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Participation in higher education in Australia among under-represented groups: What can we learn from the Higher Education Participation Program to better support Indigenous learners?

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Introduction

In 1988 the release of the *Higher Education: A Policy Statement White Paper* focused Australia's national higher education equity policy on "changing the balance of the student population to reflect more closely the composition of society as a whole" (Dawkins 1990, 2-3). While improvement in access and participation has been noted for women, people from non-English speaking backgrounds, and people with disabilities, the interventions has remained less effective for people from Lower Socio-Economic Status (LSES backgrounds), Indigenous peoples; rural, regional and remote residents; (Gale & Tranter, 2011; Koshy & Seymour 2014). In 2009, in response to the Bradley Review (2008), the Australian government set a new agenda again focused on equitable participation in higher education, along with associated equity targets (which have since been abandoned), and funding to enable this reform as well as increased participation. Funding was delivered through the Higher Education Participation and Partnerships Program (HEPPP), renamed the Higher Education Participation Program (HEPP) in 2015 (Australian Government Department of Education and Training, 2015). A range of national partnerships, policy initiatives and programs has been used to facilitate improved achievement in schools as well as enable access, participation and achievement in higher education. These actions have included targeted programs through the use of intervention strategies aimed at widening participation in, and improving access to higher education. The 2007-2013 outcome data is summarised in Table 1.

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Table 1: *Student Equity Enrolments and Ratios, Table A Providers, 2007-2013.*

	2007	2008	2009	2010	2011	2012	2013	Growth (07-13)	Growth (07-13) %
National	528,844	532,527	553,374	580,372	600,412	634,434	668,665	139,821	26.4%
LSES	85,873	86,581	90,447	96,706	102,163	109,788	118,003	32,130	37.4%
Students with disabilities	23,148	23,447	24,948	28,057	30,094	33,220	36,486	13,338	57.6%
Indigenous	6,828	6,820	7,296	7,943	8,445	9,005	9,939	3,111	45.6%
Regional	100,826	101,339	104,266	110,646	115,250	121,476	127,070	26,244	26.0%
Remote	5,428	5,240	5,368	5,532	5,572	5,804	6,069	641	11.8%
NESB	16,702	17,222	17,649	18,227	19,226	21,289	22,863	6,161	36.9%
Equity Shares (%)								% Change (07-13)	Growth in Share (07-13)
Low SES	16.2%	16.3%	16.3%	16.7%	17.0%	17.3%	17.6%	1.4%	8.6%
Students with disabilities	4.4%	4.4%	4.5%	4.8%	5.0%	5.2%	5.5%	1.1%	25.0%
Indigenous	1.3%	1.3%	1.3%	1.4%	1.4%	1.4%	1.5%	0.2%	15.4%
Regional	19.1%	19.0%	18.8%	19.1%	19.2%	19.1%	19.0%	-0.1%	-0.5%
Remote	1.0%	1.0%	1.0%	1.0%	0.9%	0.9%	0.9%	-0.1%	-10.0%
NESB	3.2%	3.2%	3.2%	3.1%	3.2%	3.4%	3.4%	0.2%	6.3%

Source: Koshy & Seymour (2014, p. 12).

Enrolment numbers for students with disabilities have improved while Indigenous students, LSES students and those from non-English speaking backgrounds (NESB) have also shown growth in both numbers and, more modestly, in share. Less positive is the fact that students from regional and remote areas, while increasing in numbers, have decreased in share – particularly among remote students. Higher Education 2013 Student data show that disparities between regional and remote students and metropolitan students primarily are in access, rather than retention and completion (Koshy & Seymour, 2014).

