Productivity gained – An inventive Associate Degree model to bridge Australian tertiary education divides

Sandra J Welsman
Principal, Frontiers Insight – The Frontiers Institute

Abstract: In Australia, university-based 'higher education' and work-skills oriented vocational education and training (VET) have long been separate systems. This has suited academics and some industry groups, but the marketplace of students and employers is pressuring for change. With new Australian policy goals to substantially increase tertiary education participation, these embedded, theoretical separations must be conquered.

Segments of the Australian post-school demographic are not well-served by educators split by tradition. Individuals with capacity but not an academic-learning bent have limited choices. In the past they built experience through work, using their initiative, cleverness and people skills. Now, backed by families urging education of status as a platform for 50 years of work, and employers facing work complexities, the demand is for quite different tertiary products.

This novel Associate Degree model has been developed to integrate Australian higher and vocational education systems. Associate Degree students completing a two year program would achieve a qualification with modern status, attuned to workplace demands, plus potentially 1 to 3 usable vocational certificates usable across industries, and two-thirds of a bachelor degree.

The Associate Degree model can be applied in many learning areas. It is especially suited to technical fields (including Construction, Engineering, Finance, Aviation, Agriculture), where skill competencies in VET packages can guide parts of the Associate Degree units, and where both students and employers can directly benefit by the student obtaining applied skills certificates as Work-Integrated Learning.

Faced with population ageing, productivity decline and rising global competition, Australian policy-makers are actively reviewing education, from pre-school through to higher research training. Investing in the effectiveness of Australia’s human capital is recognised as a key government role and a productivity imperative.1 At stake is the well-being of the nation's economy, its businesses and citizens. The future pivots on the cleverness and competitive output of a proportionately smaller workforce.2

Education for more complex, higher-skill work is vital to future productivity, and in Australia, performance of the tertiary education system is a key to such advances.3 Slowly, hard questions are being asked about Australia's traditionally separate tertiary sectors – the skills-based vocational education and training (VET) at colleges, and higher education delivered by academics at universities and institutes.

The rising expectations of forward-looking employers and students are pressuring a still segregated system that persistently reflects interests of administrations, teachers and some industry councils ahead of needs of learner individuals and employers in fast-changing workplaces. After a decade of debate, just last month yet another major review report challenged, but at the same time confirmed, the sectoral separation.4

Today's real-world expectation is that tertiary education will develop a useful mix of knowledge, skills, competencies. At all levels, deeper capacities of workers and learners need to be harnessed and tutored.

3 IPART, 2006, Upskilling NSW; Australian Industry Group, 2006, World Class Skills for World Class Industries, and 2008, Skilling the Existing Workforce; Minister for Education, 2010, The Skills Challenge – the Mismatch in the Australian Economy. The AIG 2006 report argued that 'skills are integral to competitiveness' and the need is for higher level skills, a broader range of skills, updated more often. Major barriers to enterprise success over 2006-2009 were inability to secure skilled personnel, their high cost, and insufficient labour flexibility.
4 Skills Australia, 2011, Skills for Prosperity, a Roadmap for Vocational Education and Training, May. "Recommendation 1: Putting learners and enterprises at the forefront of service."
Knowledge and skills are a work platform, however employers increasingly stress that workers must demonstrate thinking, innovation and communication capacity, whatever their intended job. Today's workers need to be able to apply these capacities to problems arising in their work and life roles.

These demands are seen, for instance, in student uptake of the few programs developed by innovative commercial providers that straddle systemic barriers in the Australian Qualification Framework (AQF). (Although the AQF is also under review, it is intriguing that dividing lines continue to be sought by major institutions, seemingly to simplify their funding, teaching and management.)

