading: Findings
from the National Inquiry **10**

Missing out on a
university place **14**

ACER develops higher
education research **17**

17



ACER update **18**

Research Developments is published by
Australian Council for Educational Research
19 Prospect Hill Road
Camberwell VIC 3124
Phone: (03) 9277 5555
Email: communications@acer.edu.au
Website: www.acer.edu.au

All rights reserved. Except under the conditions described in the Copyright Act 1968 of Australia and subsequent amendments, no part of this publication may be reproduced, stored in a retrieval system or transmitted in any form or by any means, electronic, mechanical, photocopying, recording or otherwise, without the written permission of the publishers.

Print Post Approved PP328727/00028
ISSN 1442-6625
ABN 19 004 398 145

Copyright © Australian Council for
Educational Research 2006
Printed June 2006

Editor: **Louise Reynolds**
Design: **Integral**
Printed by: **Camten Graphics**

Science lessons



around the world



Dr Jan Lokan

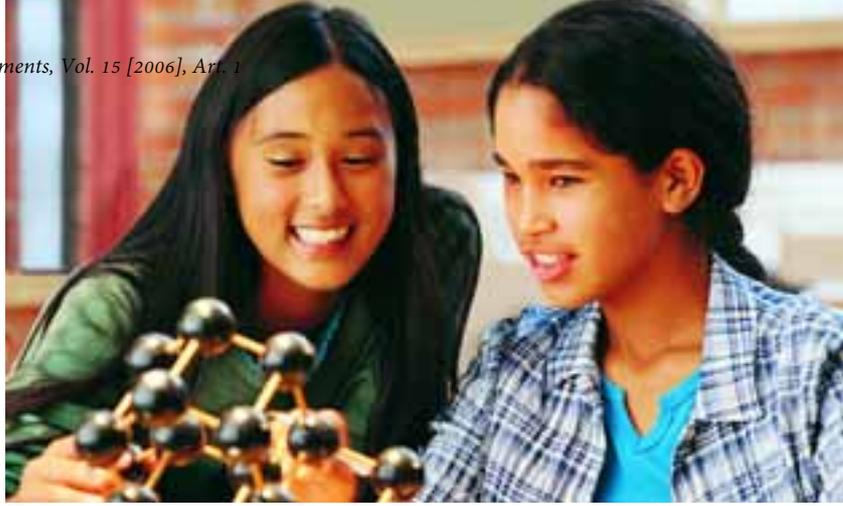
Jan was an Assistant Director of ACER. She directed many projects, including the Australian TIMSS and PISA studies, before her recent retirement.

*The quality of Year 8 science teaching in Australia has been endorsed by the latest findings from the Third International Mathematics and Science Study (TIMSS) 1999 Video Study. Co-author of the Australian report, **Jan Lokan** explains the study's objectives and its findings.*

The study investigated Year 8 science teaching in Australia, Japan, The Czech Republic and The Netherlands, all of which achieved relatively highly in the TIMSS 1995 and 1999 written assessments, and the United States, which achieved at average level only. A sample of Year 8 science lessons in each country was videotaped and later analysed to identify common features as well as distinctive characteristics in teaching approaches across the five countries.

Internationally, the science component of the TIMSS Video study comprised a total of 439 Year 8 lessons collected from the five participating countries. In Australia the study involved 87 Australian teachers and around 2000 students in a randomly-selected sample of schools from all regions and school sectors. Lessons were videotaped between June 1999 and May 2000.

The international study was conducted by LessonLab Research Institute based in the United States. ACER conducted the Australian component of the study on behalf of the Commonwealth, state and territory governments. The Australian report, *Teaching Science in Australia*, by Jan Lokan, Hilary Hollingsworth and Mark Hackling was published by ACER in April.



The reports on science teaching follow the reports of the mathematics component of the study, which were released in 2003. The mathematics study involved seven countries, including Australia, and identified no single best method of teaching eighth-grade mathematics in high achieving countries.

Study objectives

The objectives of the TIMSS Video science study included developing observational measures of classroom instruction that could serve as indicators of teaching practices in each country; comparing teaching practices among countries and identifying similar or different lesson features across countries, in particular differences between higher and lower-achieving countries; and describing patterns of teaching practices within each country.

How does videotaping lessons help us to achieve these objectives? Video-based studies help researchers to better understand, and hopefully improve, student learning by making it possible to closely observe and analyse what happens in classroom situations. Researchers can observe interactions between teachers and students, break down the amount of time spent on different components of a lesson and analyse these components in detail. Further, the existence of the tapes means that lessons can be analysed many times from a variety of perspectives.

International findings

The researchers observed that there is more than one way to teach science successfully, supporting the proposition that teaching is culturally based. Teachers in the participating countries used a variety of teaching methods and combined them in different ways.

Of particular interest was whether it was possible to identify characteristics of science teaching shared by the higher-achieving countries that were different from those observed in the United States. The four higher-achieving countries shared two features. Firstly, lessons in each of the countries had high content standards and high expectations for student learning. Secondly, rather than exposing students to a variety of teaching methods and content, the science lessons in each higher-achieving country reflected a common core instructional approach that was content-focused. The main difference in Year 8 science teaching between the four higher-achieving countries and the United States was that, although United States students were exposed to a variety of organisational structures, content and activities, these features were not typically used in ways that would offer students a clear and coherent picture of conceptual links that can be made between content ideas.

Australian findings

Australian lessons typically involved gathering and analysing data through independent practical activity and interpreting the results to develop scientific concepts. Real-life experiences and issues were often used to help students connect ideas. In addition, Australian teachers were well trained and mostly well resourced. Compared to the other participating countries, Australian lessons most closely resembled those in Japan.

The style of science teaching in both countries tended to focus on developing a limited number of ideas by making connections between ideas and evidence. The lessons were more coherently presented than in the other countries and

the students were typically engaged in practical investigations. In contrast with Japan, Australian science lessons supported the development of scientific ideas more often with real-life examples but less often with visual representations.

Despite the largely positive findings for Australia, there was a little emphasis on student-directed investigations and a generally basic level of content covered in the Australian lessons. Fifty-seven per cent of Australian lessons focused on content that was generally at only a basic level for Year 8 and would have offered limited challenge for students, particularly more able students. Thirty-three per cent of lessons provided a mix of basic and challenging content and only nine per cent involved content that was judged to be highly challenging throughout. The findings for Australia on this aspect were almost identical to those for Japan.

Conclusions

What did we learn about science teaching in Australia from observing the sample of Australian Year 8 lessons? In many respects Australian Year 8 science teaching was found to resemble a model of ideal science teaching derived from research and Australian curriculum documents. Students were provided with good opportunities to achieve the stated goals of the science curriculum and to develop aspects of their scientific literacy. Overall the Australian lessons can be characterised as providing many opportunities for students to practise several of the important scientific inquiry skills such as collection and interpretation of scientific data. Lessons were coherently-structured, generally providing connected, richly supported material as the content was developed.