Understanding Indigenous participation in higher education as an under-represented group

The numbers of Indigenous people participating in higher education are increasing but Indigenous students are under-represented in higher education at levels commensurate to the population. The 2011 Census undertaken by the Australian Bureau of Statistics (ABS) estimates that there were 713,600 Indigenous people living in Australia in 2014 (ABS, 2014). For example, in 2014, Indigenous people represented 2.6% (713,589 citizens) of the total Australian population (i.e. 21,507,719 citizens) (ABS, 2014) but they were under-represented in universities (Demosthenous, 2012). A positive story of Indigenous graduates is relayed by Craven & Dillon (2015, p.13) stating, "that in 1991 there was a total of 3,617 Indigenous graduates (ABS, 2006) but there are now more than 30,000 Indigenous university graduates (as cited by Hughes & Hughes, 2013)".

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Disadvantaged students often belong to more than one equity category. Indeed, the intersection across equity categories, particularly among Indigenous students is highly probable. For example, an Indigenous student may be from a remote community and classified as living in LSES postcode – therefore 'belonging' to at least three equity categories. Due to the complex interlinking of factors enabling access and success, current research commonly focuses on the intersectional characteristics and social factors which contribute to the low levels of engagement in higher education including low levels of literacy and numeracy, early school leaving, living on low income, insufficient mobility and lacking adequate transport, being the first member of their family to undertake post-compulsory education, unsatisfactory experiences of education in the past, living with a disability or mental illness, and lacking a supportive home (Cupitt & Costello, 2014).

A significant recent report, the *Review of Higher Education Access and Outcomes for Aboriginal and Torres Strait Islanders* (Behrendt et al 2012), reinforced the positive steps forward as "the plan identifies national, systemic and local-level action in six priority areas that evidence shows will contribute to improved outcomes in Indigenous education:

- readiness for school
- engagement and connections
- attendance
- literacy and numeracy
- leadership, quality teaching and workforce development
- pathways to real post-school options" (Behrendt et. al. 2012, p24).

The most commonly recommended approaches for improving under-represented groups' participation in higher education, including Indigenous learners, involve sustainable and holistic strategies (Cupitt & Costello, 2014). These strategies are focused through community-based programs, targeting key intervention points from early on and then consistently throughout the students' studies, within a larger whole-of-school or cohort-wide strategy, or within dedicated post-school progression pathways. There are a growing number of university-led programs taking this kind of approach, particularly targeted at secondary school students, and those entering higher education via alternate pathways as mature-age learners. Some of these programs are HEPP funded and have an explicit focus on Indigenous learners.

Review methodology

A review of 70 HEPP-funded programs was undertaken to understand what interventions are effective in enabling under-represented students' progression into, participation in, and completion of, higher education. Drawing on the key considerations of the social ecological framework, which is a way of further the understanding of the dynamic interrelations among various personal and environmental factors, the multiple dimensions of influence with regard to raising aspiration and widening participation at the individual; family/school/community and institutional levels can be investigated. From the review of 70 HEPP funded programs, we have strategically selected six case studies from the two most recent NCSEHE (2013; 2014) publications to explore how Indigenous learners can be better supported. The six selected HEPP-funded projects are summarised in Table 2.They were deliberately selected because they reflected large-scale partnerships and interventions that were holistic in design. Case studies 1 and 5 have an explicit Indigenous focus. Case studies 2, 3, 4, and 6 include Indigenous students, alongside other under-represented and/or disadvantaged groups. The intent is not to compare the integrated programs from the Indigenous-specific programs. Rather we sought to identify common themes.

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Table 2: *Selected HEPP-funded case studies with a holistic orientation catering to Indigenous needs*