Another sign is university graduates taking VET courses to obtain the skills they need to work. Many large employers also funnel new graduates through vocational add-on courses in their first work year. Across-sector flow from the scholarly to the practical is more evident in Australia than the reverse. Many university academics are disinclined to understand and credit VET learning, they ‘do not want to be a trainer’ — and if they did, Australia’s conceptually applauded but greatly complex Training Package phenomenon also discourages nascent interest. Yet, pinnacle professional courses in universities, especially in medicine, are increasingly characterised by practical learning for their vocation tested by hands-on assessment exercises. Graduates of problem-based learning medicine courses in Australia may spend 5-6 years among the university elite and not once have to craft an academic essay!

Broadcasts by clients of tertiary education also regularly urge systemic change:

- In 2007, an industry backed study on engagement of unemployed youth found that while the economy offers incentives to work, the traditional training system ‘is more of a mixed picture’ with its focus needing to shift ‘from the institutions to young people, as learners and as workers’.

- The Australia 2020 Summit in 2008 attendees called for a ‘seamless post-secondary education system that allows people to move in and out of education at all levels throughout various stages of life and work – with "policy and funding … driven by the needs of the individual rather than the institution".

- In April 2011, the Business Council of Australia released its latest analysis on issues in skilling the higher end of learners. Calling for a wider approach to higher education, the BCA reinforced "the ability to work well as a member of a team, and cross-cultural capabilities are critical to being effective in the workplace. … capabilities to contribute to the development of new products and services, and to make the sorts of changes within an organisation that create new value and more highly skilled jobs".

In March 2008, then Education Minister Julia Gillard, now Prime Minister of Australia, did commission a major national review with a stated aim of achieving a ‘broad-based tertiary education system’. The anticipated new system would contribute strongly to ‘long term economic development and growth’ by

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5 The Australian Qualifications Framework (AQF) aims to specify qualitive differences among levels and types of tertiary qualifications. The AQF structure has been centred around traditions and administrative arrangements of historical sectors. In the 2007 AQF Handbook, for instance, 15 specified qualifications are grouped ‘according to the sector with authority for setting the standards of each qualification’. Yet the 2007 Handbook also notes ‘rapidly increasing provision of vocational education and training in the schools sector’, that Certificate qualifications are issued by the higher education institutions as RTOs (Registered Training Organisations), and some Associate Degrees and Bachelor Degrees are issued by approved VET institutions. Other overlaps include escalation of vocational skills and work integrated learning within bachelor degrees and expectations of ‘thinking’ skills such as problem solving in students of all levels including certificates. The AQF is again under review with a less sectored table of qualifications issued for discussion in 2010. Institutional discomfort with a less bounded and structured teaching world endures. eg. one Vice Chancellor in 'Untangle web of qualifications', The Australian 1 Sept 2010.

6 “…stakeholder concerns regarding the size and complexity of National Training Packages in their current form both in relation to the size of some units of competency and the amount and level of detail in supporting material and guidance for RTOs”: National Quality Council, 2009, VET products for the 21st Century.

7 Dusseldorp Skills Forum and the Australian Industry Group, 2007, It's Crunch Time, Raising Youth Engagement and Attainment.

8 Business Council of Australia, 2011, Lifting the quality of teaching and learning in higher education, The quality and relevance of higher education will play a major role in determining Australia’s economic success, report April 2011.
generating innovation and productivity gains and producing workers with knowledge and skills aligned with market calls. Distilling Australia's overarching needs, the Minister observed that:

[Australians] know that the supposed dichotomy between academic and technical education is ultimately a false one. …that high quality advanced technical skills, high quality research and the best analytical thinking must go together to improve the way our businesses operate. And that together this skill and knowledge builds prosperity, more jobs and wealthier households.9

A year later, based on recommendations of this Higher Education Review10 (including that issues at interfaces of VET and higher sectors be addressed) Minister Gillard announced plans for a new, empowered regulator, the Tertiary Education Quality and Standards Agency (TEQSA). Although delayed by vigorous debate, it appears TEQSA will launch in mid 2011 as an independent body 'with teeth'. That is, with powers to regulate university and other providers, monitor quality, set and assess academic and performance standards, and provide clear information to the marketplace.

