# The Critical Interventions Framework Part 3: Programs and approaches that enable equity in higher education

## Equity Initiatives Impact Studies Guide

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## Executive Summary

This report, known as the *Equity Initiatives Impact Studies Guide*, provides an overview of recent equity interventions in Australian higher education which have demonstrated effectiveness across different stages of the student life cycle for identified equity groups through published impact studies. The report also presents an updated *Equity Initiatives Framework* (EIF 2.0), which can be used in concert with the other resource developed during the project, the *Equity Studies Library*; all of which are intended for use by providers to enhance the provision and evaluation of equity programs.

This project focused on evaluative studies detailing the impact of interventions or programs, to highlight the mechanisms which have enabled students from equity groups to gain access to and succeed in higher education. Without these interventions, as many of the studies discuss, it is unlikely that the various gains made for the inclusion and success of equity groups in higher education achieved so far would have occurred.

### Key points and implications

Overall, from a high-level view, the following are shown to be critical equity enablers.

- **Partnerships and collaborations**: in Pre-access, Access and Participation stages, strong university partnerships and collaborations with schools, vocational education and training (VET), and communities and industry are shown to work to redress the significant impacts of inequalities which exist within and persist across the systems and employment sectors.
- **Flexibility**: in initiatives and learning design is required, including through engaging online resources.
- **Inclusivity**: in all programs, courses and pedagogy (including for employability). They need to be strengths-based and clearly value First Nations Australian knowledges. This is also important for enabling new knowledge to be produced (through research and innovation) in order to better serve all people's needs.
- **Embedded academic and other support**: academic and other support embedded *within* courses and programs of learning ensure all students have the information, opportunity and assistance to succeed.
- **Financial support**: is effective for attracting and retaining students. Financial barriers and related impacts, such as having enough time to attend to study, appear to be the most consistently reported barrier to equity participation, progression and completion particularly during the Access and Participation stages.

#### Key trends

- People from equity backgrounds continue to be under-represented in higher education, despite growth in absolute numbers.
- First Nations student participation in higher education has demonstrated substantial gains, while there are continued significant challenges for First Nations peoples.
- Institutional stratification continues to persist, particularly for students from low socio-economic status (LSES) backgrounds and rural, regional and remote (RRR) areas in Go8 institutions, although the inclusion of First Nations students has made considerable ground.

- Some groups—LSES, RRR and NESB—may be decreasing in participation relative to the sector as a whole. These trends also need to be considered in relation to wider financial struggles for these populations and in relation to impacts from COVID-19.
- Despite only slightly lower success rates, students from equity backgrounds experience lower 6-year completion rates. Despite improvements for RRR and First Nations students, 6-year completion rates for students from LSES backgrounds and students with disability have not improved.

### Key design principles and approaches

- Achieving parity will not be possible without ambitious institutional strategies for equity, especially in all pedagogy and curriculum design.
- Equity needs to be deeply embedded in student services. Targeted and comprehensive institutional approaches are essential.
- Funding and institutional structures to support First Nations students' access and success are vital.
- Inclusive and equitable employability strategies need further development and should involve consultation with students.
- Limiting assumptions about the capability of students from disadvantaged backgrounds, described as starting early in schooling, continue to present profound limitations. Interventions which challenge stereotypes about which groups should aspire to and are capable of learning at university, make a difference to students considering higher education.
- Mentors, peers and role models have achieved significant impacts across the student life cycle, for showing that university is a meaningful and viable pathway for people who would otherwise not view it as an option, as well as for influencing success and completion across later stages.
- Many students struggle with 'lifeload'. Approaches which provide flexible time and online learning resources to assist them in juggling multiple commitments, are essential and impactful. On-campus attendance is reported to be an issue for many students due to insurmountable accommodation, transportation and mobility costs and issues.

## Key findings and recommendations by life cycle stage

### Pre-access

- The majority of impact studies focus on school student engagement programs, in both primary and high school. The successful initiatives described typically involve in-school, on country and/or on campus experiences. A combination of these locations, tailored to cohort activity, was identified as ideal.
- There are gaps in studies about interventions for non-school leavers, suggesting there is less activity for engaging with people post-school age.
- Lower performing and First Nations high school students are often not presented with the same opportunities and inclusion discourses and activities as high performing and non-First Nations students to 'imagine' university as an option, and thereby to consider and plan for undertaking higher education.
- Limiting academic and career self-concept and associated lack of confidence are described as often arising from equity group stereotypes and cultural biases. These

need to be both prevented (preferably in early school years) and addressed through educating those in school and wider communities.