HEPP-funded project	Social Ecological Influences	Scale of Partnerships
1. Whole of Community Engagement initiative *Partners*: Charles Darwin University, 2 other Higher education institutions; 2 local stakeholder organizations and 6 remote Indigenous communities across the Northern Territory.	This features a whole of community collaborative approach to Indigenous higher education aspiration and participation. Demonstrates the capacity for high levels of institutional, school/community level partnerships and influence at all levels of the social ecological continuum. This initiative facilitates action which breaks down institutional and cultural barriers specific to the needs of Indigenous communities through strategies that incorporate adopting culturally appropriate pedagogical approaches to teaching and learning, and establishing egalitarian governance structures through a large-scale, multi-site participatory action research project	*Activities and Population Target:* Involves community engagement with leaders, mentor and enrichment officers and a community teacher's liaison leader working closely with community-based Indigenous mentors, leaders and organisations to drive innovative bottom-up strategies and solutions built on and responsive to, Indigenous knowledge. Parents, caregivers, teachers and school leaders will also play an integral role in supporting students. *Outcomes:* This initiative is in its early stages and achievements to date involve establishment of a steering group, including representatives from each of the six communities, and appointment of a number of outreach and community-based program staff. Community-level consultation, actions and future partnerships are in progress.
2. The Stellar Program Lead by the Southern Cross University and University of New England, this HEPP collaboration comprises 12 partners, incorporating government and non-government organisations (e.g. Commonwealth Department of Prime Minister & Cabinet – Indigenous Affairs Group) including school/community and business organisations.	These multi-sectoral partnerships and engagement facilitate a whole of community approach to encourage the interest, aspirations and attainment of HE participation of Indigenous and non-Indigenous populations. This collaboration is large in scale of partnerships, and the activities have been specifically targeted to raise aspiration and improve academic readiness for HE for students residing in this regional rural community.	*Activities and Population Target:* Less than 1 per cent of the population in this regional rural community attend University. This whole of community approach to outreach activities with schools, also builds the confidence of parents that HE participation is a possibility for their child. Multifaceted activities are directed at Years 6 to 12 to increase knowledge, understanding of HE and career pathways, including building confidence and motivation, and improving academic readiness for HE.

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	The scale of the partnership and the multi-faceted activities demonstrate the capacity for social ecological levels of influence ('individual'; 'family/ school/ community' and 'HE institution' level) by enabling student outcomes, capacity building for the schools and community, as well a culture of learning and innovation.	*Outcomes:* Evidence shows that the program is having a positive impact on students' and parents' interest and intention towards university. Following the Year 6 campus event, 93 per cent of students reported being more confident in going to university. *"Even if you're from a small town you can go to a big uni" (Year 7 student).*
3. MAP4U program This HEPP collaboration incorporates Murdoch University and Curtin University, including 13 government and non-government: schools/ community/business organisations, as well as youth stakeholder groups (e.g. South Metropolitan Youth Link; Youth Connect).	The goal of this multi-sector state-level partnership is designed to increase HE participation among under-represented students from the southwest corridor of Perth. While the collaboration network is large in scale, the program is specifically targeted for the population of need and the activities are directed to target multiple levels of social ecological influence ('individual'; 'family/school/ community' and 'HE institution' level) by building academic aspirations and achievement through innovative pedagogy.	*Activities and Population Target:* Within this region, people with a Bachelor Degree stands at 9 per cent, well below the greater Perth area at 16.1 per cent. Engaging with 22 schools, activities include: curriculum and pedagogy initiatives; university-school outreach; specific ASTI mentoring; industry mentors; parental support programs; student-teacher pathway planning; academic and alternative learning including HE enabling pathways. *Outcomes:* Surveys and qualitative feedback indicates a desire for HE participation by students, and also that program activities are having a positive impact on students' engagement with school, supported by indicators such as attendance and student behaviour.
4. Deakin Engagement and Access Program (DEAP) Driven by Deakin University involving five faculties (e.g. School of Education; Institute of Koorie Education), this HEPP collaboration comprises partnerships with 30 schools and 2 other community organizations (Barwon Adolescent Task Force and The Smith Family).	*Ecological level influence:* The goal of these multi-sectoral partnerships is to increase HE participation among populations experiencing multiple barriers, across a number of regional sites in Victoria. While this collaboration is wide in scale, the activities are designed to enable multiple social ecological levels of influence ('individual'; 'family/ school/ community' and 'HE institution' level) to deliver on- campus and in-school programs.	*Activities and Population Target:* The DEAP program is targeted to Year 7 to 12 students with activities to encourage aspiration for post-school education by improving academic capacity, exposure to innovative experiential learning, developing HE pathways, preparing for HE transition, parental engagement and special entry access scheme (SEAS) workshops. Parents, carers, families and community organisations are involved with the engagement process.