For a while it seemed that Australia might achieve a single tertiary education regulatory system befitting needs and expectations of employers and students. But the sectoral forces are strong including jurisdiction and public sector funding differences, as well as unfortunately persistent ‘class’ features in terms of students (to be ‘professionals’ or not) and teachers (being ‘academics’ or ‘trainers’).

But we now find a second new national VET regulator will also start operation on 1 July 2011, the Australian Skills Quality Authority (ASQA), with another Council to adjudicate the VET skills curriculum.

The future could see a merge of ASQA with TEQSA as an integrated tertiary system to steer development of a more sophisticated approach to training for increasingly complex and demanding multi-skill work roles.

Whatever the regulatory permutations, the national workplace need, even clearer in 2011, is to attract many more individuals into active learning. Australian educators must build capacities across the board by creating and delivering programs to inspire, harness and build capacities – skills, knowledge and thinking.

**Citizens unserved**

Signs point to groups in the post-school demographic who are not well-served by this tertiary education sector divided by its traditions. In Australia, people with capacity but not an academic-learning bent have limited choices. Last century, they built experience through work, their initiative, cleverness and people skills, collecting a few ‘tickets’ along the way. Now, backed by families urging status education as a platform for many decades of work, and uninspired by VET certificates, they are looking for new paths.

**Take Steve:** Steve wants to be a self-made man, like his father, and uncles. There are many around, but he also sees school mates collecting degrees, and a few doing college courses in graphics and IT. Steve’s mother wants him to go to university, as he has ‘the smarts’ and times have changed. His teachers said he did well when he tried. He was great at seeing and thinking of ways to address problems, and others looked up to him.

But Steve is not interested in fat text books, sitting in classes or being stuck on a computer, and cannot even imagine an academic essay. Steve wants to do useful, responsible work, develop things, he wants to move around.

There is plenty of active work available, although it does seem the more interesting jobs now require tickets. Steve scrolls through websites of the local uni and TAFE (where it looks like everything starts with a slow certificate). Nothing clicks. Steve decides to make his rough-diamond, entrepreneurial way into the world …

In Australia, 'our Steve' is now a policy target, even as his learning needs are ignored by educators.

Australian Government national policy wants more tertiary education participation and stronger outcomes, such that 40% of those aged 25-34 year hold a degree by 2025, and more have diplomas, advanced diplomas or associate degrees. “Boosting Australia’s share of high skilled jobs and productivity growth

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will require a highly skilled workforce that can rapidly adapt to meet future challenges.” Most State Government policies now reinforce these objectives.

Alongside the productivity imperatives, individuals and families expect and need more than the industrial work life of old.¹¹ The notion of generations of families in towns or suburbs dedicating their work lives to an employer and be trained only on that job, is as fanciful now to workers as it should be for employers.

Today’s school leavers will work for 50-60 years to support their families and achieve their reasonable aspirations. Young, fit Australians have many work and education options. They (and the economy) want education to serve their personal expectations including upgrading skills to take on multiple roles and the more complex work that will characterise this long work career and offer greater reward. Education products must help them build a suite of skills and capacities they can use in multiple industries, including while travelling the globe. Many want to gain useful, worldly, integrated knowledge, alongside the specific capabilities various employers seek for particular jobs.

The principle of student choice is being applied increasingly to encourage individuals to participate in education and provider responsiveness in course design and delivery. The 2008 Higher Education Review recommended Student Learning Entitlements and supported places be made transportable (rather than allocation of set numbers of publically places to institutions) and this will be fully implemented in 2012.

Choice is intended to attract more individuals into the education they want. Student demand reflects interest and real signals from employment markets far more finely than central planning. Some Australian States are also applying student choice principles to VET, with student entitlements available for courses offered by all types of registered providers.

Passing purchasing power to individuals and employing enterprises (by allowing public funding to be used for choice of training and provider) is key to a modern education system. Under this competitive pressure, educationalists may eventually turn their attention to needs of the sizeable other segments, the ‘citizens unserved’ by enduring sector teaching, institutional and policy traditions.