- A strong correlation was found between university enrolments and positive high school student-teacher relationships. Policy initiatives aimed at providing and/or improving these are likely to result in expanded and more representative university enrolments.
- Building strong collaborative relationships with schools may not only increase interest in university but also improve high school retention and completion, also leading to greater access to higher education.
- The importance of in-high school career presentations and guidance, including by industry partners, feature as important for increasing the chances of university participation amongst young people, particularly those from equity backgrounds.

### Access

- People from LSES backgrounds often do not have the means to enrol in university or are discouraged due to their perceptions of the costs vs benefits of university, especially for the years during study. Availability and promotion of scholarships, bursaries, grants and other forms of financial support can encourage students to apply to university or progress through their studies. These aids help offset the costs associated with university, including lost employment and income during study or placement.
- A number of studies highlighted the importance of fee-free, open access enabling programs for ensuring access and later success in undergraduate programs.
- Comprehensive bridging courses and orientation programs are described as effective ways to prepare non-traditional students for study.
- Increasingly, universities recognise the impacts of inequities of academic performance in schooling on higher education access, with many alternative schemes and approaches to entry requirements emerging to ameliorate educational disadvantage.
- Navigating the transition between VET and higher education institutions can be challenging, due to complex pathways, and lack of information and support.

### Participation and Attainment

- Financial hardship is often cited as a reason for discontinuing study. Day-to-day study costs, including for travel to campus, are a significant challenge.
- Accommodation does not feature prominently in studies, although it is widely known that lack of accommodation and housing affordability are critical issues which impact on the ability of certain groups to study.
- Dedicated First Nations student centres provide important academic, social, emotional and cultural supports provided by First Nations academics and staff, as well as through First Nations peers.
- Studies indicate that scholarships influence equity student retention, as they provide both learning and psychosocial benefits, which make a difference. Scholarships have been significantly associated with pass rates for First Nations students.[1]
- Students living with disability face additional challenges for university participation due to low levels of institutional inclusivity.

[1] Scholarships have been significantly associated with pass rates for First Nations students; however, it is important to note that many scholarships are based on academic performance which are strongly associated with pass rates.

- Embedding inclusive pedagogies, curriculum and support into program and course design is essential. This normalises support for all students, improving engagement, completion and success (including to employment). This is more effective than expecting students to seek out and attend extra sessions or extra-curricular support programs, which students often report lacking the time and/or confidence to engage with. Incorporating Indigenous pedagogies, knowledges and approaches is not only essential for First Nations students, but also valuable for non-First Nations students.
- Online access has been reported to increase the ability of students to participate in and complete units where there are challenges with attending on-campus due to cost, work and other issues, and many students with medical or mental health conditions prefer to study online, as this allows them to engage when they are able to and from the comfort of home.
- The literature identifies that degree requirements relating to 'employability', such as Work Integrated Learning (WIL), internships and placements, pose significant issues and barriers for equity students.
- Some studies identify that many equity students are unaware of or have difficulty accessing the social capitals (e.g., people networks) gained through extra-curricular and other networking activities that provide advantages in a competitive employment market. Awareness raising and appropriate programs and opportunities need further development.
- Including transition interventions for postgraduate study is very important as these pathways, such as graduate certificates and diplomas, increase in availability. This is essential for those with the work experience to gain entry but with considerable time since last study or for those without a degree (students living with disability, from First Nations or non-English speaking backgrounds (NESB), and regional and rural groups might be particularly disadvantaged from being included or completing postgraduate qualifications and also in progressing into associated levels of employment).

Overall, the literature highlights that to progress equity into the future, approaches need to be embedded in an overarching equity-focused, inclusive higher education system, with policies and principles to guide institutions to prioritise and embed equity. Every unit of study and all pedagogies, curricula, approaches, supports and services across universities, need to be informed about and focused on equity. Too often, it has been the other way around, with students simply having to conform and change to survive in unchanging educational systems.

Investment in equity interventions so far have provided gains across several decades. To improve impacts, there need to be more incentives to universities through policy and funding mechanisms. These do not need to be expensive or elaborate but should develop incrementally to focus on a whole of system approach, as identified in the following sections in this report.

# 1. Introduction

This *Critical Interventions Framework Part 3* (CIF 3) report was commissioned by the National Centre for Student Equity in Higher Education (NCSEHE) – now the Australian Centre for Student Equity and Success (ACSES) - to identify equity programs across Australia's higher education sector that demonstrate effectiveness through published impact studies. This ***Equity Initiatives Impact Studies Guide*** provides an overview of the identified interventions and initiatives by stage of the student life cycle and further discussion of relevant literature from the field. It also incorporates an updated ***Equity Initiatives Framework*** (EIF), originally provided in the *Critical Interventions Framework Part 2* (CIF 2) published as *Equity Initiatives in Australian Higher Education: A review of evidence of impact* (Bennett et al., 2015). The EIF 2.0 is designed to aid funding and intervention decisions, guide activities, and serve as a general reference. These report components are part of a suite of resources, which also includes an ***Equity Studies Library*** in the form of a spreadsheet housing the impact studies identified and other relevant literature, which can be filtered by stage of the student life cycle, equity group, type of study or program and other information, such as methods used.