There are areas where improvements could be made, including to the content of lessons, which was typically only at a basic level for Year 8. Students did not have much opportunity to formulate their own research questions, devise their own experimental procedures and determine how to analyse their own data because the independent practical work was largely teacher-directed. Opportunities to discuss conclusions arising from the practical activities were also missed in half of the Australian lessons that featured such activities. Australian Year 8 students would benefit from more opportunities to learn and practise higher-order inquiry skills such as designing their own investigations and taking part in more class discussions about the results of their practical work.

Given the centrality of inquiry-based learning in Australian science teaching, the commitment to scientific literacy and the emphasis on independent practical work, there appears to be a need to allow more student-directed investigations and more whole-class discussion of the results and conclusions arising from the practical activities to maximise students' opportunities to develop and consolidate the scientific concepts underlying their investigations.

Further information

More information about the study and additional findings are contained in the full report, *Teaching Science in Australia*, by Jan Lokan, Hilary Hollingsworth and Mark Hackling. The report is available from the ACER website at www.acer.edu.au ■

Key findings:

- The Australian teachers were mostly well-qualified to teach science, which they had been teaching for an average of 14 years. Most said they were familiar with current ideas in science teaching and learning.
- Ninety per cent of the lessons took place in science laboratories. The teachers said they had sufficient resources except for computers and Internet access.¹
- Introduction of new content was by far the most common lesson activity in all countries, consuming two thirds or more of the lesson time, on average (Australia 85%). Other types of activity varied, including review of previous content, going over homework and assessing student learning, all of which occurred rarely in Australia, Japan and the United States.
- In Australia 60 per cent of the lessons were devoted entirely to the development of new content, compared with 16 per cent of Czech lessons and 91 per cent of Dutch lessons.
- Australia, along with Japan, had the highest average percentage of lesson time allocated to practical activities (42%), activities which occurred in 90 per cent of the Australian lessons. Although practical activities featured in over 80 per cent of lessons in the Czech Republic, these activities occupied an average of only 14 per cent of the lesson time.
- Australian lessons were well-structured. Australia and Japan were the only countries found to have strong conceptual links in the material presented in the majority of content-focused lessons.
- Real-life issues and first-hand data were used to support the development of ideas in the majority of lessons, which tended to feature multiple activities likely to engage the students' interest.

¹ By now this situation would be expected to be much improved.

Using data



to support student learning



Professor Gabrielle Matters

Gabrielle joined ACER in October 2005 and is Principal Research Fellow and Manager of the ACER Brisbane Office

*Although there has been an increase in the amount of information collected from and about Australian schools, this information is not always being used effectively to enhance learning writes **Gabrielle Matters**, author of the latest edition of the Australian Education Review.*

More and more data are being collected from and about schools in Australia yet there should be better use of those data at all levels of the education-delivery system in this country. Also, we need recommendations coming out of research to be stated unambiguously even if the message is unpalatable. One of the main purposes for collecting and analysing educational data is to support learning in schools. To do this effectively we need to be sure that the everyday use of data by practitioners actually does enhance the learning experience.

These are among the conclusions drawn in the latest edition of the Australian Education Review, *Using data to support learning in schools: Students, teachers, systems*. It examines the issues raised at the ACER Research Conference 2005 – *Using data to support learning* – by analysing the conference papers in the light of a survey of broader Australian and international literature on using data to support learning. The main purpose of the review is to enable readers to stop and consider not only what was in the conference papers but also the bigger issues about using data.

In his foreword to the review, renowned assessment expert Dr Randy Bennett, Distinguished (US) Presidential Appointee in the Research and Development Division in the Educational Testing Service (ETS),



Princeton, New Jersey, agrees that the demand to improve decision making through data has occurred because we are living in an age of accountability facilitated by new technology. But he goes further in stating that governments must ensure that today's students are educated to the highest achievement standards possible, giving reasons for this assertion.

Data are currently collected from and about schools by teachers, researchers and policy analysts among others. The kinds of data to be collected and interrogated can be data that emanate from different sources including:

- Observing student performance (which is the outward and visible sign of student learning)
- Research into factors that improve student achievement (such as teaching practices and student motivation)
- Research into factors that affect participation rates (such as gender and socioeconomic status)
- Evaluation of government policies (such as school reform, curriculum revision and testing regimes)

More strategic thinking is required to determine how best to collect and use the data. The review reminds us that we need to avoid a 'recipe-book approach' to data analysis.

It is also important to think strategically about what question we have in mind when we begin collecting data. In other words, what is it that we are asking the data to tell us? The questions need to be both open and focused for; above all, they determine the parameters for the investigation: the data source, what data are collected and the interpretations available to practitioners, policy makers and stakeholders.

Research Conference 2005

The enormous interest in using data in schools was in evidence at ACER's Research Conference 2005 – *Using data to support learning*. In the largest conference undertaken by ACER to date, more than 750 delegates met in Melbourne to consider issues confronting Australian schools in the collection and use of data.

An analysis of the three keynote addresses and 16 concurrent papers revealed that there is sometimes a disjuncture between what the research findings reveal and what is done in practice.

Dichotomies

In addition to a disjuncture between research and practice, the review identifies four dichotomies, which, it argues, inhibit the effective collection and use of data. They are:

1. assessment for learning versus assessment of learning
2. student work versus test score as evidence of learning
3. progress of individual student versus success of school
4. sociology versus psychology as an explication of success

The dichotomies are analysed in the review with alternatives suggested.

The general lesson to be taken away from the analysis of each dichotomy is that there are many ways to use data to support learning and each has its own special wonder. These dichotomies must be 'demolished' in order for there to be enhancements in the effectiveness of using data to support learning. In acknowledging the existence of these four particular dichotomies, it is ultimately not so important whether they are real or imagined.

What is important is the resulting identification of eight discrete approaches which produce a wealth of information that can be used to support learning, especially student learning.

