

Innovation and Science Australia

2030 Strategic Plan: Issues Paper

Victorian TAFE Association Response

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Introduction

The Victorian TAFE Association is the peak body for Victoria's public providers of Vocational Education and Training (VET), including 12 TAFE Institutes, four Victorian dual sector Universities, and an Associate member, AMES.

The Victorian TAFE Association welcomes this opportunity to respond to the *2030 Strategic Plan: Issues Paper* released by Innovation and Science Australia.

The VTA would like to take this opportunity to provide comment on a number of matters that highlight the important role played by VET in supporting and underpinning Australia's innovation system and the challenges that are faced. These include:

- The role of TAFE in enterprise innovation
- Lifelong learning and skills development
- Regulation, federation, policy and educational innovation
- Unleashing the gazelle in each Australian
- Engaging TAFE and the VET sector in Australia's formal research and innovation system
- The 'Innovation Ecosystem'

The role of TAFE in enterprise innovation

Australia's TAFEs and the wider VET sector are renowned for their strong links to industry, for industry based learning and for applied and translational research that puts research into practice in real-world industry and community settings. As an inventor or creator of knowledge in its own right, the TAFE and VET sector is highly skilled in providing insights, fresh eyes and practical solutions to the application of knowledge that solves industry and community problems.

By contrast, innovation in Australian firms is notoriously low, as evidenced by OECD data that shows that just 3.5 per cent of large Australian firms collaborate with universities and public research institutions, while the figure is only 4.1 per cent for SMEs.¹ Australia is among the lower performers on this measure, which is indicative of poor levels of enterprise innovation and represents losses in terms of economic performance and prosperity.

The VTA considers that a mechanism to counter this poor performance would be to leverage the strengths of the TAFE and VET sector to act as a diffuser of innovation. This would draw on the sector's strengths, including through knowledge transfer to students through education and training, and the transfer of knowledge and innovation to employers and industry through strong partnerships. It would also recognise and draw on the considerable resources and infrastructure used for education and training and applied research that are owned and operated by TAFE institutes.²

¹ OECD Science, Technology and Industry Scoreboard 2013, page 127.

² Examples of such infrastructure include a new Chisholm Institute facility being built at Frankston Hospital; the Automotive Centre of Excellence located at Bendigo Kangan Institute (which includes world-class vehicle and engine testing facilities and a purpose built auto-electrical lab); cutting edge facilities at William Angliss institute (such as 3D printers that are used to research food production); and the establishment Australia's first 'Clinical School' for enrolled nurses developed by Holmesglen Institute in partnership with St. Vincent's Private Hospital.

To build the TAFE and VET sector's role would however require a change in policy and thinking. Current policy focuses mostly on the role of universities in Australia's research and innovation system, with an almost complete absence of any consideration of the role that TAFE and VET plays in innovation. There is also a lack of inclusion of TAFE and VET sector leaders in leadership summits focused on issues of innovation, meaning this valuable voice and perspective is not heard in policy discussions.

The VET sector is thus a largely untapped resource that could be leveraged and better engaged to improve enterprise innovation. This would require greater consideration and analysis of the sector's role within the national research and innovation system, and the creation of strategies and programs that recognise, tap into and build the sector's capability.

Lifelong learning and skills development

The transformation of the Australian economy in the last 30 years has seen the nation's competitive advantage based increasingly on a highly knowledgeable, educated and highly skilled workforce. The continuance of Australia's prosperity depends heavily on the ability of its workforce to continually adapt and develop its skills and on the smooth adoption of newly required abilities.

Delivering robust, flexible and effective lifelong learning will require strategies that fully engage the VET sector. With respect to this, consider that:

- 63 per cent of VET students are 25 and older, compared to only 37 per cent for universities
- Students who are 45 and older represent 22 per cent of the VET student cohort, compared to 9.6 per cent for universities (the university figure is for students 40 and older)³

These figures tell us that lifelong learning is generally the province of the VET sector, and as is noted elsewhere in this submission, a major feature of the VET sector is its links to industry. The sector's industry links are borne of the fact that it provides education and training that directly relates to a job. VET courses have a tangible end-use in mind, usually in the form of an employment outcome and a more practical industry/trade focus than higher education courses. As a consequence, the sector continually seeks to engage with industry to ensure the currency and relevance of its offerings, and is highly cognisant of emerging new technologies, new sectors and related skill requirements. By virtue of this and the earlier mentioned numbers, the VET sector stands as the major conduit for the provision of lifelong learning.