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4. Deakin Engagement and Access Program (DEAP) *(Continued)*		*Outcomes:* A positive impact on student aspiration is reported with HE enrolments increasing from partner schools from 2010 to 2013 by 15 per cent and Deakin by 42 per cent. Qualitative feedback also demonstrates a positive impact: *"Our students gained confidence after participating in the … workshop. They felt that their strengths and abilities were acknowledged (school teacher) ... I learnt that there could be different ways to get into university (student)".*
5. Old Ways, New Ways The partnership composition in this HEPPP collaboration includes Edith Cowan University (3 faculties: School of Natural Sciences; Kurongkur Katitjin: ECU's Centre for Indigenous Australian Education & Research and Engagement Unit); Macquarie University; WA's primary and high schools and NISEP (National Indigenous Science Education Program).	The goal of this multi-sector partnership involved an outreach initiative to link together Western and Aboriginal knowledge and perspectives on science epistemology. The activities of this partnership enabled the possibility for multiple social ecological levels of influence ('individual'; 'family/ school/ community' and 'HE institution' level) to encourage and support Aboriginal and/ or Torres Strait Islander school students from Western Australia's LSES communities.	*Activities and Population Target:* The goal involves improving the participation of Aboriginal and/or Torres Strait Islander students in science subjects, to increase their employment in science and technology. Activities include peer-supported learning, demonstrator training, as well as positive role models to inspire academic success and develop confidence, leadership and communications skills. Engagement of Noongar Elders and integration of locally relevant and specific Indigenous knowledge of science is also incorporated. *Outcomes:* By the end of 2014, approximately 600 primary school and high school students from LSES backgrounds across WA will have participated in this program. Early anecdotal evidence suggests that the continued engagement to demystify HE pathways in science subjects is being achieved.

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6. UNI4YOU This HEPPP collaboration incorporates partnerships between four faculties of the UoN (Family Action Centre, Faculty of Health and Medicine; AIM HIGH program; English Language and Foundation Studies (ELFS) along with five school and community stakeholder organisations (The Smith Family; Irrawang Pubic School; Thou Walla Family Centre Schools and Community Centre, Irrawang Public School; Cessnock East Pubic School and San Remo Neighbourhood Centre).	This multi-sector partnership which delivers enabling programs to support the engagement of economically and geographically marginalised adults powerfully demonstrates both broad scale partnerships as well as extensive expertise with community engagement. This program has been specifically designed to break down educational barriers of this population group. Most significantly, the scale of partnerships and activities demonstrate influence at all levels of the social ecological continuum to enable online HE study.	*Activities and Population Target:* This Hunter region experiences high levels of non-engagement in HE by adults (20 years and above) often due to lack of awareness. Program coordinators, with extensive experience in community and family work, engage with schools, early childhood centres, child and family services and similar organisations to promote and encourage potential adult participants to engage in *online* HE study. This is also complemented with activities such as home visits; information on HE pathways; academic and social support including resources such as childcare, textbooks, *wifi* and computers. *Outcomes:* Evaluations confirmed that the majority of students continued to study because of the support provided by Uni4You. Partners also acknowledged the positive long-term impact of Uni4You for individuals and for its capacity to influence the social and cultural identity of communities.

The case studies are used to identify strategies for improving participation in higher education among Indigenous learners.

What are Australian universities currently doing?

Current practice used by universities aims to reach prospective university students (**outreach**), help get them into university (**access**), and provide the **support** once the students commence, ultimately improving the retention and completion rates of those students (Trinidad & Kelly in NCSEHE, 2014). One of the most important factors driving intention to attend university are the expectations of parents and peers so universities deliver outreach programs that aim to build educational and occupational aspirations.