Conclusions

The review concludes with eight recommendations to be considered by those working in the field:

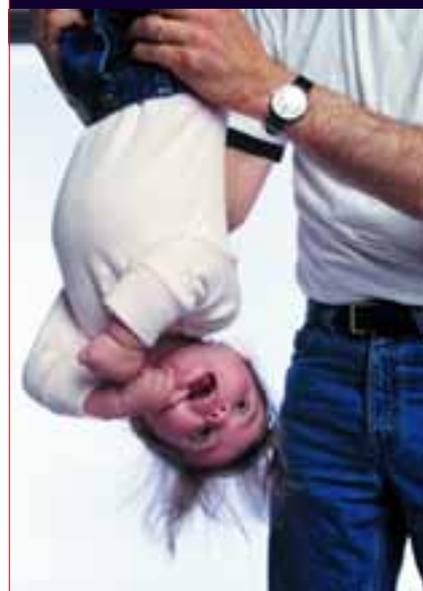
- A new project to collate and reflect on the existing body of cutting-edge research on using student work as a data source
- A detailed review of the attitudes of Australian teachers and policy makers to the application of assessment for learning
- Hands-on training for system administrators in the use of large-scale datasets, with special emphasis on using these datasets in formulating educational policy
- Provision of professional development programs for teachers in techniques for interrogating student data, especially data supplied to schools by external agencies and assessment data generated at the school level
- Commissioning of two research studies:
 1. a rigorous appraisal of existing research findings related to current national and international issues by a coalition of educational interests; and
 2. a meta-analysis seeking evidence of the everyday use of data in ways that support learning.
- Commitment to a multi-disciplinary approach when briefs are prepared for practitioners and policy makers on educational research findings about a pertinent issue
- An acknowledgment that there should be better use of research findings at all levels of the education-delivery system in this country.

The 'how' of using data to support learning involves collecting reliable data, making valid interpretations, reflecting on those interpretations, and acting upon that information if and when necessary.

Australian Education Review number 49, *Using data to support learning in schools: Students, teachers, systems*, by Gabrielle Matters, is available for download from the ACER website at www.acer.edu.au. Print copies can be purchased from ACER Press. Contact customer service on (03) 9835 7447 or via email on sales@acer.edu.au

The Australian Education Review series provides literature reviews with analyses of contemporary issues in education. The series is edited by Suzanne Mellor, ACER Senior Research Fellow.

Hanging out for the next Research Developments?



Sign up for ACER eNews!

Receive monthly email bulletins on ACER's latest research and news

Free of charge

To subscribe, visit www.acer.edu.au/maillinglist and follow the link to **eNews**

Read previous editions online at www.acer.edu.au/publications/newsletters/enews

Teaching Reading:



Findings from the National Inquiry



Dr Ken Rowe

Committee Chair, National Inquiry into the Teaching of Literacy, and Research Director, Learning Processes and Contexts research program, ACER.

Being able to read is an important foundation, not only for school-based learning, but also for productive and fulfilling participation in society. The National Inquiry into the Teaching of Literacy was recently commissioned by the Commonwealth government to review current practices in the literacy acquisition of Australian children.

Ken Rowe outlines the findings of the Inquiry.

While international data indicate that Australia's level of achievement in literacy is high relative to other countries, a significant minority of children in Australian schools continue to face difficulties in acquiring acceptable levels of literacy and numeracy. The National Inquiry into the Teaching of Literacy examined the way reading is taught in schools, as well as the effectiveness of teacher education courses in preparing our teachers for reading instruction.

Three key principles underlie the report and recommendations from the Committee for the National Inquiry into the Teaching of Literacy. First, young Australians are the most valuable resource for our nation's social and economic prosperity. Second, the key to such prosperity at both the individual and national level is the provision of quality schooling. Third, because teachers are the most valuable resource available to schools, it is vital that teachers be equipped with evidence-based teaching practices that are demonstrably effective in meeting the developmental and learning needs of all children.

Nowhere are these three principles more important than in the teaching of reading, since being able to read is foundational, not only for school-based learning, but also for children's psychosocial wellbeing, further education and training, occupational success, as well as for productive and fulfilling participation in social and economic activity. Moreover, the rapidly changing nature of computer-based technologies and global communication systems demand competence in increasingly complex multiliteracies, of which reading competence (together with writing) is essential.

Learning to read and write

While children enter school with varying degrees of competence in speaking their language(s), typically they have little knowledge about how to read and write. Because reading involves two basic and complementary processes: learning how to decipher print and understanding what the print means, the purpose of early reading instruction is to help children master the challenges of linking written and spoken language. These include acquiring knowledge about the alphabetic system that link written words to their pronunciations, learning to decode new words, building a vocabulary that can be read on sight from memory, and becoming facile at constructing, integrating, interpreting and remembering meanings represented in text in whatever form such representations are presented.

So what are the major messages from the evidence-based research that indicate which approaches are most effective in teaching children to read?

For beginning reading during the early years of schooling (and later if needed), findings from a large volume of local and international evidence-based research

consistently indicate that direct, systematic instruction in phonics makes significantly greater contributions to children's initial and subsequent progress in reading, writing, spelling and comprehension, than do alternative approaches involving unsystematic or no phonics instruction. When foundational phonics skills are taught early, the need for costly and often belated intervention programs is minimised.

These findings highlight a concern by the Inquiry Committee that the predominant whole-language approach to the teaching of reading in Australian schools is problematic. Essentially, the whole-language approach reflects a constructivist philosophy of learning (rather than a philosophy of teaching) in which children are viewed as inherently active, self-regulating learners who construct knowledge for themselves, with little or no explicit instruction. However, there is a strong body of evidence that exclusive use of a whole-language approach is not in the best interests of children learning to read, and especially for those experiencing reading difficulties. Nonetheless, whereas the systematic, explicit teaching of phonics is a necessary condition for the effective teaching of reading, it is not a sufficient condition.

That is, the evidence indicates that all children are provided with the best opportunities for success in learning to read when teachers integrate the following skills via explicit instruction in:

- phonemic awareness: the ability to hear and manipulate the sounds in oral language;
- phonics: the relationships between letters and sounds;
- fluency: the ability to read quickly and naturally, recognise words automatically, and group words quickly;

- vocabulary knowledge: new words and what they mean; and
- text comprehension: understanding what is being read and developing higher-order thinking skills.

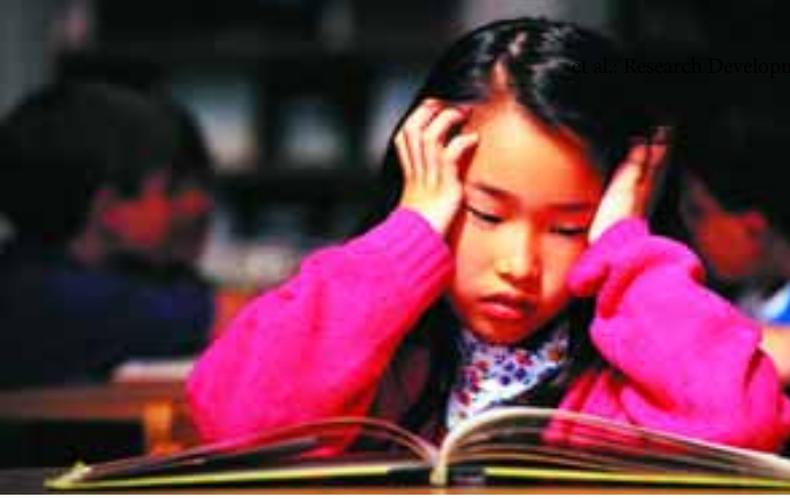
Because these are essential skills for the development of competence in reading, writing and spelling, they must be taught early, systematically, explicitly and well. Parents and caregivers have a positive role to play by regularly reading aloud with their children, especially during the formative pre-school years.

