

# Chapter 14

## The Impact of Enabling Programs on Indigenous Participation, Success and Retention in Australian Higher Education

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### Introduction

Indigenous people remain extremely under-represented in Australian higher education. Despite a substantial increase in the overall number of Indigenous university enrolments since the demand-driven system was introduced, representation remains well below population parity (cf. Department of Education and Training 2015; Wilks and Wilson 2015). Along with participation rates, the university success and retention rates of Indigenous students are also relatively low (Behrendt et al. 2012). The causes of this under-representation and under-achievement have been well-documented. At one level, the relatively low secondary school completion and achievement levels of Indigenous people help to explain under-representation at the next level of education. At a deeper level, educational outcomes reflect broader disadvantage, historical exclusion and discrimination, and a system of education in which respect for culture and diversity often remains limited (Liddle 2016).

Australia's colonial past and history of dispossession makes Indigenous people an important area of policy focus for Australian higher education, and in social and

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economic policy more broadly. Indigenous Australians hold a connection to the continent that stretches back tens of thousands of years, but their exclusion from Australian society is demonstrated by being omitted from census population counts until 1967 and denied voting rights until 1962. Indigenous Australians now comprise between 2.5 and 3% of the Australian population. As contemporary society seeks to redress historical injustices, education is seen as critical to closing the gap evident in social and economic indicators between Indigenous and non-Indigenous Australians.

Many Australian universities now operate enabling programs to increase the participation, achievement and retention levels of Indigenous (and non-Indigenous) students. These programs typically involve free tuition and provide under-represented and other students with specific academic preparation before they transition to undergraduate study. In this chapter, we examine the impact of enabling programs across the Indigenous student continuum in higher education, drawing on national data provided by the Australian Government Department of Education and Training.

## **Enabling Programs: General Purpose and Design**

Enabling programs are designed for a wide range of students; however, a significant number are designed specifically for Indigenous students. This is in recognition of the fact that while there are some similarities in the educational participation patterns between Indigenous people and other groups of under-represented students, there is likewise evidence of distinctive challenges for Indigenous people (James et al. 2008). We argue that enabling programs have contributed to broader university access for Indigenous students, and also to higher retention rates than Indigenous students who enter university directly through undergraduate programs. The extent to which the efficacy of enabling programs can be quantified is an issue we address in this chapter.

Enabling programs are diverse, and we begin by explaining their nature and context within Australian higher education. Many enabling programs cater to a wide range of students, from school leavers whose achievement is insufficient for their university course of choice, to mature age students returning to study after an absence of many years (Hodges et al. 2013). Alongside these broader programs are more specific ones, some of which are designed explicitly for Indigenous students. Indigenous students face particular issues within Australian higher education and we provide a brief overview of this context, including recent attempts to address inequity and improve educational outcomes. Enabling programs have been a central element of university attempts to improve educational equity, so examining their efficacy for Indigenous students is timely. We then outline our specific research based on an Australian Government Department of Education grant that examined national data on university participation, success and retention. We address each of these elements in turn, finding the impact of enabling programs to be significant on

higher education Indigenous participation and retention, though not without certain issues.

There are various alternative pathways to Australian higher education for students who do not qualify for direct entry into undergraduate programs (Andrewartha and Harvey 2014). These pathways include sub-degree programs such as diplomas, advanced diplomas and associate degrees, which may be provided either by universities themselves or by vocational education and training (VET) providers. Most sub-degree programs incur some cost to the student and offer a qualification that is typically counted as credit towards undergraduate study (Lomax-Smith et al. 2011). Enabling programs differ from these programs in that they do not lead to a formal qualification and they are usually provided to students with free tuition.

