



Stimulating aspirations, engagement and high-quality outcomes

This is a time of unparalleled growth and opportunity for higher education in Australia. In late 2008 the Bradley Review made a suite of significant recommendations on developing the system. In May 2009 the Australian Government's response – Transforming Australia's Higher Education System – advanced new contexts, goals and directions.

Such change brings an increased need for understanding aspirations, engagement and outcomes. What do learners, leaders and institutions seek to achieve? How do learners and leaders engage with university education? What is being achieved by individuals and institutions, and by the system overall? The call for research-based insights on such matters has never been greater.

This fourth edition of ACER's Higher Education Update samples our recent work on academic standards, on leadership and academic work, on tracking outcomes, and on identifying people who have the talent to succeed.

Findings from the 2008 Australasian Survey of Student Engagement (AUSSE) shed new light on how learners interact with universities in Australia. Many lines between higher and vocational education are blurred and blurring, and

this update reports on a package of survey resources deployed for use by all training providers to assist with quality assurance. An article reviews a recently-released discussion paper prepared to stimulate conversation about setting and monitoring academic standards.

As tertiary education grows there is an increased need for capable and committed staff and leaders. A national pilot of the Online Leadership Learning System is implementing findings from the UWS-ACER study of learning leaders in times of change. In 2009, we're collaborating with the LH Martin Institute to test and develop these ideas with leaders of training organisations. Conferences on leadership and the academic workforce have been planned, along with a symposium on how leaders can use measures of learning to lead change.

The outcomes of higher education take many varied forms. This edition examines a landmark recent study of the pathways taken by bachelor degree graduates five years after course completion, on work to monitor the supply and demand of higher degree research graduates, and of the assessment of graduate competencies in Columbia and Ireland.

Our review of recent admissions-focused projects considers a range of new activities in Ireland, validation work undertaken for Monash University, and work currently underway as part of the national Student Aptitude Test for Tertiary Admissions (SATTA) pilot program.

We hope you enjoy this edition, and welcome your feedback and ideas to highereducation@acer.edu.au.

Dr Hamish Coates
Principal Research Fellow

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Setting standards

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Quality matters

Streamlined quality assurance processes have been developed to reduce the regulatory and financial burden on vocational education and training organisations.

New quality indicator resources developed by ACER to support the Australian Quality Training Framework (AQTF) will assist help Registered Training Organisations (RTOs) collect and use feedback from learners and employers to enhance the quality of their training activities.

Under AQTF guidelines, training organisations that reach the required level of excellence are rewarded with less monitoring, while organisations that do not reach specified levels are more closely monitored.

The suite of resources underpins a new approach to quality assurance in Australian vocational education and training by providing a sound basis for internal improvement activities and assisting registering bodies assess the risk of an RTO's operations.

The resources include learner and employer survey instruments, a computer-based Survey Management, Analysis and Reporting Tool (SMART), a validated survey methodology, an RTO Guide, and a series of supplementary resources to help RTOs manage their survey activities.

Active input from peak bodies, sector agencies and RTOs helped shape the development of the resources and plans for deploying them into practice, ensuring that the resources are sensitive to relevant policy and training contexts. Technical methods were used to ensure the validity of resources.

The project has produced the first-ever standard national current learner and employer survey instruments for Australian vocational education and training. These general instruments have been validated for use by Australian RTOs to assess intrinsic aspects of their quality education and training.

The survey instruments provide a high-level means of reporting on employers' and students' feedback on the quality of courses in the key areas of training quality, work readiness, training conditions and learner engagement.

The SMART software is a stand-alone computer-based tool that RTOs can use to enter, validate, analyse and report data collected using the surveys.

The easy of use and efficiency of the new resources will streamline RTOs'

quality assurance processes, saving institutions time and money.

RTOs taking part in the national pilot were asked to compare the costs and benefits of their existing survey activities to the new package of resources. RTOs estimated that the new resources would cut in half the time spent on survey activities, reducing staff time from an average of 27 days annually down to 12 days. RTOs also reported that the new resources would halve direct expenses on survey activities.

The estimated cost savings associated with the new resources stem from the provision of an integrated suite of survey resources with access to instruments, guides, support materials and processing equipment that is ready for use. Rather than source and pull together diverse and possibly divergent materials from different sources, RTOs can deploy a coherent set of resources.

Additionally, the RTOs are provided with training materials and programs to develop their capacity to manage the surveys, and report and interpret survey data. RTOs do not need to be or to become experts in survey methodology, but they should have basic knowledge of different aspects of survey administration, and how to interpret results for the purposes of internal quality improvement.