An inventive Australian Associate Degree Model

Sensing the marketplace gap through interactions with industries and youth, since 2007 I have been working on development of a unique Associate Degree model. This investigation has been supported at key stages by enthusiastic people within the TAFE New England Institute headquartered at Tamworth, a light manufacturing and agricultural city in the State of New South Wales (NSW).¹²

This is a case of innovative response to marketplace pull, well before policymakers turned to the issue of achieving modern, useful across-tertiary sector outcomes for students and employers.¹³ A first tangible proactive move was glimpsed in late 2010 with NSW education agencies opening support for development of new Tertiary Pathway Degrees that must integrate learning across the VET and higher sectors.¹⁴ The

¹¹ As recently as April 2011, Prime Minister Julia Gillard reinforced the essentiality of productive work to the dignity of individuals and the progress of the nation. Prime Minister of Australia, Speech: The Dignity of Work, 12 April 2011.


¹³ Responding to the Higher Education Review report in March 2009, then Education Minister Julia Gillard identified the changing dynamics of work and workplaces, and the need “to insert vocational education into the centre of the emerging tertiary educational landscape” and “for stronger and richer vocational learning and pathways, offering students a broad band of learning that engages them intellectually and technically that stretches their imagination, ingenuity and problem-solving skills”. Universities Australia Conference 2009; Big Skills Conference 2009.

¹⁴ In November 2010, the NSW Department of Education and Training tendered on behalf of the Board of Vocational Education and Training Expressions of Interest from consortia of universities, VET providers, industry or employer groups and/or professional accreditation bodies for the development and delivery in NSW of new and innovative ‘lighthouse’ tertiary education courses in areas that address the State’s current workforce needs, such as engineering, accounting, early childhood and the creative industries.
Associate Degree (AD) model outlined below (developed and adapted for Agrifood, Creative Industries and Early Childhood Education) has been used in a consortium bid for this special funding.

In Australia, the Associate Degree is a relatively new AQF qualification offering potential for educators to encourage the exploration and development of inquiry and applied skills within an vocational and industry based learning environment. The AD can be offered by universities under self-accreditation, and a few have tried but too often a university AD is a cut-back Bachelor degree with little evidence of tailoring to a different incoming student cohort. Private education providers and some public TAFE Institutes also offer ADs in particular areas but they must struggle through an approval process that tends to drive the course back to the academic, again not meeting the needs of groups of 'citizens unserved'.

This model of a unique Australian Associate Degree has been developed to logically integrate Australian higher and vocational education systems. The AD aims to develop knowledge, critical thinking, reasoning and professional and technical skills in a learning flow tailored to student and industry needs.

The integrated AD model is at frontline of development in tertiary education, the interface of traditional VET and academic systems, and can be applied in many learning areas. It was sparked by thinking around issues facing traditional Australian industries and workers they want to attract. The model aims to bring together student/worker aspirations, employer interests, and educator capabilities in new ways. It looks to meet a range of real needs, from changing learner expectations to more complex workplace demands.

The structure of this inventive Associate Degree is illustrated by the boxes in this diagram. The AD is overlaid on trends in employee education in Australian agrifood sectors to show gaps the model aims to fill. Associate Degree students completing a two year program would achieve a qualification with modern status attuned to workplace demands and development of critical analysis and problem-solving capacities, plus potentially 1 to 3 usable VET certificates, as well as credit for a bachelor degree.