The quality of tertiary education provision is guided by the Australian Qualifications Framework (AQF) which was established in 1995 to monitor the quality of Australian qualifications (Wheelahan 2011). Higher education and VET programs, including those at sub-degree level, are typically bound by the Framework which ensures consistency of provision as well as quality. However, enabling courses are not part of the Australian Qualifications Framework and are not subjected to the same level of scrutiny or control as other programs of study. Some enabling programs operate over a full year, others only for a matter of weeks, some are delivered to distinct groups (e.g. Indigenous; mature age), and some are delivered online (Andrewartha and Harvey 2014; Cocks and Stokes 2013). A recent report into higher education financing noted that as enrolments in enabling courses have increased, the loading paid per student has decreased. In 2005, the rate per full-time student was \$3592; this had dropped to \$2044 by 2011, a reduction of 43% in the rate per student over this period (Lomax-Smith et al. 2011). Yet no review into the quality of education provision within enabling programs as a result of this reduction was undertaken. The major review of Base Funding, the Australian Government's review of the demand-driven system, and the major review of Indigenous education in Australia all highlighted the paucity of data and evaluation of enabling program quality and effectiveness (Lomax-Smith; Norton/Kemp; Behrendt).

Recognising an evidence gap, a national report into the funding of higher education, commissioned by the Australian Federal Government, recommended examining the effectiveness of pathway-enabling programs in comparison with the many other pathways to higher education (Lomax-Smith et al. 2011). Subsequent research by Hodges et al. (2013) focused on attrition *within* enabling programs, arguing that some attrition was both inevitable given the distinctive 'open door' nature of the programs and even positive given that students who decided not to pursue study were saved from student debt that would have accrued had they enrolled directly into a bachelor degree. Despite this study, and other evaluations at the program level (cf. Andrewartha and Harvey 2014; Cocks and Stokes 2013; Hall 2015), little analysis has been undertaken at the national level of the retention rates and university success of students who transition from an enabling program. Moreover, no previous analysis has been conducted of the effectiveness of enabling programs compared with other university transition pathways, such as vocational education and training (VET) sub-degree programs.

## Enabling Programs: Relevance to Indigenous Participation in Higher Education

The larger research project from which this chapter derives considered the effectiveness of enabling programs for a wide range of under-represented student groups. One of these groups was Indigenous students, who have been explicitly referenced in higher education equity policy since the early 1990s (cf. Department of Employment Education and Training 1990). For Indigenous students, enabling programs have been particularly important in raising historically low university participation rates. Indigenous participation in Australian higher education is relatively recent, with the first Aboriginal Australian graduating from an Australian university in 1959 (Anderson 2016). Following three decades of minimal growth, university enrolments began to increase in the twenty-first century, and the past decade has seen substantial overall growth in Indigenous university participation, supported by rising school retention rates. The most recent figures indicate that over the past decade there has been a 70% increase in the number of Indigenous students in higher education award courses (Commonwealth of Australia Department of the Prime Minister and Cabinet 2016). One assumption is that the growth that has occurred has been largely facilitated by enabling programs. One recent estimate was that ‘around 70% of Indigenous students gain entry to higher education through special entry programmes’ (Devlin and James 2006, p. 12) and another reported that ‘over half of the Aboriginal and Torres Strait Islander students who gained entry to university did so through enabling or special entry programmes’ (Behrendt et al. 2012, p. 49).

In addressing the evidence base, our own study has consciously sought to measure the effectiveness of enabling programs by their contribution to university success and retention beyond participation rates. In Australia, the capacity for universities to deliver enabling programs is largely determined by support from the Federal Government and this support is not unconditional. The most recent policy signals are that alternative, sub-bachelor pathways may be preferred in the near future. Following the 2013 review of the higher education funding system it was argued that there was ‘a strong case for expanding access to sub-bachelor pathway courses ... in combination with the inclusion of non-university higher education providers’ (Kemp and Norton 2014, p. 70). These include vocational education and training provider courses and diploma and advanced diploma courses offered by both public and private providers. Unlike enabling programs, these come at a cost to the student and at times that cost is not insignificant. The need for a broad evidence base as to the efficacy of enabling programs is particularly relevant to Indigenous students. As Anderson (2016) notes, the prevailing public priority in recent years has been to increase the participation of Indigenous university students, but strategies are required across all points of the education continuum, particularly to boost completion rates. Similarly, Liddle (2016) argues that universities have focused on getting Indigenous students ‘through the door’ more than they have addressed necessary support and cultural change to ensure student success and completions.

In this chapter, we seek to provide greater clarity as to what role one of these pathways – enabling programs – plays in providing higher education access *and* success for Indigenous students.