However, as also noted elsewhere, unpredictable policy development has created circumstances that are not favourable to the VET sector's steady development and to the adoption of innovative ideas or techniques. What innovation does occur is often despite policy support and not because of it. Further, while higher education and secondary education secure the attention, support and resources of governments, the VET sector is often portrayed in less than generous terms, generally as a 'second best' option to university, or an 'educator of last resort'. This is not favourable to the growth of the VET sector, to the adoption of innovation, and given the major role it plays in ensuring

³ *Australian vocational education and training statistics: total VET students and courses 2015 — data slicer*, National Centre for Vocational Education Research and *Selected Higher Education Statistics – 2015 All Students*, Commonwealth Department of Education and Training

the continued skill development, poses implications for Australia's workforce development and innovation.

Regulation, federation, policy and educational innovation

Education is elementary to Australian innovation and prosperity; at the same time, Australia's legal, regulatory, policy and government environments have a huge sway on the shape of the sector and on its development, impacting on the sector's (and ultimately, Australia's) ability to innovate.

The recent past has been one of tumultuous change, where the education sector has operated in changing and highly uncertain policy environments. Further complicating matters, particularly for the VET sector, is the complex nature of Australia's federal system of government, with policy levers at a state level sometimes operating in contradiction to those wielded by the Commonwealth Government. In addition, the sector faces policy and regulatory environments that act as barriers to growth, development and innovation. For example, TAFE higher education providers cannot access Commonwealth Supported Places (CSPs) for higher education courses, despite achieving and being subject to the same rigorous TEQSA registration and accreditation requirements and standards as universities, acting as a barrier on the sector's ability to grow this student cohort. In terms of innovation, it creates a circumstance whereby higher education provision is unable to benefit from new providers that bring new ideas and fresh approaches.

Policy development and implementation in the education sector is also a victim of its being viewed in discrete terms and not in its totality. For example, the Commonwealth Government recently conducted a review, *Driving Innovation, Fairness and Excellence in Australian Higher Education*, which focused solely on the higher education sector, and in that, mostly focused on universities. While there are rationales for such an approach, it can result in piecemeal policy development, with resulting perverse effects and policy instruments, such as the CSP example above. The development of an education system that contributes to innovation in an optimal manner requires a far more holistic analysis that recognises the interconnected nature of the system's parts, a thorough and complete understanding of Australian education provision; a determination of the important role played by the system's education and training providers; consideration of the interactions between each of the players; and a greater appreciation of the role of each in advancing learning, skill development and innovation.

Unleashing the gazelle in each Australian

The Issues Paper refers to the unleashing of 'Australian gazelles', a term used to refer to the creation of policies that support innovative new firms. But recognition should be given to the individual gazelle, to creating an environment that supports individuals to be creative, productive and innovative.

For many individuals, the ability to be creative, innovative and productive is hampered by factors such as gender discrimination, location (that is, do they live in remote regions), social position, economic status and cultural circumstances. The effect of these factors leaves a large potential source of innovation unrealised, with implications for Australia. The aim of any innovation system should be therefore to enable and support individuals who are otherwise disenfranchised to achieve

their potential, whatever their gender, social status, cultural background, location or economic circumstances.

The TAFE sector is highly familiar with those who come from disadvantaged backgrounds. Its student cohort includes large numbers from non-traditional backgrounds, including those from non-English speaking backgrounds (representing about 18 per cent compared with approximately 4 per cent for universities), low socio-economic status and mature age students.⁴ Without the conduit provided by TAFEs, many from these disadvantaged cohorts would likely be excluded from education and training. The benefits that accrue from engaging with this cohort have positive implications for Australian innovation.

Given the foundational nature of education, and the widely recognised role that education plays in supporting social mobility and the attainment of individual potential, the VTA recommends that strategies be developed that support innovation at the level of the individual. Such strategies would be designed to engage more women and those from disadvantaged and non-traditional backgrounds. They should not end at the school, TAFE and university gate, but should be designed to ensure that barriers faced by such cohorts are broken down, to ensure they continue to be engaged after they have completed their formal education and training.

Engaging TAFE and the VET sector in Australia's research and innovation system

Earlier, it was noted that the TAFE and VET sector is highly regarded for its partnerships with industry, for the knowledge transfer that results from this and the positive implications for enterprise innovation. What was not obvious from this discussion is the considerable level of research that occurs in TAFE institutes and the VET sector more broadly.