Linking practice to evidence

The Committee learned much from the 453 submissions provided to the Inquiry and visits to schools across the country where some excellent examples of effective practice in the teaching of reading and writing were observed, together with evidence of children's success. In general, however, it was clear that teachers seemed unaware of the reasons for using particular strategies rather than others. Teaching, learning, curriculum and assessment for reporting to parents need to be more firmly linked to findings from evidence-based research indicating effective practices, including those that are demonstrably effective for the particular learning needs of individual children.

While the evidence indicates that some teaching strategies are more effective than others, no one approach of itself can address the complex nature of reading difficulties. An integrated approach requires that teachers have a thorough understanding of a range of effective strategies, as well as knowing when and why to apply them.

Similarly, the Committee found that many teachers do not use (and are not aware of) objective, standardised diagnostic tests that



assess the essential alphabetic, decoding skills required for reading proficiency. Consistent with the findings documented in the report titled: *Assessment of literacy and numeracy in the early years of schooling – An overview* (DEST, 2001),¹ assessments of reading in the early years need to be linked to formal assessments of reading undertaken during the subsequent years of schooling. These are important issues that the Committee recommends be addressed during pre-service teacher education, and especially through in-service professional learning.

What makes a successful teacher?

Children begin school with a wide variation in their abilities, their attitudes, their behaviour and their backgrounds. Often, too much emphasis is given to these factors. Once at school, the evidence shows that it is quality teaching that is vital to teaching children to read. For beginning teachers to be well prepared to teach children to read, the Committee recommends that:

- as a condition of registration, all primary and secondary teaching graduates must demonstrate that they possess the personal literacy skills and knowledge necessary for teaching literacy, especially reading;
- teachers update their skills by engaging in regular evidence-based professional learning; and
- teacher education institutions make preparing student teachers to teach reading their key priority. Coursework should be based on research and include instruction on how to teach phonics in a systematic and explicit way, along with instruction on how to teach oral language, vocabulary, grammar, reading fluency, comprehension and the literacies of new technologies.

What makes a successful school?

The Committee found that six key elements operate consistently in the successful schools visited. These are:

- a belief that all children can learn to read and write regardless of background and location;
- an early and systematic emphasis on the explicit teaching of phonics;
- a subsequent focus on direct teaching;
- a well-resourced print-rich environment, including fiction and non-fiction books, charts and computer programs;
- strong leadership and management practices, involving whole-school approaches to the teaching of reading and writing; and
- an expectation that teachers will engage in evidence-based professional learning and learn from each other.

Equipping young people to engage productively in the knowledge economy and in society more broadly is fundamental to both individual and national prosperity. This objective depends primarily on: the ability to read and write effectively; and the provision of quality teaching and learning by teachers who have acquired, during their pre-service teacher education, and in-service professional learning, evidence-based teaching practices that are shown to be effective in meeting the developmental and learning needs of all children. Our children and their teachers require no less.

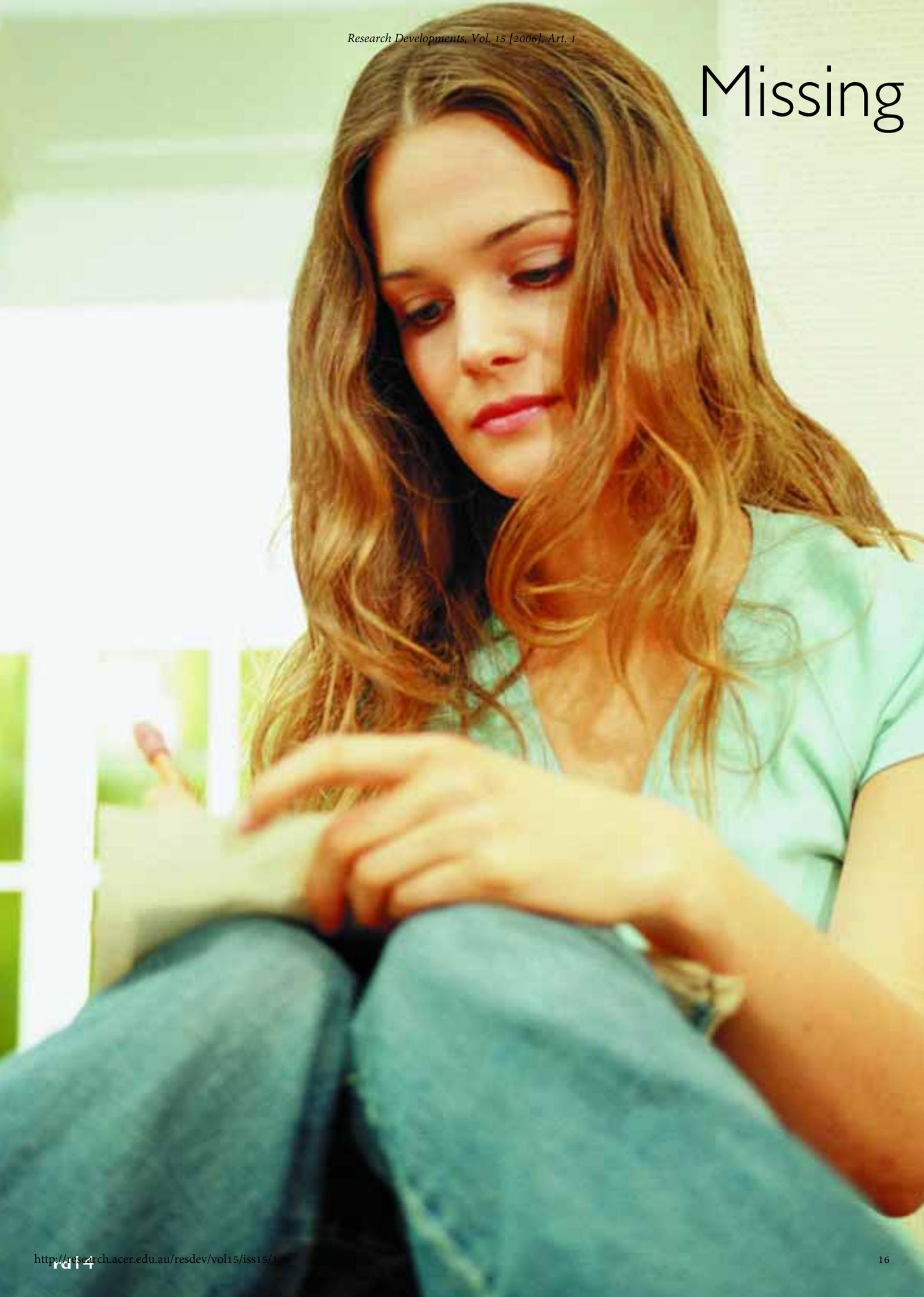
Further information

The Inquiry's full report and recommendations, literature review, submissions and site visits are available on the Department of Education, Science and Training website at www.dest.gov.au/schools/literacyinquiry