## Approach to Study

This chapter draws upon research conducted as part of a wider study into the efficacy of higher education enabling programs in Australia. The wider study considered the implications for six groups of students formally defined as experiencing higher education disadvantage<sup>1</sup>; this chapter considers the findings specific to Indigenous students. The study adopted a mixed-methods approach, drawing data from three sources. First, an analysis of enabling pathways provided by Australian higher education providers was conducted between March and July, 2015. For each higher education provider, the institutional website was searched for information regarding alternative pathways to institutions and from these searches relevant enabling or enabling-like programs were identified. The structure of each program was analysed and compared in regards to age requirements, population targeted (e.g. Indigenous students), mode of study (e.g. online, campus), associated costs and which undergraduate courses could be accessed following completion of the enabling program.

Second, the team obtained detailed quantitative data from the Australian Government Department of Education for the period 2009–2013. Relevant to this study the data included: a count of the number of Indigenous students enrolled in undergraduate studies; a sub-count of Indigenous students for which the Department had recorded a previous enrolment in an enabling course; retention rates for the students and success rates for each of the equity groups. Prior enrolment in an enabling program is likely to be a significant factor in the subsequent enrolment of students in a bachelor program. However, because Australia's higher education standard data collection does not include 'enabling program' as a category of 'basis of admission to a new course', one cannot exclude from this study's analysis that students who had undertaken an enabling program have subsequently been admitted on the basis of other criteria.

The third source of data came from a national survey of students who were enrolled in undergraduate studies, to which they had been admitted on the basis of prior enabling studies. The broad aim of the survey was to establish demographics, motivations for choosing the enabling pathway into higher education, and perceived experience and satisfaction with the relevant pathway. However, as the response rate from Indigenous students was relatively low, the findings from this data source are not included in the discussion in this chapter.

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<sup>1</sup>For the purposes of Australian Government higher education policy, the six groups of 'equity' students are people who: are Indigenous; are from low socio-economic status backgrounds; have a disability; are from regional and remote areas of study; are from a non-English speaking background; and are women enrolled in non-traditional areas of study (e.g. science, engineering).

## Scope and Delivery of Indigenous Enabling Programs in Australian Higher Education

The Australian Federal Government provides funding to universities to assist them in providing enabling programs, which are required to be tuition-free to domestic students. The funding is provided at the aggregate level only, and it is left to each institution to decide what type of enabling program to run and whether or not to target specific groups of students. In the year this survey was conducted (2015), a total of 48 enabling programs were offered by 27 out of 38 of Australia's higher education institutions. Of these, 14 institutions ran programs specifically for Indigenous students. There was no apparent relationship between institutional profile in regards to Indigenous students and whether or not an Indigenous-specific enabling program was offered. Eight of the fourteen universities running these programs had Indigenous enrolments above the sector's average; six were below. The converse was also true, with several institutions with high levels of Indigenous student enrolments not providing an Indigenous-specific enabling pathway. With the exception of one institution with the primary organisational purpose of delivering education to Indigenous students, the decision on whether or not to offer an Indigenous enabling program appeared to be based on other criteria, such as historical circumstances or internal advocacy.

In line with the aim of widening access and participation to higher education, the target audience for the programs was generally quite large. As one university stated 'The course is suitable for recent school leavers and mature age students who have not previously studied at university' (Edith Cowan University [n.d.](#)). Confirmation of indigeneity was approached in different ways. Some universities simply asked for a confirmatory statement (i.e. 'Are you of Aboriginal or Torres Strait Islander origin?'). Others approached the issue more formally:

While Aboriginal and Torres Strait Islander identity is unique and sacred to every person, future students applying for entry into all Nura Gili Indigenous Programmes are required to provide proof of their Aboriginal or Torres Strait Islander heritage. [We will accept] a letter of confirmation of Aboriginal or Torres Strait Islander descent provided by an Indigenous community organisation [or] a statutory declaration. (University of New South Wales [n.d.](#))