It is hoped that the insights and ideas provided in these resources serve to further inspire and stimulate ideas and continuous improvements for those funding, designing, developing, delivering and evaluating interventions.

An equity intervention is defined as a specific program, initiative or service which seeks to enhance the opportunities, access, participation, success,[2] retention and outcomes of students from targeted equity groups and other people who are under-represented or marginalised in Australian higher education. Equity is not about treating everyone the same; the concept of equity enables recognition of inequality and appreciation of difference. Education systems, including schooling and tertiary education, are implicated in complex and historically stubborn wider socio-economic inequalities. These systems do not provide equal chances for all people. That is why interventions in education, which work to ameliorate structural and other forms of disadvantage, are crucial. Embedding equity into higher education will increase the participation and success of all peoples.

Equity groups in the Australian higher education context are based on the Equity and General Performance Indicator framework (Martin, 1994). The six defined groups[3] are:

- people who identify as Aboriginal and/or Torres Strait Islander (First Nations/Indigenous);
- people who are from low socio-economic backgrounds (low SES/LSES);
- people with disabilities;
- people from non-English speaking backgrounds (NESB/CALD);
- people from regional, rural and remote areas (RRR); and,
- women in non-traditional areas (WINTA).

[2] As discussed in the CIF 2, student 'success' is formally described in datasets as having passed a unit of study, but it is also 'informally' described in the literature in terms of learnings gained and educational outcomes achieved, such as GPAs and degree completion. 'Success' is therefore understood in diverse ways, depending on the context. Other definitions provided by authors of impact studies and their participants differ according to the stage of the student life cycle.

[3] The evolution of nomenclature since these key groups were identified means that certain terms are used interchangeably in this report and the literature drawn on.

There is some varying language in the literature about different sub-groups related to these categories and also the significance of intersectionality. Whilst this review was based on available sector data groupings, we highlight that such categories are limited, complex and contested.

The four higher education student life cycle stages used in this report include:

- Pre-access – interventions within schools and communities
- Access – pathways and admissions (including Enabling pathways)
- Participation – transition, engagement, progression and completion (undergraduate and postgraduate)
- Attainment and further transition – employment and/or further study

There is great variety in the scope and type of equity and access programs in Australia. Many of them are supported by the Higher Education Participation and Partnership Program (HEPPP, established in 2010) which provides funding for strategies that are intended to improve access to and completion of undergraduate study for people from regional and remote Australia, low socio-economic status backgrounds, and First Nations students. The Enabling Loading Program (ELP) provides funding to universities to offer preparatory units that support students in non-traditional entry programs and schemes in the form of a tuition subsidy. Under the ELP, students are not charged the student contribution so that they have the opportunity to prepare and qualify for higher education.

The interventions identified through this study serve as exemplars of successful approaches that could be used to influence approaches elsewhere, while ensuring that specific participant/student needs are met according to context.

## 1.1 Rationale and limitations

In 2013, the NCSEHE commissioned *A Critical Interventions Framework for advancing equity in Australian higher education* (CIF) (Naylor, Baik & James, 2013) to review "evidence about good practice in equity interventions at multiple points in the student journey" (p. 14). The report presented a typology of equity interventions described in the Australian research literature and identified effective initiative types along the higher education continuum. The *Critical Interventions Framework Part 2* (CIF 2) study was commissioned in 2015 to provide detail about the evaluation of equity interventions as they have developed in higher education (Bennett et al., 2015).

The CIF 3 was commissioned to update the findings, changes, gaps and opportunities which have developed since the CIF 2 was completed. It is based on a rigorous, evidence-focused review of literature undertaken between April and August 2023 and designed to capture impact studies in the Australian higher education setting between June 2015 and May 2023. Based on the findings, the CIF 2 Equity Initiatives Framework has been updated to include changes and developments (see Table 1 and discussion below); it being essential that innovations for equity students along with continuity of successful interventions continue to be presented in an easy-to-use tool for decision-makers and practitioners.