This article is based on a shorter piece first published in the *Sydney Morning Herald* on 9 December 2005. ■

¹ DEST (2001). *Assessment of literacy and numeracy in the early years of schooling: An overview*. Canberra, ACT: Commonwealth Department of Education, Science and Training.

Missing



out on a university place



Dr Gary Marks

Gary is a Principal Research Fellow with ACER.

At the start of each university year many media reports focus on the disappointment of young Australians who applied to enter university but did not receive an offer of a place.

This group of unsuccessful applicants is often referred to as representing 'unmet demand' for university.

Gary Marks describes the findings from a study that investigated who missed out on a university place and the alternative study pathways they took.

Why do some students miss out on a university place and what happens to them next? These questions were addressed in a report released by ACER in December 2005. Using data collected for the ongoing Longitudinal Surveys of Australian Youth (LSAY) research program, the study examined the characteristics of unsuccessful applicants to university. It also tracked their progress after missing out on a place at university to see what alternative pathways they took.

The study, *Unmet Demand? Characteristics and Activities of University Applicants Not Offered a Place*, analysed the experiences of almost 8000 young people who were in Year 9 in 1998. Most completed Year 12 in 2001. The report analysed the characteristics of the group of students who applied to university but did not receive an offer (referred to in the study as the unmet demand group) by comparing them to other students who were also in Year 9 in 1998. They were followed through until 2003, which was two years after Year 12 for most of them. By that stage most were 19 years old.

A relatively small proportion of the cohort, around 5 per cent, applied to enter university but did not get a place. This amounted to about 10 per cent of all Year 12 university applicants in 2001. Although they eventually missed out on a place, these students had expressed clear intentions to go to university. In Years 9 to 11, about 70 per cent of the group indicated that they wished to attend university.

Membership of the unmet demand group was slightly higher among women than men, higher among those from metropolitan than non-metropolitan areas and higher among those from non-English speaking backgrounds. It was lower among those whose parents had professional backgrounds and more highly educated backgrounds. However, overall there were only small differences in demographic and social background between the students who applied to university but did not receive an offer and the other students enrolled in Year 12 in 2001.

The main reasons this group of students missed out on a university place were lower levels of academic achievement and possibly



unrealistic expectations. On average, members of the unmet demand group were substantially less academically able than those who were offered a university place and subsequently enrolled. Their average Equivalent National Tertiary Entrance Rank (ENTER) score was only 54 compared to 70 for the sample as a whole and over 80 for those who enrolled at university.

Some members of the unmet demand group seem to have been unrealistic in their expectations by applying for courses with cut-off ENTER scores well above what they had achieved or they did not perform as well in Year 12 as they had hoped.

On average, the courses that unsuccessful applicants had chosen as their first preference had a cut-off ENTER score of 20 points above what they had achieved.

In addition, members of the unmet demand group achieved substantially lower average scores in Year 9 literacy and numeracy achievement. The lower the achievement score in the Year 9 tests, the more likely the student was to eventually belong to the unmet demand group. By contrast very few students who had been in the top achievement quartile on the Year 9 tests were in the unmet demand group.

What was the effect of missing out on a university place? A positive outcome for members of the unmet demand group is that many of them were able to take advantage of alternative study or vocational pathways provided by TAFE, traineeships or apprenticeships. Two years after completing Year 12, about 45 per cent were engaged in some other form of education or training. Around 24 per cent were enrolled in a TAFE diploma course, 11 per cent in a Traineeship, 6 per cent in a TAFE Certificate course and 5 per cent in an Apprenticeship. A total of

37 per cent were working full-time. Seven per cent were unemployed.

These relatively high levels of participation in other forms of education and training suggest that credit transfer arrangements may enable some of the unsuccessful applicants to enter university at a later stage of their lives, if their interests are still in that direction.

While the outcomes for unsuccessful university applicants two years after completing Year 12 appear to be largely positive, at this relatively early stage in their transition from school to work it is not possible to conclude if the group is experiencing particular difficulties. Subsequent research will allow a fuller examination of their labour market and other outcomes in future years.

Further information

Further information and additional findings are available in the report, *Unmet Demand? Characteristics and Activities of University Applicants Not Offered a Place* by Gary N Marks. The study is research report number 46 in the Longitudinal Surveys of Australian Youth (LSAY) research series, a program conducted jointly by ACER and the Australian Government Department of Education, Science and Training (DEST). All LSAY reports can be downloaded from the ACER website at www.acer.edu.au ■

Students who did enter university

Other reports from the Longitudinal Surveys of Australian Youth released earlier in 2005 investigated the experience of students who did successfully enter university.

In *Course change and attrition from higher education*, (LSAY Research Report No. 39) Julie McMillan provided a description of the incidence and nature of higher education course change and attrition and associated factors. The study found that university students who change courses or withdraw from study without gaining a qualification are more likely to be driven by personal interests and career objectives than academic difficulties or financial pressures.

Tertiary study was found to be a largely positive experience for the vast majority of first year students, in *The first year experience: The transition from secondary school to university and TAFE in Australia* by Kylie Hillman (LSAY Research Report No. 40). A large majority of students reported that they liked being a student, tertiary student life suited them, they enjoyed the atmosphere on campus and they had made close friends at their tertiary institution. A significant majority felt that the experience had lived up to their expectations.

These and all LSAY reports are available from the ACER website at www.acer.edu.au



ACER is expanding its involvement in higher education research, with the aim of informing and enhancing national and institutional policy and practice. Dr Hamish Coates joined ACER in February to lead the work in this area.

In recent years, ACER has investigated student demand for university, the first-year experience, and learners' perceptions of undergraduate teaching and research supervision. It develops and runs admissions and generic skills tests for a large number of institutions in Australia and overseas. Current research includes the development of an empirically validated leadership capability framework for higher education.

ACER conducts leading evidence-based research on assessment and reporting, learning processes and contexts, teaching, and the transitions and economics of education. For many years, ACER has worked with higher education leaders and policy-makers to guide and enhance higher education.