The programs' stated aims typically explicated two key goals. The first goal was academic, namely, to develop the requisite scholarly skills to succeed in higher education or, as one university put it, to 'develop the academic skills necessary to succeed at university level [and] develop different learning methods and skills, including problem-based learning' (University of Newcastle [n.d.](#)). The second objective was attitudinal; that is, the programs sought to provide a culturally safe environment in which the students could develop confidence and a sense of belonging in a higher education environment. As one university manager outlined, 'The student will be encouraged to explore their own reactions to the stresses of University life and to develop strategies for managing their involvement in study so as to maximise their success' (University of Canberra [n.d.](#)). However, in many cases the avowed goals of the enabling program extended beyond the individual towards

wider, socio-cultural ambitions. For example, the program notes for a pre-medicine enabling program as one university explained:

There are an estimated 204 doctors in Australia who are Aboriginal and/or Torres Strait Islander, with another 310 in training. To provide the Indigenous population with access to an Indigenous medical practitioner, at a similar level of availability as non-Indigenous doctors to the non-Indigenous population, would require around 1,000 doctors. The Indigenous Entry into Medicine Scheme at the University of New South Wales (UNSW) aims to play a significant part in redressing the existing imbalance. (The University of New South Wales 2015)

Across the enabling programs nationally, course content was delivered via a mixture of classroom and online teaching. In line with the goal of building a sense of belonging in a university environment, there was a strong preference for classroom delivery, either across a semester or in block-teaching mode. For some higher education institutions this provides a significant challenge. For example, Australia's Northern Territory (NT) has an Indigenous population approaching 30% of its total population, by far the highest of any state or territory (Australian Bureau of Statistics 2014). There were two higher education institutions located in the NT, jointly delivering an Indigenous enabling program in multi-mode delivery: face to face workshops followed by online work, completed at home. The course is available in only two locations across a territory almost 1.5 million square kilometres in area and with the lowest population density of any state or territory of Australia. To address this challenge, the institutions provide funding to cover travel and accommodation costs for eligible students, if they are required to travel from their permanent home to undertake their studies. Other institutions also provided scholarships to help students financially while they are studying in the enabling program.

Post-enabling pathways tend to be generic, rather than specific. As one university advised '[The enabling course] gives you the minimum entry requirements to most [of our] degrees, upon successful completion you will be ready to apply for admission to a wide range of [our] diploma and degree courses' (Charles Darwin University n.d.). The diversity of post-enabling outcomes reflected not only the design and delivery of the enabling program itself but also the course offerings and pedagogical design of the higher education institution. For example, in 2012, the University of Western Australia adopted a new course structure, creating four generic undergraduate degrees (arts, commerce, design, science), with specialisation (e.g. law, medicine, nursing, etc.) occurring at the subsequent, postgraduate level. Consequently, students completing an Indigenous enabling program were eligible for entry into any undergraduate degree and from there, any postgraduate degree. However, most other universities provided qualified articulation into general course programs. Elsewhere, some provided alternative streams within the enabling program, such as the University of New South Wales which offered Pre-Business, Pre-Education, Pre-Law, Pre-Medicine and Pre-Social Work programs.

**Table 14.1** Higher education Indigenous student population: undergraduate

Year	Total Indigenous students enrolled in undergraduate courses	Number of Indigenous students who had previously undertaken enabling courses			Indigenous students articulating from VET courses
		Indigenous-specific enabling course	Generic enabling course	Total <sup>a</sup>	
2009	2903	154	102	257 (8.9%)	263 (9.1%)
2010	3216	203	114	322 (10.0%)	321 (10.0%)
2011	3453	194	138	418 (12.1%)	338 (9.8%)
2012	3709	176	128	476 (12.8%)	320 (8.6%)

Source: Australian Government Department of Education and Training project data

<sup>a</sup>Total is greater than the sum of sub-counts as institutions <5 students suppressed from sub counts (data suppressed for privacy/confidentiality reasons)

## Post-Enabling Higher Education Success of Indigenous Students

While high levels of attrition are to a degree acceptable – perhaps even desirable – in the enabling program itself (cf. Hodges et al. 2013), the efficacy of an enabling program can be measured to a high degree by the performance of the student in their subsequent studies. To measure this performance, data were obtained from the Australian Government Department of Education and Training, relating to the 2009–2012 academic years. These data provided detailed retention and success rates of Indigenous students in Australia’s higher education institutions and further identified which of these students had been enrolled in an enabling program either the year or semester immediately prior to enrolment in the bachelor degree course. The breakdown for each of the years was as follows.