The AQTF survey resources are designed to deliver valid and reliable data in an efficient manner for training organisations to use in quality assurance activities. The data is intended to provide a robust foundation for new conversations about the quality of education and training.

Visit www.acer.edu.au/aqtf for more information.

Setting the standard

The quality of higher education has been the focus of an increasing amount of attention in the last few decades. Institutions have been expected to show that they are achieving their purposes or objectives. More recently, attention has turned to the “level” or “standard” of those achievements.

In Australia there are frequent accusations in the media of education’s “dumbing down”. The popularity of institutional rankings appears to be in part due to their apparent ability to answer questions about the standards of academic achievement.

The higher education system’s understanding and handling of standards needs to become more robust and more explicit for all stakeholders, not because Australian academic standards are low or are falling, but because we need objective grounds on which to draw firm conclusions about standards, and to substantiate claims of excellence.

It may seem self-evident, but standards of achievement can’t be compared unless they are first set. This involves defining explicit and comparable statements about academic achievement standards, and developing ways of measuring and reporting on such standards.

A recently-released discussion paper, *Setting and Monitoring Academic Standards for Australian Higher Education*, aims to contribute to the higher education system’s common understanding of standards of academic achievement.

The discussion paper suggests possible steps towards developing an effective national structure for measuring, monitoring and reporting on the standards of academic achievement.

It considers the development of national statements of desired academic achievement of higher-order and of discipline-specific skills, as well as measurement of such skills. There are many good practices in place already, but new specifications would need new measures for acceptable thresholds, for the levels actually achieved, and for noting changes in performance.

Essential to the success of using a standard to inform improvement plans is that the data is collectable, is monitored regularly, and is reported to the relevant stakeholders. The paper considers what format reports should take, and how the process is to be managed.

The discussion paper also examines issues around benchmarking of performance within the institution between discipline groups, or between

institutions at the discipline and institutional levels.

The task outlined here would not be quick or easy, but it could result in a significant improvement to academic work. Students may have a better idea in advance how their work is measured and reported, and a clearer picture of what their final reported achievement signifies. Employers could have greater confidence in the meaning of the results that graduates present to them, regardless of the institution from which they come. Academics themselves might be able to face with greater confidence – and, one hopes, rebut – the frequent accusations of falling standards and “dumbing down”. The counter-arguments could be clearly based on strong and explicit evidence.

The discussion paper, *Setting and Monitoring Academic Standards for Australian Higher Education*, has been distributed to universities, other institutions, professional bodies and other organisations, and responses are invited. Copies are available from admin@auqa.edu.au



Tackling engagement and attrition

A third of Australian and New Zealand university students seriously consider leaving their institutions before graduation, according to results from a new study of student engagement released today by the Australian Council for Educational Research (ACER).

A representative sample of more than 25,000 students from 29 Australian and New Zealand universities participated in the latest cycle of the Australasian Survey of Student Engagement (AUSSE), conducted in 2008 – the largest and most advanced survey of its kind.

Results show that, on average, 33 per cent of tertiary students consider leaving their institutions before graduation. Further, according to the AUSSE report, this figure is an underestimate, as it excludes students who have already discontinued their study.

Universities have been very successful in engaging students into study. The findings underline the challenges that institutions face in engaging students through to graduation.

Field of education has a significant effect on students' early departure intentions. Science and agriculture students are the most likely to remain engaged through to graduation. Architecture, education and creative arts students report being most likely to depart prior to degree completion.



Students from remote backgrounds, students with disabilities, international students, and Aboriginal, Torres Strait Islander, Maori and Pasifik Islander students all report higher than average intentions of leaving study before completion.

Students are significantly more likely to consider leaving for practical or financial reasons rather than due to the quality of education.

Engaging students in the overall educational experience, providing effective individual support, and setting high expectations, however, may induce students to complete their education.

The AUSSE report reveals that university staff members underestimate the extent of the problem. In 2008, while about one out of every three Australasian students seriously considered departing their



enhance educational success," says Dr Coates.

The latest AUSSE briefing paper provides further insight into students' levels of engagement and satisfaction with their university study. According to the briefing paper, *Engaging College Communities: The impact of residential colleges in Australian higher education*, students who live in residential colleges in Australian universities are more engaged, feel more supported, and have better general development than non-residential students.

About nine per cent of the Australian students surveyed indicated that they lived on campus in a university college or hall of residence.

Further discussion of AUSSE results was presented at the Australian Student Engagement forum in Melbourne on Thursday 2 July. Hosted by ACER and La Trobe University, the forum looked broadly at the how evidence from surveys such as the AUSSE can be used both to enhance practice and for quality improvement. Speakers included ACER's Dr Hamish Coates, and Indiana University's Professor George Kuh, founder of the National Survey of Student Engagement in the United States of America.