<table>
<thead>
<tr>
<th>Employee education level</th>
<th>Higher Education %</th>
<th>Diploma, Adv. Diploma %</th>
<th>Certificate III or IV %</th>
<th>Certificate I or II %</th>
<th>School only %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rural and related</td>
<td>8.5</td>
<td>5.4</td>
<td>11.6</td>
<td>1.3</td>
<td>73.2</td>
</tr>
<tr>
<td>Food processing</td>
<td>11.7</td>
<td>5.0</td>
<td>15.9</td>
<td>1.0</td>
<td>66.3</td>
</tr>
<tr>
<td>Seafood</td>
<td>9.0</td>
<td>8.6</td>
<td>15.5</td>
<td>1.4</td>
<td>67.5</td>
</tr>
<tr>
<td>Meat processing</td>
<td>7.5</td>
<td>3.8</td>
<td>15.3</td>
<td>0.9</td>
<td>72.5</td>
</tr>
<tr>
<td>All Agri-food</td>
<td>9.1</td>
<td>5.3</td>
<td>13.0</td>
<td>1.2</td>
<td>71.5</td>
</tr>
<tr>
<td>All Australian Industry</td>
<td>20.1</td>
<td>7.3</td>
<td>13.0</td>
<td>0.9</td>
<td>56.2</td>
</tr>
</tbody>
</table>

The Associate Degree course structure is a key to attracting target students. The objective is to 'bring in' different types of unserved learners. Most students enrolling in this type of Associate Degree will likely be new to tertiary paths. It draws on vocational training packages for elements and is especially suited to technical fields (including Construction, Engineering, Finance, Aviation, Agriculture, Early Childhood),


16 In 2004, some 9% of Agrifood industry personnel were holding higher education qualifications (compared to 20% nationally). Numbers with Diploma and Certificate qualifications were also lower. Numbers or workers with 'school only' formal learning were much higher. Monash University, 2004, Centre for Policy Studies, Qualifications profile, Agri-food industries 2003-2004. These data have improved little in ten years.
where skill competencies in VET packages can guide parts of the AD units, and where students and employers can directly benefit by obtaining 1-3 skills certificates as Work-Integrated Learning.

Each AD program using this model would be developed with an eye to teaching and learning issues, including the increasingly recognised problem in the USA (and noticed in Australia) of students achieving little learning or capacity building in some forms of post-school education.17

### Key features of this Integrated Associate Degree Model

**Outcomes.** This AD will provide individuals with learning of higher interest and status, multiple sets of knowledge, skills and capacities, and more than one usable qualification, plus work mobility and career potential (ie. to work in and develop paths across a number of industries within Australia and worldwide).

**Structure.** Students would undertake six core segments at AD levels including introduction to academic learning, thinking, problem solving and skills development, drawing on materials from degree models, and aspects of VET packages. Students could take Work Integrated Learning (WIL) electives to also achieve a mix of 1-3 skill certificates. Electives might be chosen in consultation with employers and families.

**Length.** Candidates would achieve the Associate Degree, plus potentially one or more linked Certificates by completing 16 segments across 15-18-24 months (shorter if experienced and focussed, longer if progressed part-time with more Work-Integrated Learning segments).

**Entry.** Flexible entry would be important, based on qualifications, aptitude, literacy, experience and interview if needed. Recognition of Prior Learning could apply. There is potential to offer these ADs to local, distance and international students.

**Core.** AD core segments will develop understanding of theory with introduction to disciplines and will develop capabilities and knowledge needed across many operational workplaces. These could include analysis and strategy, teamwork, supervision, operations, supply logistics, occupational health and safety, quality and regulatory systems, office and plant technology/IT, employment, ethics, business, trade.

**Format.** These flagship Associate Degrees need to be tailored to target groups of students/workers to achieve intended outcomes for the learners, employers and the economy. AD elements should be assessed using practical exercises and reports, rarely academic essays. The AD would progressively develop employability and generic skills as sought by industry across all qualifications.

**Pathways.** The AD model contains a number of entry points and exit points. A person could enter an AD attracted to the potential and status of a full, flexible qualification with skill Certificates. If this is too difficult, even with assistance, they could exit with one or more Certificates. Completion of the AD is a formal exit point. AD graduates could later continue to a Degree receiving full credit for the AD. Credit arrangements with various universities will need to be developed during shaping of each AD.