### *Volume*

As Table 14.1 shows, enabling programs are an important pathway for Indigenous students. To illustrate this, a comparison is provided showing the count of Indigenous students articulating via VET qualifications in the same years. On average, VET transitions more students to higher education than any other alternative pathway (other than Year 12 studies). Across the four years, the enabling sub-population was, on average, almost 20% larger than the VET population for Indigenous students. This was a significant difference, given that VET providers are more ubiquitous, both in number and location. It is also noteworthy that this was a trend that was

**Table 14.2** Enabling-pathway students as a proportion of overall group's population in higher education

Equity Group	Total undergraduate enrolments 2009-2012	Number of students who had previously undertaken enabling courses	%
Indigenous	13,281	1242	9.4
Disability	35,274	2320	6.6
Regional and Remote	184,234	11,562	6.3
Low-SES	147,139	8951	6.1
Non-English-speaking background	29,769	1474	5.0
Women enrolled in non-traditional areas of study	23,906	755	3.2

Source: Australian Government Department of Education and Training project data

unique to Indigenous students since in general, more equity-group students access higher education through VET than enabling courses. For example, in the same period, 8951 students from low socio-economic backgrounds utilised the enabling pathway, compared to 19,597 via VET. Similarly, 11,562 students from regional or remote locations transitioned via enabling, compared to 19,290 via VET. The same trend was true for students with disabilities, students from non-English speaking backgrounds and women enrolled in non-traditional areas of study. Thus, despite their relative scarcity in available-enrolment number terms, enabling programs are an important means of transitioning Indigenous students into higher education, and the role they play – compared to other pathways – is greater than for other groups of students.

Table 14.1 also indicates how many students transitioned through an Indigenous-specific, compared to a generic, enabling program. This analysis is a qualified assumption as, generally speaking, universities recognise only their own enabling program for articulation into further higher education studies. Even though Indigenous-specific enabling programs were available at only 14 institutions (i.e. approximately 36% of institutions), institutions with Indigenous-specific programs were responsible for transitioning 50% more Indigenous students in the four-year period reported, than generic programs.

The importance of the enabling pathway for Indigenous participation in higher education is highlighted further in Table 14.2. More than any other equity group, a larger percentage of Indigenous students in the four-year period analysed utilised this pathway. In the four-year period examined, almost one in ten Indigenous students enrolled in an undergraduate degree had transitioned via an enabling program.

## ***Retention and Success Rates***

Retention rates were calculated as the number of students who commenced a bachelor course in year (x) and continued in year (x+1) as a proportion of students who commenced a bachelor course in year (x) and did not complete the course in year (x). Success rates were calculated as the proportion of actual student load (EFTSL) for units of study that were passed, divided by all units of study attempted (passed + failed + withdrawn).

To examine the statistical significance of the difference in retention rates between the enabling (i.e. intervention) and overall (i.e. control) groups, Departmental data were converted into a series of tables to calculate effect sizes and statistical significance. Essentially, each table compared the aggregate retention/success rates for those enrolled in undergraduate degrees who had previously undertaken an enabling program, versus the overall group population; and then identified whether the difference between the two populations was statistically significant or not. The formulas used to calculate the effect sizes and statistical confidence intervals at the 95% level were based on the formulas outlined by Altman (1990). An odd-ratio test was used: for example, a positive odds retention ratio of 2 in the intervention group suggested these students were twice as likely to be retained as students in the control group.

This statistical analysis should be considered high-level, as it was only possible to control for one variable, namely, the basis of admission into the bachelor course. There are multiple other factors that impact upon academic achievement such as the educational background of a student's parents (Rich 2000). More importantly, the pre-tertiary academic achievement of the student is perhaps the most significant factor of all (cf. Gemici et al. 2014, 2013). In the Australian higher education sector, prior academic achievement is most commonly measured by the Australian Tertiary Admission Rank (ATAR), which is a calculation derived from student performance in Year 12 assessments. However, since a major goal of recognising enabling programs as a pathway to higher education is to provide an alternative pathway to students who do not have an ATAR, this rank was a variable for which we could not control.