A related New Zealand forum is being held in Auckland on 15 July, which is jointly hosted by the University of Auckland and the Australian Council for Educational Research, and supported by Ako Aotearoa.

To read the AUSSE reports or briefing papers, or to register for the Australian or New Zealand forum visit www.acer.edu.au/ausse

institution before graduation, staff saw the number as closer to one out of 10.

According to the AUSSE Director, ACER Principal Research Fellow Dr Hamish Coates, managing student engagement effectively is vital to enhancing student retention.

"The early departure rate varies from 22 per cent at one institution to 45

per cent at another. Clearly, these figures are serious, and carry relevance for students and institutions, for the professions and for the economy as a whole," he says.

"The results as a whole, however, suggest that by monitoring students' satisfaction, support and learning outcomes, higher education institutions can reduce early departure and set conditions that



Training leadership

Leadership roles are becoming increasingly complex, in higher education as in the workforce at large. Research into university leadership, however, is providing key insights that can be used to improve leadership capabilities not just in universities, but also in the vocational education and training sector.

A new project, Leadership Capabilities for Australian Vocational Education and

Training, being conducted by ACER and the LH Martin Institute, aims to develop an evidence-based leadership capability framework for Australian vocational education and training.

The project responds to the growing need to understand VET leadership in order to help identify and develop organisational and system-wide capacity in this area.

It builds on a recent project that has developed and validated a national leadership capability framework for higher education. The Learning Leaders in Times of Change project, led by Professor Geoff Scott at the University of Western Sydney and Dr Hamish Coates and Ms Michelle Anderson at ACER, involved more than 1,000 leaders at 20 universities and was one of the largest of its kind.

The VET project seeks to build on the earlier evidence-based research by replicating and extending the study's proven methodology in the vocational sector:

Meanwhile, work on the university-based project has extended to the development of an Online Leadership Learning System (OLLS) resource.

The resource will enable any leader, or leadership aspirant, to complete the online Learning Leaders in Times of Change survey and compare their results with other leaders in the same role.

Leaders will be able to access information such as overviews and case studies of the most common challenges that are encountered in their specific leadership role, and the key strategies found to be most effective by existing practitioners in addressing these challenges.

These projects will also allow universities and vocational education and training institutions to design more relevant professional learning programs specifically tailored to address individual leaders' key capability needs.

Visit <http://olls.acer.edu.au> for more information on the OLLS.

The management challenge

Australian higher education is faced with a massive challenge over the next decade with respect to its core resource: academic staff.

Over the next five years 25 per cent of its senior academic staff will reach retirement age with another 25 per cent in the following five years. Combining this with the government's ambitious agenda for the expansion of participation in tertiary education, the challenge of rejuvenating and retaining academic staff without doubt is becoming one of the major management issues.

The academic labour market always has been an international one, but with competitor countries such as the United States and the United Kingdom facing similar baby boom challenges, and quickly developing systems such as China putting even more pressure on this market, the Australian academic profession must ensure its relative attractiveness to remain viable.

A range of possible strategies will be discussed at an international conference to be held in Melbourne in October. The conference, *The Attractiveness of the Academic Profession: The Management Challenge*, will be presented by ACER, the LH Martin Institute, and the Centre for Higher Education Management and Policy.

The two-day conference will draw on research findings from the *Changing Nature of the Academic Profession* project, an international comparative study of more than 20 countries in 2008.

The *Changing Nature of the Academic Profession* project examines the

character and extent of the changes experienced by the academic profession in recent years. The project explores both the reasons for and the consequences of these changes. It considers the implications of the changes for the attractiveness of the academic profession as a career and for the ability of the academic community to contribute to the further development of knowledge societies.

According to the survey, Australian academics are satisfied with their jobs as academics but are critical of the management of their universities. Only 30 per cent of Australian academics surveyed indicated that their management is providing competent leadership.

Despite high job satisfaction, 75 per cent of Australian academics consider major changes in their jobs, of whom close to 40 per cent consider moving outside the sector. The survey suggests that this issue could be addressed through managerial and human resource reform.

The conference will chart the relative attractiveness of the academic profession in the countries involved in the project. Australian challenges will be framed in the context of key competitor systems and the challenges they face, and possible strategies to deal with this will be canvassed.

See www.mihelm.unimelb.edu.au/conference_events for more information or to register.