Using a social ecological perspective developed by the National Centre for Student Equity in Higher Education (Figure 1) allows an appreciation of the array of social inclusion interventions that have been designed to target multi-level barriers facing educationally disadvantaged groups. This encompasses individual, community, institutional and policy domains. The social ecological concept is a powerful guide for social inclusion planning of interventions at multiple points to ensure that the maximum level of influence is exerted on the goals of aspiration and

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widening participation. For example, in the pre-tertiary domain, those affected by poverty/disadvantage, and who may appear uninterested in further study need a scaffolded age-appropriate series of interactions which gradually build awareness, aspiration and confidence. Very large numbers of school-age and adult learners have this need therefore the scale and complexity of this task suggest that partnership-based operations will be needed to impact on raising aspiration and widening participation in higher education for population groups facing multiple barriers.

Figure 1: Critical stages in the student education life cycle enabling progression into higher education.
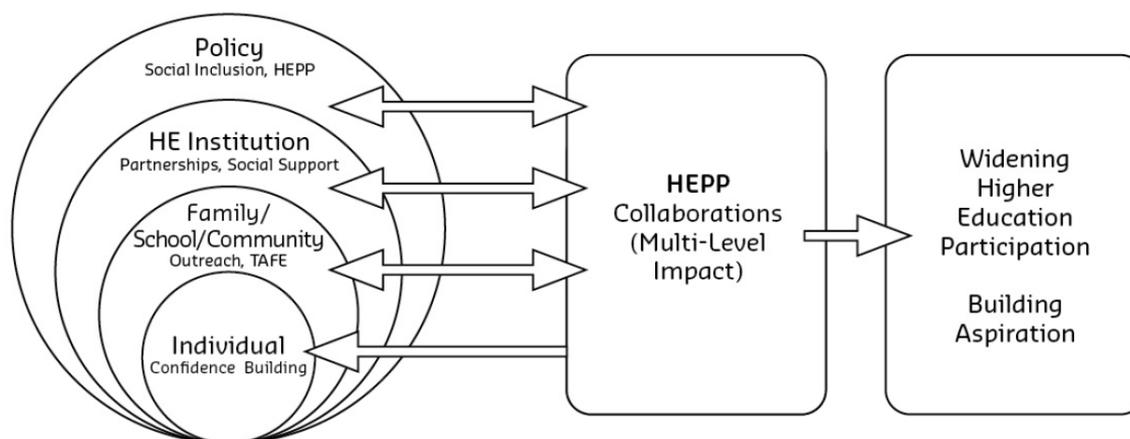
Source: NCSEHE (2015)

The following strategies for improving participation in higher education among Indigenous learners have been identified using an inductive approach involving repeated review of the selected case studies. These strategies are presented thematically, and relate to:

- providing adequate educational offerings and pathways;
- creating pathways to access higher education;
- ensuring adequate transitional arrangements between VET, school and higher education; and
- embracing digital technologies and digital learning.

Providing adequate educational offerings and pathways

The Centre for the Study of Higher Education (2008) revealed that the participation in higher education of people from LSES backgrounds and Indigenous people has been assisted by the wide range of programs, services and facilities being provided by Australian universities to help increase the participation and successful course completion of members of disadvantaged groups, both direct-from-school and mature-age (Abbott & Chapman, 2011; Ryan et. al. 2013). These include outreach programs, special admissions schemes, transition preparation and bridging programs, school based tutoring or mentoring, scholarships, financial support, study induction and support programs, flexible delivery and distance education.

Research has shown that students who are at most risk of withdrawing from their studies are those who come from LSES families, rural and remote environments, or Indigenous communities (James et al., 2008; Oliver et al 2015). Schools in non-urban centres and LSES

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communities tend to struggle to provide the quality of education available in urban middle-class environments. Consequently, students attending such schools perform less well scholastically; their access to robust academic support and counselling at home and at school is limited. In addition, the level of their self-belief and self-assurance makes it difficult for them to envisage higher educational goals and broader career aspirations (James et al., 2008; McInerney & King, 2013).