Notwithstanding these caveats, the statistical analysis indicated a positive correlation between prior enrolment in an enabling program and subsequent retention in the bachelor degree program, for Indigenous students (see Table 14.3).

Over the four years, Indigenous students were between 1.13 and 1.59 times more likely to be retained after the first year of study if they had a prior enrolment in an enabling pathway. From a statistical perspective, these results were significant in two out of the four years. These findings indicate that enabling programs may be better at developing the confidence and resilience required by Indigenous students to persevere with higher education, than many other pathways to higher education.

Conversely, the analysis indicated a slight negative correlation between prior enrolment in an enabling program and subsequent success rates in the bachelor degree program, for Indigenous students; however, the findings were not statistically

**Table 14.3** Comparative retention and success rates of Indigenous students using an enabling pathway

	Retention rates (odds ratio)	Success rates (odds ratio)
Year	Enabling pathways compared to all Indigenous	Enabling pathways compared to all Indigenous
2009	1.42*	0.93
2010	1.59*	0.91
2011	1.13	0.80
2012	1.24	0.97

Source: Australian Government Department of Education and Training project data

\*Asterisk denotes a statistically significant result

significant in any of the years. In summary, the following statements reflect the findings:

- In two of the four years analysed, undergraduate retention rates were significantly better for Indigenous students who had previously enrolled in an enabling program, than for other Indigenous students.
- In subsequent undergraduate studies, there was no significant difference between the success rates of Indigenous students who had previously enrolled in an enabling program, than for other Indigenous students.

The analysis was also undertaken to compare the retention and success rates of the students coming through the Indigenous-specific versus the generic enabling programs. It was hypothesised that better retention and success rates might be experienced by those students coming through the Indigenous-specific programs. However, due to the complexities of comparing data at the disaggregated (i.e. institutional) level, compounded with a significant number of null counts for institutions reporting fewer than five students in any given year (in these instances, data are suppressed for privacy/confidentiality reasons), it was not possible to report any meaningful findings in this regard. Therefore, the assumption that Indigenous students may benefit more from being enrolled in a program specific to their needs requires testing.

## Findings and Implications

Enabling programs play a distinct, important and growing role in providing an alternative pathway to higher education for Indigenous students. The proportion of Indigenous undergraduate students who utilise this pathway is larger than that of any other equity group recognised in Australian higher education policy. Furthermore, Indigenous-specific enabling programs are almost unique in the sector in providing a tailored program for a distinct group of students. Consistent with the Behrendt Review (Behrendt et al. 2012), we found that enabling programs are central to the subsequent undergraduate participation of Indigenous students, and are

indeed the most prominent means by which these students access university. Ongoing Indigenous under-representation suggests a need to continue and expand support for enabling programs. However, as Liddle (2016) has noted, there is also a need to move from getting students 'through the door' towards a greater focus on cultural change and support for student success and retention.

In analysing the impact of enabling programs on subsequent undergraduate retention, we found that enabling programs are clearly correlated with above-average Indigenous undergraduate retention. These results suggest that enabling programs are developing the requisite attributes of resilience and confidence for the students to persevere in subsequent higher education studies. However, it is less clear whether the academic scaffolding provided in these programs is preparing students to successfully complete their undergraduate subjects and progress in their studies in a timely manner. The reasons for the greater impact of enabling programs on undergraduate retention rather than success remain unclear. It might be that the design of enabling programs is well-constructed in terms of developing resilience in Indigenous students, but less so in developing core academic skills. Equally, since enabling programs are targeting the most academically disadvantaged group of Indigenous students, who have the greatest obstacles to overcome, their subsequent unit completion rates could be expected to be similar to, or even lower than, other students. This is an assumption that needs to be explored through further research, but is supported by the evidenced correlation between socio-economic status and academic performance (cf. Palmer et al. 2011). It may also be that, by taking a holistic approach to curriculum, enabling programs offer Indigenous students support and skills that realise benefits that extend beyond the Academy. Nonetheless, universities themselves need to remain focused on improving academic preparedness, even though enabling programs are clearly developing perseverance which itself ensures that many students complete their degree despite sub-optimal success rates. This need is particularly important when the programs are taxpayer-funded and the associated accountabilities are taken into consideration.