ACER's expanded work in higher education will build on this background of existing research and development.

ACER develops higher education research

Dr Hamish Coates



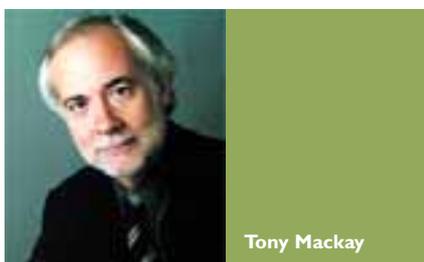
Dr Coates joined ACER as a Research Fellow in February from his position as a Senior Research Officer at Graduate Careers Australia (GCA). Dr Coates had previously worked as a Research Associate at the Centre for the Study of Higher Education (CSHE) and the Assessment Research Centre (ARC) at the University Melbourne.

He has run several major investigations and evaluations in higher education. His research and publications focus on the measurement and evaluation of education processes, contexts and outcomes. Active interests include student learning and engagement, higher education policy, university pedagogy, online and distributed education, quality assurance, psychometric and statistical methods, assessment and evaluation, and education performance indicators.



update

Board member awarded Australian College of Educators medal



Tony Mackay

A member of ACER's board of directors, Mr Tony Mackay, was recently named 2006 College Medallist by the Australian College of Educators (ACE) for his outstanding contribution to education in Australia. The ACE citation recognised Mr Mackay "for his remarkable impact on educators in Australia, the UK, and internationally, through his work in professional development, strategic thinking and facilitation for government bodies, education agencies, think tanks, school boards, leadership teams and the profession."

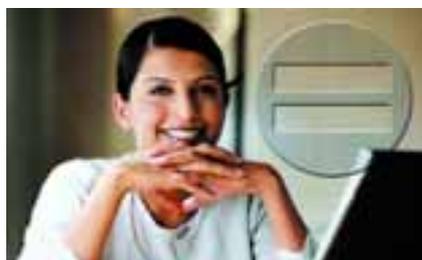
Victorian Global Education Project

ACER has been commissioned to extend its 2003-2005 evaluation of the *Victorian Global Education Project* for the Geography Teachers' Association of Victoria. The project is intended to evaluate the effectiveness of professional development sessions offered to pre-service teacher education students and to teachers in schools. The major focus of this next phase will be on evidence of the impact of the project activities on teaching practices. A report is due in January 2007. The GEP is funded by the Australian Government AusAID Program.

Masters appointed to IBO research committee

ACER's chief executive Professor Geoff Masters has been appointed as a member of the International Baccalaureate Organisation (IBO) research committee under the category of external expert for a three year term from May 2006.

ACER named Employer of Choice for Women



ACER has been awarded Employer of Choice for Women status by the Equal Opportunity for Women in the Workplace Agency (EOWA). ACER was one of ten Australian employers to receive the citation in February. ACER was awarded the citation on the basis of its existing policies and practices that were shown to support women across the organisation and have a positive outcome for both women and the business.

Australian Certificate of Education report released

A report on options for a single Australian Certificate of Education, prepared by ACER, was released by Federal Education Minister Julie Bishop on 5 May. The report, *Australian Certificate of Education: Exploring a way*

forward, made six recommendations including the introduction of a single Australian Certificate of Education that eventually would replace the existing nine Year 12 certificates currently awarded by the states and territories.

It urges the establishment of national "subject panels" to identify curriculum essentials in mathematics, English, science and humanities subjects as well as the development of internationally-benchmarked achievement standards. The report also calls for a greater focus on the development and assessment of "employability skills" important to life and work beyond school. The report is available from the DEST website at www.dest.gov.au/ace

A feature article on the Australian Certificate of Education will be published in the Summer 2006 edition of *Research Developments*.

Australian research resources available from EdNA Online

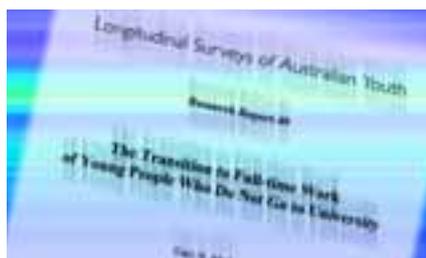


Educators, researchers and students now have increased access to a wide range of educational and research resources following an agreement between EdNA Online and ACER to link their databases. The two organisations will collaborate on the delivery of information services which will enable the sharing of knowledge, research and learning content. Visit EdNA online at www.edna.edu.au

Year 12 curriculum standards

Federal Education Minister Julie Bishop announced on 5 May that ACER will conduct a new study to compare the content, curriculum and standards of selected Year 12 subjects across Australia. The independent study will examine English, (including English Literature), Australian History, Mathematics, Physics and Chemistry. Curriculum and assessment authorities and other relevant stakeholders will be invited to participate in an Advisory Group for the study. It is expected that the study will be completed in October 2006.

LSAY Research Report number 49



“Crisis” accounts of the youth labour market are not supported by the latest report in the Longitudinal Surveys of Australian Youth (LSAY) released on 18 May. The report also disputes claims that young people who are not fully engaged in full-time work or study are “at risk” of an unsuccessful school-to-work transition.

An analysis of the labour market outcomes of 5500 young Australians who did not go to university found generally positive employment outcomes that improved with time. These findings show that the youth labour market is highly dynamic and today’s youth are a diverse and very mobile group. Misleading impressions of their pathway

from school to work can be obtained from data that focus on a single year at a time.

Further information and additional findings are available in the report, *The transition to full-time work of young people who do not go to university* by Gary N Marks. The study is research report number 49 in the Longitudinal Surveys of Australian Youth (LSAY), a program conducted jointly by ACER and the Australian Government Department of Education, Science and Training (DEST). It can be downloaded from the ACER website at www.acer.edu.au

Improvements to the national assessment system in Jordan

ACER is evaluating the national assessment system in Jordan. The project involves suggesting improvements and then conducting training to enable the Ministry in Jordan to implement suggestions for improvement. The project commenced in early 2006 with a visit to Jordan. The project is expected to be completed by the beginning of September 2006.

Evaluation of Flagship Strategy

ACER will be working on the Evaluation of Flagship Strategy 1: Student Learning (FS1), of the Blueprint for Government Schools, for the Victorian Department of Education and Training. ACER will be working with researchers from Queensland University of Technology and James Cook University. The evaluation team is Prof Erica McWilliam, Assistant Dean Research, QUT; Project Director Prof Peter Taylor, QUT; Prof Gabrielle Matters, ACER; and Prof Val Klenowski, JCU. It is a four year project with the final written evaluation report due in May 2009.