**Industry links.** These will underlie both academic and Work Integrated Learning components of the AD.

This model integrated Associate Degree is designed to facilitate flow into a third year of a number of possible university degrees. In particular, the model:

- has an academic course structure and basis in disciplines; the scope and form of most units will be familiar to universities and lecturers so bridging the teaching divide. Progressive assessment would review knowledge, applied scholarship and competencies, as in professional degrees.

17 Arum et al, 2008, *Learning to Reason and Communicate in College: Initial Report of Findings from the CAL Longitudinal Study.* “On average, gains in critical thinking, complex reasoning and writing skills (i.e., general collegiate skills) during the first two years of college are either exceedingly small or empirically non-existent for a large proportion of students.”
incorporates Work-Integrated Learning (WIL) as elective segments (as do some current degrees). Students can achieve useful VET certificates during WIL in workshops or workplaces. This is likely stronger outcome than portfolios prepared by degree students from fieldwork. There should be no need for reluctant academics to map or verify the Certificates as they are WIL outputs not course elements.

Industry links and a range of employment prospects are also key to the AD model. The concept is new and there is a need to introduce the Associate Degree model to industry groups and employers who still tend to seek workers with minimal training ('unskilled labour') and hope for inherent capability of the 'old days'.

The AD is structured to meet emerging industry needs, but some Industry Skills Councils are inclined to stay with traditional training ways (even if people are not choosing their proffered work paths). Discussion sessions with employers, agencies, unions should address issues such as changes in workplaces and workers, workforce attraction and retention in regional enterprises, and utilising the higher capability of multi-skilled AD graduates in operational, specialist and managerial roles.

Overall, this Associate Degree aims to provide worker-learners with saleable, interesting options, and this may attract a calibre of workers into traditional industries that they have not seen for many decades.

For example, in Australia, agrifood is a major manufacturing and export sector, and is being encouraged to expand to serve world food demands and to build industry, skill ecosystems, and associated employment, especially in regional areas. Engaged and skilled operational and management workforces are crucial to initiatives to develop agrifood ventures. Shortages of skilled, thinking workers have been flagged by rural industries and confirmed by research since the 1990s.

However, Industry recognition of the need for genuine change and invention in agri-education alongside efforts to enhance work interest and options for agrifood management, technical and operational personnel is quite recent. The third AgriFood Skills Council Environmental Scan in 2010 for instance, indicates new and sincere awareness and urgency:

National consultation and validation for the 2010 Environmental Scan has highlighted four key skills and workforce development challenges that need to be urgently addressed; issues that necessitate unprecedented collaboration between governments, AgriFood and a re-conceived training system:

» Attraction of workers
» Adoption of higher level skills across the workforce
» Adoption and diffusion of new research, practice and technology across the industry
» Workforce retention and effective skills utilisation

For its part, industry will need to deliver a level of leadership not seen to date on skills and workforce development, it will require coherence of strategy across and within sectors, and at all levels – regional, state and national. Individual enterprises will be called on to build their capabilities in job design, work organisation and skills utilisation with a goal of being 'employers of choice'. Agrifood ISC, 2010, A perfect storm of shortages, are we ready?

AgriFood employers are at last conceding that younger people want strong futures with options and not just a lifetime in traditional agrifood work pathways. Industry strategies for agrifood sector development call for inventive education and skills offerings – and these demands are challenging education traditions.

To both serve and compete, tertiary education providers need to anticipate skilling needs in readiness for new higher productivity enterprises, taking into account changing worker, work and lessons from trends. For Australian tertiary educators, the challenge now is to develop modern, interesting, integrated, flexible programs. The associated challenge is personal learning and development to enable effective delivery of these into the gap between skills and university courses to address unmet student and industry needs.

18 "For most Australians now, interesting and engaging work (and education), relative status, longer term prospects, and work flexibility including mobility and travel, are important – as well as pay and conditions. Many more individuals and couples, young and older, female and male, also need to provide services through small businesses. Capacities to handle more complex work, workplaces and production, operational and supply chain responsibilities will be key." SJ Welsman, Lateral Thinking on Skills in AgriFood Industries, 2008.