Results of the *Changing Nature of the Academic Profession* project are available from http://www.mihelm.unimelb.edu.au/research_publications_consultancy/research/cnap/index.html





Photo courtesy of the University of Auckland

Leading learning for institutional change

Documenting what students learn, know and can do is of growing interest to universities, quality assurance agencies, policy makers, students and employers. For leaders, the capacity to monitor and enhance learning is playing an increasingly vital role in shaping effective institutional change.

In July, a symposium for a small number of senior leaders in higher education discussed the proliferating data available to decision makers, and offered a range of advanced approaches to strategic data analysis.

The symposium held in Melbourne, Leading Learning for Institutional Change, was led by Professor George D Kuh from Indiana University and sponsored by the LH Martin Institute and ACER.

The past two decades have seen rapid growth in the design and development of indicators and data collections in higher education. Demand comes from government, university leaders and managers, teachers and students, employers and industry. Rapid internationalisation, economic growth and technological advancement sets new expectations for the provision of timely data on educational services.

Data collections proliferated in the 1990s, in step with the global expansion of higher education and growth of the international quality movement. Most universities in developed countries implemented internal quantitative feedback systems. Research agencies developed statistics on student markets and employment outlooks. Governments developed quantitatively oriented performance-based funding mechanisms. Production of national and international rankings of institutions could be seen as the culmination of this work.

To remain viable, universities and their leaders have to become particularly skilled at not only identifying what learning programs, research initiatives, engagement projects, structures, approaches, priorities, quality improvements and strategic developments consistent with their mission should be emphasised to keep up with the continuous movement in their operating context, but also at making sure data is used effectively and that changes are put into practice successfully and sustained.

Numbers can cast an allure of certainty, but the existence of data does not guarantee veracity or relevance. As evidence-based planning, practice and quality enhancement further develop, universities and their communities are

seeking more sophisticated ways of focusing, collecting and using data on education. Greater emphasis is being placed on ensuring the conceptual and empirical validity, methodological rigor, and effective use, of the information that is used to shape educational development. This underpins a need for data that measures what matters for monitoring and improving high-quality education.

Professor Kuh showed senior leaders how to develop practical strategies for leading evidence-based change. The symposium explored ideas being led in the USA by the National Institute for Learning Outcomes Assessment (NILOA).

Professor Kuh, Director of NILOA, Founding Director of the US National Survey of Student Engagement (NSSE) and Director of the Center for Postsecondary Research at Indiana University, guided the higher education leaders through contemporary perspectives on educational quality and success; strategies for evaluating information needs and sources; processes for interpreting evidence of student learning; and how to structure evidence-based institutional change.

The symposium focused on developing education leaders' capacity to use data to manage uncertainty, and to shape and support complex decisions. The symposium helped participants discover ways for using assessment data internally to inform and strengthen undergraduate education as well as externally to communicate with key agencies and the public.

Visit www.mihelm.unimelb.edu.au/executive_educ/leading_learning_for_institutional_change.html for more information.

Tracking outcomes

Uni degrees pay off in workforce

The Graduate Pathways Survey, conducted by ACER for the Department of Education, Employment and Workplace Relations, canvassed more than 9,000 bachelor degree graduates five years into their careers.

The study found that most bachelor degree graduates are in employment five years after completing their studies.

Around 90 per cent of graduates are employed within five years of completion. Three quarters of graduates are in full-time work. Undertaking paid work during study has a positive influence on the development of graduate capabilities and vocational outcomes.

The survey identified significant differences in employment outcomes for women and men. Men were more likely than women to be participating in the workforce after five years, with 84 per cent of males in full-time work compared with 69 per cent of females.

Graduates earn significantly more on average than workers without formal qualifications. The salary for the middle fifty per cent of graduates five years after graduation ranged from \$47,726 to \$78,000. The median graduate salary five years after graduation is \$60,000, comparing favourably with the Australian Bureau of Statistics estimate of average earnings of \$46,332 for all workers in Australia.

Males earn around \$7,800 more per year than females in the fifth year after

graduation, according to the survey report.

The survey also showed that graduates from disadvantaged backgrounds have similar employment outcomes as the general university population.

While existing research has shown that students from disadvantaged backgrounds are less likely to participate in higher education, the Graduate Pathways Survey shows that Indigenous graduates, graduates from regional and remote areas, graduates from families whose parents had worked in non-professional occupations, and graduates

Research Fellow and lead author of the study's report.

"These results advance our understanding about the skills graduates develop and how these convert into professional practice, as well as what makes for high-quality university education," he says.

Releasing the report, the Deputy Prime Minister and Federal Education Minister Julia Gillard issued a statement that, "This research affirms the need to increase participation of under-represented groups in higher education, particularly students from Indigenous, remote,

Graduates from disadvantaged backgrounds have similar employment outcomes as the general university population

who were the first in the family to attend university all had comparable employment levels as other graduates.