ACER Brisbane office now open



ACER's Brisbane office was officially opened on 23 March by chief executive Professor Geoff Masters. The office is headed by Professor Gabrielle Matters, who joined ACER in October 2005 as a Principal Research Fellow. Ms Karen Elvish joins Professor Matters in the Brisbane office as Education Sales Consultant for ACER's Professional Resources Division. The office is located at unit 9, 541 Boundary Road, Spring Hill. Phone (07) 3831 2769 Fax (07) 3831 9900.

Strengthening Education in the Philippines

Strengthening Implementation of Basic Education in Selected Provinces in Visayas (STRIVE) is an AusAID funded project targeting two of the poorest regions in the central Philippines. This is a five-year project focused on strengthening the systems that are already in place to support students who have dropped out of school as well as school students. ACER is contributing to the assessment component of the project, and finding ways to best use the project's resources to increase the effectiveness of current assessment systems.

Australian students' use of computers



An analysis of the 2003 results in the OECD Programme for International Student Assessment (PISA) has found that Australian students are among the world's leading users of computers in education both at school and in the home. The study, *Are students ready for a technology-rich world?* was released by the OECD in Paris in January. It is a previously unpublished analysis of data collected during the 2003 round of PISA testing. ACER led the international consortium that conducted the PISA 2003 assessments and collected the data used in this new analysis. The report is available from the OECD website at www.pisa.oecd.org

Standards for foundation programs for international students

ACER has been awarded a new project on the Development of Standards for Foundation Programs for International Students. The project is jointly sponsored by the Department of Education, Science and Training (DEST), the Victorian Government Department of Education and Training (DET) and the Victorian Qualifications Authority (VQA). The purpose of the project is to develop standards to support a draft definition and core criteria for Foundation Programs for international students, which have been developed by a national Foundation Studies Working Group of key stakeholders in the international education industry, facilitated by DEST.

This work will result in a clear set of national guidelines for Foundation Programs for use by State and Territory government authorities in approving these programs for registration on the Commonwealth Register of Institutions and Courses for Overseas Students (CRICOS). The project will help to ensure national consistency in registration for 'standard' Foundation Programs for international students, that is, those offered on-shore in Australia which prepare students for higher education programs, and provide a direct academic pathway to first year undergraduate study or its equivalent.

International civics and citizenship education study

ACER (in association with the National Foundation for Educational Research (NFER) in England, and the Laboratorio di Pedagogia Sperimentale (LPS) at the Roma Tre University Italy) has been commissioned by the International Association for the Evaluation of Educational Achievement (IEA) to conduct an International Civics and Citizenship Education Study (ICCES). The study will investigate the ways in which young people are prepared to undertake their roles as citizens in a range of countries in the 21st century. The study will report on student achievement in a test of conceptual understandings and competencies in civic and citizenship education. It will also collect and analyse data about student dispositions and attitudes relating to civics and citizenship education. The study builds on the previous IEA studies of civics education, particularly the CIVED study in 1999. The study will take place from mid 2006 through 2010 with a main data collection in 2009.

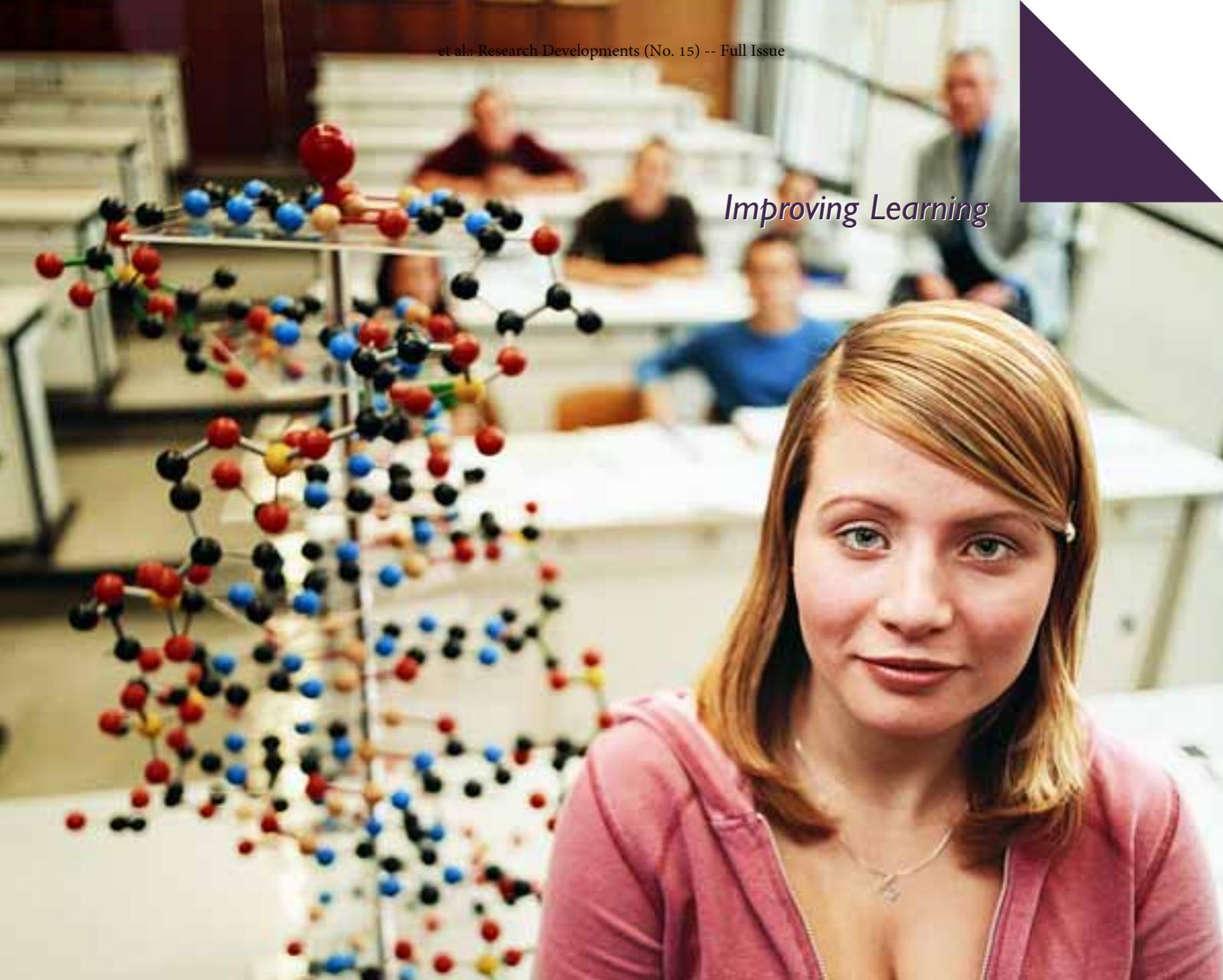
Principal for a Day



The sixth annual Principal for a Day program will take place in Victoria on 17 August this year. ACER's Australian Principals Centre has taken on the management of the program, where leaders from corporate, political and community life have the opportunity to learn about what it takes to run a government school.