Case study 1 Whole of Community Engagement initiative illustrates a HEPP-funded project that is building aspiration, expectation and capacity of remote Indigenous learners to participate in higher education. This is being implemented across six remote communities in the Northern Territory. This large scale, multi-site participatory action research project involves community engagement with leaders, mentor and enrichment officers, and a community teacher's liaison leader working closely with community-based Indigenous mentors, leaders, researchers and organisations to drive innovative bottom-up strategies and solutions built on, and responsive to, Indigenous knowledge and community needs.

James and his colleagues (2008) found that while non-Indigenous students from such backgrounds find it challenging to adjust to the socio-cultural context of university life, with sufficient support they attain their academic objectives at rates that exceed those of their Indigenous peers. Although it must be noted that many Indigenous and regional students aspire to leave school early and go to vocational courses rather than attend university (Craven and Marsh, 2005) as often the possibilities of university have seldom been explored or even presented as an option. Among the issues that contribute to this pattern are the linguistic and socio cultural issues that can impinge on the academic progress of Indigenous students.

Craven and Dillion (2015, p. 13) refer to the work of Hughes & Hughes(2013) where they quote the rate of participation in university programs of children of working, urban Indigenous parents is similar to that of the Australian population, while Indigenous students from welfare-dependent and remote communities are under-represented. Often these students lack family support, have lower academic self-concepts and lack resilience and determination to succeed (Craven and Marsh, 2005). These types of issues have been tackled with the emergence of more relevant support and mentoring programs such as those offered through the *Aurora* project; and other programs such as *Follow the Dream and AIME*, where Indigenous students are provided with educational programs that support them to transition through high school and into university, employment or further education in an attempt to achieve the same rate as all Australian students. These types of programs give Indigenous students the skills, opportunities, belief and confidence to grow and succeed at school, community and university sites across Australia.

As illustrated in case study 2 *The Stellar Program* runs within an area where less than 1 per cent of the population in this region attend university. This provides a whole of community approach to outreach activities with schools, and also builds the confidence of parents that higher education participation is a possibility for their child. Multifaceted activities are directed at Years 6 to 12 to increase knowledge, understanding of higher education and career pathways, including building confidence and motivation, and improving academic readiness for higher education. The multi-faceted activities demonstrate social ecological levels of influence at the 'individual'; 'family/school/ community' and 'institution' level for enabling student outcomes, capacity building for the schools and community, as well building a culture of learning and innovation.

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Creating pathways to access higher education

Pathways into higher education are often through 'enabling' programs which allow people who want to go to university but who lack the qualifications due to various reasons, to do so. These reasons often include disrupted or disadvantaged education and such pathways allow people to gain both access to university study and the necessary skills and background knowledge to succeed once they are at university. Craven and Dillion (2015) describe the seeds of success are being developed through alternative pathways for Indigenous students to participate in higher education. This is achieved through enabling programs especially as an entry point for mature age students. Behrendt et. al. (2012) stated that most universities and students are supportive of enabling programs as a way to help Indigenous students to access university with a number of university programs considered to be successful in achieving outcomes for these students: "Indigenous-oriented enabling programs offer students the opportunity to transition to a degree course via a challenging academic program delivered in a culturally secure manner (submission no. 5, Murdoch University, p. 2)."

In 2010, over half of Indigenous students who entered university did so through enabling courses or special programs, not by virtue of their previous educational qualifications. The Behrendt et. al. (2012) report, in 2010 confirmed that only 47.3% of Indigenous students entered university on the basis of their prior educational attainment compared to 83.0% of non-Indigenous students (DIISRTE, 2012), meaning that over half of the Indigenous students who gained entry to university did so through enabling or special entry programs.