Overall, the survey concludes that bachelor graduates from Australian universities have sound employment participation rates, low unemployment, high work satisfaction, and salaries that increase substantially and are much higher than the national average.

"The Graduate Pathways Survey provides major new insights into bachelor degree study in Australia. We've learned more about the factors that enable students to engage and succeed, and about what graduates achieve in the years after university completion," says Dr Hamish Coates, ACER Principal

regional and low-socio-economic backgrounds... With greater equity in the higher education system, Australia will gain the knowledge and skills needed to compete with the successful economies of the world."

The full report, *2008 Graduate Pathways Survey: Graduates' education and employment outcomes five years after completion of a bachelor degree at an Australian university*, is available from www.deewr.gov.au/HigherEducation/Publications/Pages/Publications.aspx

For more about the Graduate Pathways Survey, visit www.acer.edu.au/gps

Supply and demand of higher degrees by research

Australia's economy increasingly relies on the provision of highly skilled individuals. It is critical that government and other key stakeholders understand the issues relating to balancing supply and demand for skills across industries and disciplines.

To build understanding in this area, the Department of Innovation, Industry, Science and Research has contracted ACER to undertake a research study into the current and future supply and demand for higher degree by research (HDR) qualifications.

The research will examine the current situation in relation to people with HDR qualifications who are already in the workforce, identify factors that influence supply and demand for graduates with HDR qualifications.

The gaps in Australia's knowledge of supply and demand for higher degree by research qualifications have been identified in recent reviews and studies of national importance such as the *Cutler Review of the National Innovation System* and the *Bradley Review of Higher Education*.

With the backdrop of the Cutler and Bradley reviews, Australian higher education is now embarking in a new direction, focused on improving access, boosting skills and equipping Australia with the knowledge and expertise to develop world-class research and a highly

educated workforce. The reviews both emphasised the important role of the HDR qualification in achieving these aims.

While research has been carried out into broad labour force demand issues, there is an increasing need for more detailed information relating to the employment opportunities available for graduates with high level skills.

Research has shown, for example, that the number of completions in Doctorate by Research (PhD) qualifications has doubled over the past decade or so. During the same period, the completion numbers of people with Masters by Research qualifications declined by almost 20 per cent.

Employer demand for higher-degree qualified employees is less certain, but is linked closely to overall economic growth, the structure of Australian industry, the age structure of the workforce, the quality of HDR graduates, investment into research by federal and state government, and research development by private companies and industry groups.

Undertaking research focussed on the supply and demand for higher degree research qualifications has the potential to significantly enhance the understanding of this important group of skilled persons. The findings from this research may be used by

Demand for HDR qualifications by individuals is also likely to grow substantially.

There has also been strong growth in the number of professionals migrating to Australia, although this may be countered by Australian graduates looking for work overseas where research opportunities are more plentiful.

Retirement of HDR qualified people over the coming decades is likely to have an influence on the available labour market supply in Australia – but demand for HDR qualifications by individuals is also likely to grow substantially as a result of the recent target set by the Australian Government for a 40 per cent attainment of bachelor degrees among the 25 to 34 year old population by 2025.

governments, universities, industry groups and employers to improve the skill development of graduates, to better target funding priorities in these areas and to improve the balance of supply and demand for skills in these areas in the future.

Related information about the scope of this study can be found on the Department's website at <http://www.innovation.gov.au/ScienceAndResearch/Pages/ResearchWorkforceIssues.aspx>

The final report will also be posted on this website when it becomes available.

Assessing generic skills in Colombia

The need for tertiary graduates to enter the workforce with highly-developed generic skills has been a key concern of employers around the world in recent years. Generic skills – such as effective communication, critical reasoning, problem solving, and adaptability to change – are essential to graduates' employability and success in the workplace.

Many universities have invested considerable effort into nurturing these skills in their students, and education systems are increasingly recognising the need to measure the extent to which graduates develop them.

In Colombia, the Colombian Institute for the Promotion of Higher Education (ICFES) is addressing the issue by evaluating the growth in students' generic skills over the course of their degrees.

ICFES recently contracted ACER to provide a version of the Graduate Skills Assessment (GSA), originally developed for the Australian higher education sector. The GSA consists of a two-hour multiple-choice test, and a one-hour written communication test; it is designed to measure critical thinking, problem solving, interpersonal skills, report writing and argument writing. The aim is that first-year and final-year undergraduate students will sit the test, and the change in students' generic skills will be compared over time.