Our study suggests that the overall numbers of Indigenous students participating in higher education in Australia limit the extent and value of descriptive analyses. This in itself is an important, though concerning, finding. If Indigenous students achieved parity of enrolments at the undergraduate level, this would represent, approximately, an additional 9000 Indigenous students enrolling each year. If current enabling loads were maintained, almost 900 of these students would be transitioning via an enabling program. Our analysis broadly supports a positive correlation between the enabling program pathway and subsequent retention in higher education studies, suggesting a need to support and expand the provision of enabling programs. Clearly, data based on more robust enrolment levels would provide an even stronger basis for advocating greater student load towards Indigenous enabling programs.

Although our findings found little statistical difference between Indigenous-specific and generic enabling programs, further research on these different approaches is clearly required. The prevalence of Indigenous-specific enabling programs reflects an approach to support that extends beyond the improvement of

specific academic skills or the development of attributes to promote a general sense of 'belonging' in a university setting. Beyond that, Indigenous-specific enabling programs are designed to provide a culturally safe and contextual environment in which Indigenous students can be more fully supported in the critical transition stage to higher education. The extent to which these objectives are being met is unclear from our research. Similarly, there is a need for further research to be undertaken that considers how Indigenous students in general in enabling programs are being supported. Do these Indigenous students receive comparable levels and types of support and, if so, in what ways? Such options could be crucial for certain institutions without the capacity to provide an Indigenous-specific program of their own. Many of the differences between Indigenous-specific and generic enabling programs remain unclear and under-researched.

Further research is also required into factors that improve or reduce odds of success for Indigenous students completing higher education studies. It is clear that support does and should not cease once the student has completed the enabling program. Ongoing academic, cultural and social support is required to assist students throughout their course. More research is required into the reasons behind the apparent lack of differences in the success rates of Indigenous students who did/did not undertake an enabling program. While this study has been important in providing the aggregate picture, policy-makers and practitioners require greater insight into disaggregated factors. These factors include whether the delivery of Indigenous programs varies significantly at the institutional level, including which demographics of students benefit more or less from enrolment. Further study could also be undertaken into whether the improved retention rates arising from the enabling programs translate to improved completion rates, even when lower success rates may expand the time in which this occurs. We know that on the whole, Indigenous students have lower completion rates than other student groups (cf. Department of Education 2015). However, we need to analyse more whether these completion rates vary significantly depending on the initial pathway the student took into higher education.

The findings of this study support the argument for greater investment into enabling programs, particularly for Indigenous students. There is a demonstrable link between participation in enabling programs and subsequent participation in higher education. There is also a clear link between enabling program enrolments and improved retention rates in subsequent higher education studies. While it is less clear whether academic success is improved as a result of this participation, there is no evidence that it is lowered to any significant degree. Furthermore, it must be remembered that, by definition, enabling programs enrol students who have experienced significant educational disadvantage, and therefore measuring their academic success against higher achieving Indigenous students who transitioned directly into undergraduate studies is in some respects incommensurable. Given the benefits experienced by Indigenous students enrolled in enabling programs, the issue of supply needs to be considered more closely by policy-makers. Currently, enabling programs represent less than 1.5% of all student load in Australian universities and the proportion of enabling load taken by Indigenous students, in both specific and

generic enabling programs, is much less than that. Based on the data used for this study, we would estimate that Indigenous enabling student load is around 0.25% of the total higher education student load. The current logic for allocating enabling load to Australian higher education providers is based on a mixture of historical actions, government policy imperatives and internal organisational strategic decision-making processes. It is also seen as only one of a number of options in providing alternative pathways to higher education. However, the reality is that most of the alternatives to enabling programs require a significant financial contribution by the student, which is a determining factor for many as to whether or not to attempt higher education studies. The findings from this study reinforce the unique role played by enabling programs in opening a meaningful pathway to higher education for many Indigenous students.

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