After the school visits, forums are held so the business and community leaders and the principals can discuss their experiences and ideas for continuing relationships. The program began in Victoria in 2001, before expanding into NSW, the ACT and Queensland. Successful Principal for a Day events were conducted in NSW in May and Queensland in early June. Further information is available at www.principalforaday.com.au or phone Janine Meachen at the Australian Principals Centre on 03 9835 7414 or email meachen@acer.edu.au

Improving Learning



Research Conference 2006

Boosting Science Learning – what will it take?

13-15 August 2006 – Hyatt Hotel, Canberra

Keynote speakers

- Professor Jonathan Osborne
Kings College, London
- Dr Rodger Bybee
Biological Sciences Curriculum Studies,
USA
- Leonie Rennie
Curtin University, WA

For further information contact

Conference Secretariat

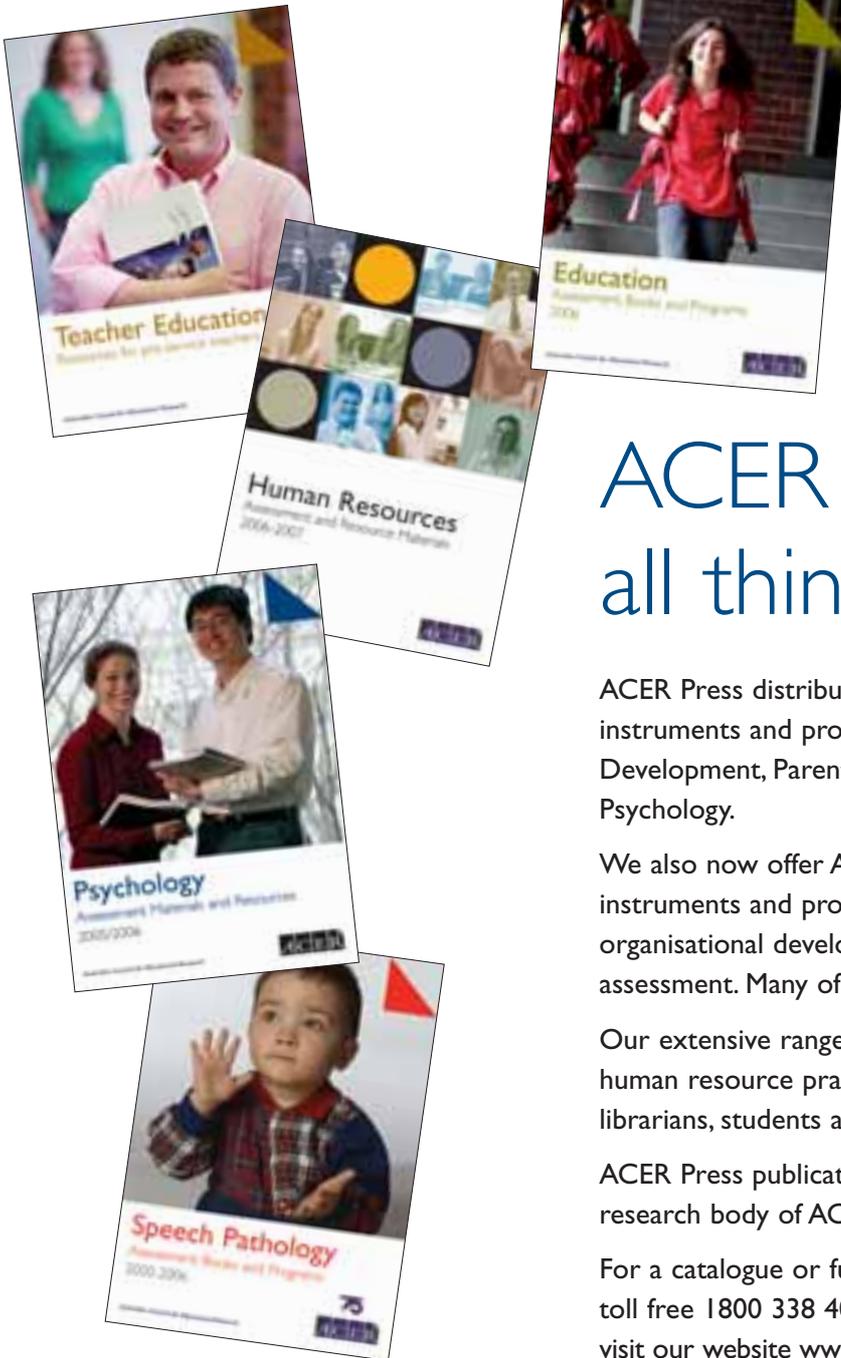
ACER Centre for Professional Learning
347 Camberwell Road, Camberwell, VIC 3124

Phone: 03 9835 7403

Fax: 03 9835 7457

Email: taylor@acer.edu.au

Web: www.acer.edu.au



ACER Press – all things to all people?

ACER Press distributes close to 4000 books, journals, tests, assessment instruments and programs covering Education, Early Learning and Development, Parenting and Mental Health, Human Resources, and Psychology.

We also now offer Australia's largest range of psychometric assessment instruments and professional resources for recruitment and selection, organisational development, team building, leadership and career assessment. Many of these are available online.

Our extensive range of resources supports teachers, psychologists, human resource practitioners, policy makers, parents, guidance officers, librarians, students and those who are simply curious.

ACER Press publications are evidence based and are supported by the research body of ACER.

For a catalogue or further information contact Customer Service on toll free 1800 338 402, (03) 9835 7447, email sales@acer.edu.au or visit our website www.acerpress.com.au

ACER contact details

Melbourne

19 Prospect Hill Road, Camberwell,
Victoria, 3124 Australia

Telephone: +61 3 9277 5555

Facsimile: +61 3 9277 5500

347 Camberwell Road, Camberwell,
Victoria, 3124 Australia

Telephone: +61 3 9835 7447

Facsimile: +61 3 9835 7499

Email: communications@acer.edu.au Web: www.acer.edu.au

ABN: 19 004 398 145

Sydney

1/140 Bourke Road, Alexandria,
NSW, 2015 Australia

Telephone: +61 2 8338 6800

Facsimile: +61 2 9693 5844

Brisbane

Unit 9, 541 Boundary Road,
Spring Hill, QLD, 4000 Australia

Telephone: +61 7 3831 2769

Facsimile: +61 7 3831 9900

Australian Council for Educational Research