Universities can use the test to compare student profiles across fields of study



and to measure changes between entry and exit points of students in different courses.

At entry level, universities may also use the test diagnostically to identify, for example, those who write poorly or have trouble dealing with text-based critical thinking items or quantitative problem solving items. Such students may be followed up and offered assistance.

At exit level, results of the test may be used as an additional criterion for entry into post-graduate courses or as an indication of generic skills to an employer.

ACER adapted this test for the Colombian context, and ICFES translated it into Spanish. These were several iterations as the translation was validated. Spanish-speaking ACER senior research fellow Dr Tom Lumley travelled to Colombia to train the test markers.

In February 2009, over 3,700 students from 10 fields of study sat for the test at 16 universities in Colombia.

Visit www.acer.edu.au/gsa-uni for more information about the GSA.

Tertiary education pays off for some but not all

Tertiary education and training improves young people's occupational status and income – if they choose the right courses.

Common wisdom has long held that getting a good education pays off in the labour market, especially in times of recession.

Now, research conducted by ACER backs up anecdotal evidence, revealing that the average university graduate earns more than 30 per cent more than someone with no tertiary education or training, and that tertiary education has a stronger effect on people's incomes than socioeconomic background or ethnicity.

The study, *The Occupations and Earnings of Young Australians: The Role of Education and Training*, is the latest report from the Longitudinal Surveys of Australian Youth (LSAY), which has followed 4,000 young people over the last decade.

In terms of earnings, a bachelor degree has the largest impact, increasing earnings by about 31 per cent on average. Apprenticeships increased earnings by about 23 per cent, a university diploma by about 17 per cent, and a TAFE diploma by about 14 per cent.

The relative benefits of completing a degree is likely to be even bigger during an economic downturn, as employers are more inclined to use job applicants' education credentials as a way of screening potential employees in an increasingly competitive labour market.

Social background generally has only a weak effect on occupational status and

earnings. Education works to enhance social mobility, enabling students from disadvantaged backgrounds to improve their individual socioeconomic status (SES). The further you go in the education and training system and into the labour market, the weaker the impact of your social origins.

In terms of gender, there were clear differences in the educational and labour market experiences of young men and women, but the research shows that, if anything, the benefits of education and training are stronger for young women than young men.

Young women are much more likely than young men to participate in bachelor degrees. Women and men gain the same returns from bachelor degrees and other university courses, and generally, young women have slightly higher levels of occupational status than do young men.

The study does show that on average, women earn about 20 per cent less than men during their early careers. This gender gap is not due to differences in post-education, however. Likely reasons for the gender gap include the higher proportions of young women in part-time work, and gender differences in types of jobs.

Almost 90 per cent of the cohort surveyed had participated in some form of tertiary education and training by age 24. The most common form was enrolment in a university bachelor degree (46%), followed by TAFE certificate (21%), TAFE diploma (15%), traineeship (15%) and apprenticeship (13%).

Three-quarters of those who commenced a course of education or training gained a qualification, although not always in the field, or with the same institution or employer, where they first started.

The average university graduate earns more than 30 per cent more than someone with no tertiary education.

By 2005, 77 per cent of the cohort was in full-time work.

The report, *The Occupations and Earnings of Young Australians: The Role of Education and Training*, is research report number 55 in the Longitudinal Surveys of Australian Youth (LSAY), a program funded by the Australian Government Department of Education, Employment and Workplace Relations (DEEWR) with support from state and territory governments.

The full report can be found at www.acer.edu.au/documents/LSAY55.pdf



The skills of the Irish: International assessment

Higher education operates in an increasingly international context, and over the last decade, ACER has provided support to countries establishing and improving admissions and assessment programs.

ACER has had a strong presence in Ireland since 2001, when ACER first began the Graduate Australian Medical School Admission Testing of candidates applying to the Faculty of Veterinary Science at University College Dublin. The “Dublin Vets” as it’s colloquially known, was the beginning of what has become a growing presence of ACER both in the Republic of Ireland and Northern Ireland.

The GAMSAT is also used in the selection processes for graduate medical programs at the Royal College of Surgeons Ireland,

the University of Limerick, University College Cork and University College Dublin, while the Health Professional Admissions Test – Ireland (HPAT–Ireland) is used for undergraduate medical courses at Royal College of Surgeons Ireland, University College Cork, University College Dublin, Trinity College and the National University of Galway. In February 2009 more than 3,000 candidates sat HPAT – Ireland. The results for these candidates were scheduled for release in late June 2009.

This year also saw the launch of the Mature Students Admission Pathway (MSAP) in Ireland. ACER developed this test to assist University College Cork and University College Dublin with the selection of mature applicants to humanities courses.