The TAFE and VET sector's reputation for providing solutions to real-world problems means that its research activity is mostly applied and translational. Its research uses existing knowledge and technology to generate new insights that solve the real-world problems faced by industry. Indeed, the application of new technology and knowledge to solve real world problems, while not always present in higher education, is a universal feature of vocational education, even at certificate level.

Unfortunately, most policy discussions related to research fail to recognise TAFE and VET sector research activity, focusing instead almost exclusively on the universities and public research bodies. For example, the *2016 National Research Infrastructure Roadmap* has focused on facilities and infrastructure owned and operated by universities and other research bodies, with no consideration given to the considerable infrastructure owned by TAFE institutes. Similarly, the absence of consideration manifests itself in a paucity of programs designed to increase the role of TAFE and the VET sector in research and innovation (for example, there is no VET equivalent of an ARC Linkage Grant, though the new Workforce Training Innovation Fund (WTIF) in Victoria comes close).

As a consequence, the VET sector's considerable research capacity and industry/community connections are missed, representing a loss in terms of the adoption/absorption of research outputs in real-world settings.

⁴ *Australian vocational education and training statistics: Government-funded students and courses 2015, NVCVER and Selected Higher Education Statistics – 2014 Student Data*, Commonwealth Department of Education and Training.

The VTA recommends greater utilisation of this resource. This would be achieved firstly by recognising the already considerable role of TAFE and VET in research, followed by the implementation of strategies/policies to engage the sector more effectively in the national research and innovation system. Such policies would build on the fledgling research activity of TAFE institutes and help it grow in confidence and maturity. There is precedent for such policy in the university sector, a good example being the Collaborative Research Networks program, which supported fledgling universities by partnering them with (and allowing them to learn from) more mature, research intensive universities and institutions.

Programs and policies that *directly* increase the research and innovation capability and capacity of TAFE and VET should also be put into action. Examples of such policies are in evidence in other jurisdictions, including Canada and the Netherlands. In Canada's case, the College and Community Innovation (CCI) Program increases innovation at the community and/or regional level by increasing the capacity of Canada's TAFE equivalents to work with local companies (particularly small and medium-sized enterprises) by supporting applied research and collaboration that facilitates commercialisation, technology transfer, adaptation and new technology adoption. Similarly, the Dutch have increased the capacity of their *Hogescholen* (Universities of Applied Sciences) to participate in research that is complementary to that which occurs in traditional universities.

The 'Innovation Ecosystem'

Innovation is often presented in 'binary' terms, with universities and research bodies –said to create knowledge and new insights –on one end, and 'industry' –which takes said insights and transforms them into goods and services– at the other. In addition, these approaches are often linear, with knowledge creation on one side, and adoption and commercialisation at the other. Much policy directed towards innovation is crafted with the goal of fostering greater links between these two groups in order to promote greater levels of innovation.

While such an approach is appealing from the point of ease and simplicity, it misses the plethora of additional 'actors' who operate and interact in the innovation system, diluting the effectiveness of policy instruments putatively designed to foster greater levels of innovation. A more complete approach to innovation would instead be moored in models that draw on the idea of the 'innovation ecosystem'.

In brief, the innovation ecosystems model, like its biological analogue, looks at the large number of diverse and interdependent elements that drive innovation. These range from human factors (such as researchers, teachers, investors, students, entrepreneurs, tradespersons, artists and professional service providers) to material (such as funds, facilities, equipment and general infrastructure) and immaterial factors (such as the legal structure and other customs and institutions that are essential for trade, interaction and flows of information). Unlike the linear approach to knowledge creation, the innovation ecosystems approach recognises that knowledge creation, adoption and commercialisation are not the domain of a single entity or group but can be seen in the activities of each of the ecosystem's constituents.

The VTA recommends that innovation policy be viewed in these broader terms. Indeed, the thrust behind much of the discussion above has been the need to move beyond traditional constructs to instead recognise the role that the VET sector (among others) has in the national innovation

(eco)system. The aim of policy should be to get a better and more complete picture of Australia's national innovation (eco)system, with initiatives cascading from this that enable greater interaction and contribution of the (eco)system's constituent parts.

Key Contact

The VTA welcomes the opportunity to speak further to the issues outlined above. To do so, please contact:

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