Several successful HEPP-funded partnership arrangements between universities and community stakeholders include those described in case study 3 *MAP4U program*, and case study 5 *Old Ways, New Ways*. These case studies show that through these programs, universities are dealing with challenges that are facing young people, including Indigenous youth and the need for intensive, long-term, labour-intensive interventions to demystify higher education. Explicit guiding principles such as community engagement, social inclusion, and youth participatory action research based on understanding the unique characteristics of the local learning environment are key drivers. Activities include peer-supported learning, demonstrator training, as well as positive role models to inspire academic success and develop confidence, leadership, mathematical, scientific and communications skills.

Ensuring adequate transitional arrangements between school, VET and higher education

Increasingly in Australia there are a number of dual sector institutions offering programs ranging from Vocational Education and Training (VET) through to post graduate degrees. This allows students to undertake cross sector skill electives, articulated pathways and dual qualifications.

Institutional responsiveness to student diversity and degree of inter-sectoral collaboration varies between Australian States and Territories and institutions since "institutional performance in facilitating access for under-represented groups is not uniform across the sector (Bradley et. al. 2008, p. 33, cited in Watson et al., 2013). Proportionally more technical and further education (TAFE) students transfer to the 'regional' and 'technological universities' and fewer to the prestigious Group of Eight universities (Abbott-Chapman 2007). The 'academic' or 'vocational' subjects chosen at school influence future education and training pathways, employment, earnings and life chances (Hoelscher et al. 2008) and VET students are under-represented in professional faculties such as medicine, dentistry and law and over-represented in engineering, technology, business and education (McLaughlin et al., 2013).

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Watson et al (2013) called for institutional policies and practices that focus on how VET to higher education pathways are constructed, as well as to provide extensive academic and pastoral support for VET award holders, particularly during their first year of study. More importantly, the authors highlighted that universities that address these issues may be more successful in supporting VET award holders through to the completion of a degree. More positively, survey responses indicate that "universities appreciated the challenges of an increasingly diverse undergraduate student body and many are offering an increasing array of support services that may assist VET award holders who are struggling to make a successful transition" (Watson et al., 2013, p. 61).

Additionally, universities are assisting the successful transition of VET students through the provision of academic support programs, and many universities have systems in place to flag students who are academically struggling or 'at risk' (Watson et al., 2013). Other forms of support include free bridging courses at the beginning of each semester and online diagnostic tools that test student level of competency in key areas such as English and maths. More extensive assistance is also offered through university Teaching and Learning Centres for a range of academic and social support services and programs (Watson et al., 2013). A project conducted at Charles Sturt University and the University of Western Sydney, found that VET students articulating into university can experience significant stress due to many social factors (cited in Watson et al., 2013, p.). These include heavier-than-expected study loads; balancing study and work demands, learning academic conventions and negotiating new administrative processes and online learning systems (Catterall & Davis 2012). This project identified four areas of support required for these students: academic literacy; numeracy; familiarisation with the learning environment of higher education; and general pastoral care (Catterall & Davis 2012, cited in Watson et al., 2013, p. 50). Many universities have now addressed these factors through their student academic support programs and are having an impact on student success rates.

Case study 4 The DEAP program is program targeted at Year 7 to 12 students with activities to encourage aspiration for post-school education by improving academic capacity, exposure to innovative experiential learning, developing higher education pathways, preparing for higher education transition, parental engagement and special entry access scheme (SEAS) workshops. Parents, carers, families and community organisations are involved with the engagement process. This HEPP-funded project illustrates the necessary multi-faceted social ecological influences that large-scale projects must have when assisting students in understand and participating successfully in the different pathways that are available to transition into higher education.

Embracing digital technologies and digital learning

Given that online education and digital learning has become the norm, Abbott-Chapman (2011) points to a re-think on the relationship between regional and urban communities and educational institutions. More poignantly, the digital revolution can provide digital learning opportunities for disadvantaged and advantaged students, provided students can access hardware and software, and their take-up and engagement is supported:

> "Flexible and online delivery means that globally connected learning spaces are activated by the learner rather than the teacher, and the teacher acts as facilitator, preparing and supporting students enabling them to create their own learning biographies" (Abbott & Chapman, 2011, p. 68).