Across the border in Northern Ireland, applicants to specified health science programs at the University of Ulster have for the past three years been required to sit the Health Professions Admission Test (HPAT). HPAT was renamed HPAT – Ulster in 2009.

This year ACER has extended its work in the vocational education and training sector:

ACER, in partnership with the United States-based Council for Aid to Education, successfully tendered for a pilot study for the Higher Education and Training Awards Council in Ireland. The project will gauge the change in learners’ generic skills from the beginning to end of their degree program, and the variation in this change that can be linked to influencing factors. Participating students are required to sit two tests: the Collegiate Learning Assessment, developed by the Council for Aid to Education, and the Critical Reasoning Test developed by ACER. Both instruments are online assessments.

Seven Irish institutes of technology participated in the pilot program in May. The May candidature has come from final-year students. A second cycle of the study, to be conducted in September, will measure the skills of first-year students.

Visit www.gamsat.acer.edu.au or www.gamsat-ie.org for more on GAMSAT.

Visit www.hpat-ireland.acer.edu.au for more on HPAT – Ireland.

Visit www.hpat-ulster.acer.edu.au for more on HPAT – Ulster.

Visit www.msap.acer.edu.au for more on MSAP.

Selecting the best doctors

Entry into the study of medicine has traditionally been highly competitive. As the value of high-quality university education becomes ever more apparent, the number of academically-qualified applicants continues to greatly exceed available places.

How, then, do universities select which of these would-be doctors gain admission to medical programs? What qualities should universities look for when selecting students for medical courses? And, with so much riding on these decisions, how valid are the selection procedures?

These are the questions Monash University has asked ACER to consider in a review of the admissions methods and student outcomes for the University's Bachelor of Medicine and Bachelor of Surgery (MBBS) program.

Monash has used the current MBBS admissions procedure consistently for the past decade and is now the only university in Victoria to provide an entry into medicine directly following Year 12 completion. Due to the longevity of the process, substantial data relating to admissions scores and student assessment outcomes within the MBBS have been collected by Monash. Until now, however, the admissions and assessment data have not been combined in order to evaluate the admissions process.

Concerns about selecting students for high prestige professional courses in medicine and other health sciences on the basis of Equivalent National Tertiary Entrance Rank (ENTER) alone have

led to the widespread introduction of selection procedures that include interviews and assessment of skills in problem solving and general reasoning as well as personal qualities.

Most universities now use a range of methods to select students, including interviews and entrance tests. ACER plays a significant role in assisting Australian universities in their selection of appropriate applicants for entry to medical and other health science degrees.

In Australia, many medical schools use a three-part selection process that aims to differentiate among the many academically-qualified applicants to medical degrees by testing for additional skills and qualities. This process considers the applicants' school outcomes, results of an aptitude test and performance in an interview.

The Undergraduate Medicine and Health Sciences Admission Test (UMAT), first developed by ACER in the early 1990s, is now widely used by Australian universities to select undergraduate students for medical, dental and physiotherapy courses.

Monash University uses three main admissions 'tools' to select MBBS students: the Undergraduate Medicine

and Health Sciences Admission Test (UMAT); the Year 12 outcomes as measured by the Equivalent National Entrance Rank (ENTER); and the semi-structured interview.

The ACER study will evaluate the predictive validity of each of the tools. Scores on each of these three measures will be linked with outcomes of students in the fourth year of the five year MBBS program in order to evaluate the extent to which these admissions procedures are choosing high quality and successful candidates. Future studies in this area will examine data from other year levels of the MBBS.

The study will also explore the influence of other student factors on their outcomes once accepted into the MBBS. In particular, this account will examine the performance of students from rural and regional areas, different school sectors and different language backgrounds. In addition to the institution-level focus of this research, the outcomes will be linked to the wider policy directions and outcomes of recent federal initiatives in the higher education sector.

The full report will be presented to Monash University in late 2009.



Our aptitude for expanding participation

Can aptitude tests supplement universities' current admissions procedures? ACER has been engaged to conduct stage two of the Federal Government's pilot National Student Aptitude Test for Tertiary Admission (SATTA), which seeks to determine whether an academic aptitude test offers a valid and feasible means of enhancing people's inclusion in Australia's higher education system.

The SATTA pilot is using the ACER-developed aptitude assessment, uniTEST. uniTEST assesses candidates' generic reasoning and thinking skills, which are considered necessary for successful university study. The results are then combined with their academic achievement scores to help determine their suitability for university study.

For more than a decade, the value of aptitude tests has been demonstrated with mature age, vocational and medical course applicants, but such tests have not been used routinely with school leavers who are seeking general admission to undergraduate study in Australia. Their promise is considerable, but the use of such tests with school leavers is in its early stages.

ACER is conducting a formative evaluation of the SATTA pilot, to consider whether an aptitude test is able to identify the latent talent which may be masked by an almost exclusive historical reliance on curriculum-focused achievement data sourced through senior secondary examinations.

The primary question underpinning the evaluation is: Does aptitude testing help enhance the inclusion in Australian higher education of students who are capable of success and might otherwise not have been admitted?

The evaluation is considering the:

- concurrent and predictive validity of aptitude tests;
- longitudinal academic performance of students who undertook the test;

Generic reasoning and thinking skills are considered necessary for successful university study.

- ability of the successful candidates to cope with university study based on entry that was granted due to aptitude test results, including looking at student persistence and attrition;
- university experiences of using an aptitude test as a supplementary measure of tertiary entrance; and
- comparison between Australian and international experiences using aptitude tests.

The Department of Education, Employment and Workplace Relations (DEEWR) is subsidising universities' participation in the pilot by providing funding for universities to test up to

20,000 students, as well as providing up to \$10,000, for each university, to promote the scheme.

Universities that have participated in the pilot so far include Flinders University, Macquarie University, The Australian National University, University of Ballarat and University of Canberra. There has been interest from a number of other universities and it is anticipated that further universities will implement uniTEST for 2010 entry.

The SATTA pilot will provide universities with additional information on prospective students and enable alternative pathways to university for

some students who may otherwise have not gained a university place.

Australian higher education has a reputation for implementing innovative policies that develop the quality and productivity of the system. This work is reviewing if our reputation would be further strengthened by the implementation of aptitude testing.

For further information about uniTEST please contact Tanya McErlain on 03 9277 5736 or mcerlain@acer.edu.au or go to <http://unitest.acer.edu.au>

Australian Council for Educational Research

The Australian Council for Educational Research (ACER) is one of the world's leading educational research centres. Its mission is to create and promote research-based knowledge, products and services to improve learning across the lifespan.

ACER was established in 1930 and for more than 75 years has built a strong reputation as a provider of reliable support and expertise to education policy makers and professional practitioners. As a not-for-profit organisation, independent of government, ACER receives no direct financial support and generates its entire income through contracted research and development projects and through products and services that it develops and distributes. ACER has experienced significant growth in recent years and now has around 250 staff located in Melbourne, Sydney, Brisbane, Perth, Dubai and New Delhi.

ACER is a leader in the provision of quality educational research, both within Australia and internationally. As a national, independent research body, ACER brings a high level of expertise and objectivity to its work.

In recent times ACER has expanded on its program of research and development in support of learning in vocational education and training and in higher education institutions while maintaining and expanding work undertaken in support of schools.

Blending solid experience and creative talent with established methodologies, ACER is a full-service research consultancy specialising in collecting and interpreting information to shape strategic decision making. Researchers bring many years of experience and expertise in a range of disciplines and

research methods to their projects. ACER has six research programs:

Research into Transitions and Post-school Education and Training explores influences on the educational and occupational pathways of young people as they progress from school to further education, training and work. Studies investigate the labour market and social outcomes of different pathways as well as evaluations of particular policies and programs.

The Assessment and Reporting program conducts research into a wide range of educational outcomes (academic and social). This work, undertaken for clients nationally and internationally and in support of ACER's own tests and assessment programs, includes the refinement of test constructs; studies of test validity and reliability; assessment methods and formats; psychometric analyses of test data; and methods for item banking, online test delivery and reporting.

Research in the National and International Surveys area draws on staff expertise in sampling, survey management, the analysis of survey data and the interpretation and reporting of results in conducting large scale survey research. Current work includes the leadership of three major programs of international surveys including the OECD Programme for International Student Assessment

The Systemwide Testing program identifies more effective ways of monitoring achievement across entire education systems.

Research into Teaching, Learning and Leadership focuses on the relationship between teacher professional development and improved student learning.

The Policy Analysis and Program Evaluation unit explores education policy issues and conducts program evaluation.

In addition to being a national centre for educational policy research and advice, ACER develops and provides a range of research-based products and services to support the work of professional practitioners.

ACER provides secure, fee-for-service testing programs to schools, universities, employers and professional organisations. These programs include selection tests for entry to schools and universities, scholarship tests and tests for diagnostic and monitoring purposes, and recruitment tests.

The organisation also encompasses ACER Press, the Cunningham Library, the Centre for Professional Learning, the International Institute, and the ACER Leadership Centre.

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