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However, exploring the potential of digital technologies and digital learning must be done in parallel with broader system changes to Eurocentric curricula and pedagogies that often fail to accommodate Indigenous knowledges and practices (Behrendt et al 2012; David et al 2013).

While partnerships in education and training are also strengthened through the provision of flexible, online and distance learning and shared university and TAFE campuses, there is also better access for more remote communities via satellite bandwidth allowing mixed modes of access to, and participation in, education (Vodic et al., 2012; Watson, 2013); Williams et al., 2007). However, it is important assumptions are not made about sufficient bandwidth availability and accessibility in remote settings, as this may only be available to a selected few individuals or organisations. The combination of face-to-face workshops and online delivery in 'blended learning' have been found to be most appropriate for under-represented learners, especially when there is a need to accommodate cultural sensitivities, such as for Indigenous students (Anderson et al., 2007; Latham et al., 2009). Craven and Dillion (2015) also claim external modes of attendance is clearly of benefit in facilitating Indigenous students to participate in higher education, and is a way forward in addressing the under-representation of Indigenous students in higher education from remote and geographically isolated communities. External modes of attendance could also be potentially beneficial for enabling Indigenous students to navigate the complex terrain of juggling family life, community responsibilities and financial issues of economic disadvantage while pursuing higher education degrees. For this reason, learning from institutions that have a long history of engaging Indigenous tertiary students using a range of modalities is important.

A successful model used by one university to engage students online through a HEPP-funded project is illustrated in Case study 6 *UNI4YOU*. Here the university engaged prospective higher education students through schools, early childhood centres, child and family services and similar organisations to promote and encourage potential adult participants to engage in online higher education study. This was complemented with activities such as home visits; information on higher education pathways; academic and social support including resources such as childcare, text books, *wifi* and computers.

Conclusion

Our challenge is to provide more opportunities for all students but especially Indigenous students with the ability to engage in education the opportunity to do so. Such engagement and retention programs, are delivered by universities to encourage student interest in education by reinforcing positive relationships with teachers, fellow students, family and the wider community.

This strategic review demonstrates that it is important to provide adequate educational offerings and pathways; encourage sufficient and appropriate family and community engagement practices; and adequate access to online education and digital learning environments to deal with geographical isolation associated with living in regional and remote Australia. These programmatic design features are consistent with what is considered to be best practice within academic scholarship. It is evident that universities are dealing with challenges that are facing young people, including Indigenous youth through suitably tailored programs. It is also clear that there is need for intensive, long-term, labour-intensive interventions to demystify higher education. Success is achieved through community engagement, social inclusion, and understanding the unique characteristics of the local learning environment. These programs work best if they include peer-supported learning, demonstrator training, as well as positive role models to inspire academic success and develop confidence, leadership and communications skills. We are less confident in stating which of these goals are more significant under which

conditions and why. There is also insufficient evidence to confidently assess which strategies are more successful than others. Further research and evaluation in this area is required.

Governments, secondary schools and post-secondary institutions have continued to develop support systems for students through numerous programs. That effort needs to be maintained and the outcomes for students improved. While there is room for improvement in completion rates, the great majority of students who commenced their degrees in 2005 have now completed their studies and in 2015 are likely to be in the workforce or have proceeded to further study. For these students, their higher education will be the key in allowing them to unhook themselves from socio-economic disadvantage. This can provide new opportunities for them to realise their potential and contribute to Australia's social and economic prosperity in different ways (Trinidad cited in Edwards, 2015).

By having a more nuanced understanding of these issues and having such models to follow, we can help guide future policy and program strategy development focused on improving higher education access and achievement outcomes for under-represented groups, particularly Indigenous learners. In addition, a whole of institution approach is required (see Behrendt et. al., 2014), whereby the culture and operations of universities need to be sufficiently flexible to accommodate the needs of different student cohorts.

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