Unlike the CIF 2, which included a national survey and follow up interviews with program providers, the CIF 3 has the sole aim of identifying impact studies that have been published or produced in the period identified. The systematic literature review was comprehensive but not

exhaustive with the express purpose of identifying and critically analysing evidence of impacts for equity students. The aim being to include studies about program impacts, particularly those occurring at scale and how others can leverage them, rather than on conceptual and thematic studies where information on specific interventions and programs are not a clear focus. However, it must be noted that there will be many other impactful interventions present across the sector that have not been captured by the review because they have not been the subject of empirical work that has been published or because they have not been identified during the literature search.

As can be seen from the tables provided in the sections on each of the student life cycle stages, there are some limitations in the amount of information that can be gained through a review of literature. This is largely due to the approaches to the structuring and editing of literature prepared for publication, which requires a specific and narrowed focus on particular themes aligned to journals and reports. This often reduces the full range of details that can be gained about both the interventions and their impacts. The limitations of the study, therefore, are such that reliance on only published materials means we do not have a full picture of all interventions across the sector. In addition, through identifying types, we do not infer that all categories within the typology are exactly the same. Instead, they are highly contextualised and, therefore, not easily compared.

## 1.2 Key equity reviews and frameworks

A number of key reports about equity interventions in the Australian setting have been produced in recent years, including the following of particular depth and breadth: ACIL Allen Consulting's (2017) *Evaluation of the Higher Education Participation and Partnerships Program* and Trinidad and Zacharias' (2017) *Higher Education Participation and Partnerships Program: Seven Years On*. Both provide a comprehensive suite of information and case studies about initiatives and impacts across the whole of the student journey. Furthermore, the *Student Equity in Higher Education Evaluation Framework* (SEHEEF) (Robinson et al., 2021) is currently being implemented by NCSEHE as a framework for structuring program design and evaluation in order to generate more robust evaluations of these interventions.

For important insights about both Australian and international initiatives, the *International Literature Review of Equity in Higher Education: Dismantling deficit in equity structures by drawing on a multidimensional framework* (Burke et al., 2023) provides a discussion about principles and conceptual approaches to equity across the stages of the student life cycle. For example, as outlined in Chapter 5 of this report, critical insights about the financial support of students are provided. Burke et al. (2023) emphasise the importance of understanding that widening participation in higher education needs to focus on inclusive pedagogies and curriculum, not changing students to fit into entrenched unequal systems and structures which reproduce inequitable outcomes and knowledges. Instead, students' diverse backgrounds and knowledges should be valued and included, rather than considered through a deficit lens (see Burke et al., 2023).

Also important to highlight is another project recently commissioned in July 2023 to identify high-level equity policy levers and programs, based on a sample of Australian universities, entitled the *Targeted Review of Student Equity in Higher Education Programs and System Level Policy Levers* (UQ). This project is focused on providing an overarching empirical view of

activities and approaches, and when released will provide an important resource for understanding impact.

## 1.3 Equity Initiatives Framework 2.0

The original EIF (Bennett et al., 2015) was conceived as a quick reference guide outlining the stages of the student life cycle, according to target groups, aims and principles of equity initiatives, intervention types and evaluation methods along with other important information. It has been updated based on findings from the current study and discernible sector trends (see Table 1 below). Some mechanisms are included which are emerging and require more attention and investment, such as pre-access and access for non-school leavers, and transitions and support for postgraduate study.

The Framework has been revised in a range of ways with key changes as follows:

- Reconceptualisation of the student life cycle stages, particularly 'Participation' and 'Attainment' stages (as discussed below);
- Some minor changes to rows and headings to improve the utility of the Framework;
- The addition of Key Indicators (including quantitative and qualitative) for measuring impact; and
- Updated content to reflect a more developed understanding of equity initiatives and student need.

In the Pre-access life cycle stage, focused on outreach and engagement initiatives, the target groups have been broadened beyond schools and communities to include VET, organisations and industry.

A key change involves the reconceptualisation of how the Participation and Attainment stages are understood. Participation in the revised framework is conceived as commencement, progression *and* completion – and can refer to undergraduate or postgraduate degrees – where the three sub-stages should be recognised as important moments in the equity student journey that may require interventions. As part of this, Work Integrated Learning (WIL), Placement and Employability have been included as a new explicit column which visiblises the substantial growth in this area but also to highlight the barriers and challenges identified for equity students, particularly where these are conditional for completion. It is clear from the literature reviewed in this study that equity in this space is underdeveloped and of critical importance.

Attainment as a life cycle stage now constitutes a transition period either into career employment and/or further study, which may involve a range of postgraduate study options in higher education (where the Participation cycle equity initiatives can repeat) or other study with private or public tertiary providers, either consecutively or as students return after a period of employment in their chosen career or other area. For equity students, Attainment is a significant transition point where career preparedness and competitiveness for postgraduate places or in the job market are critical. With regard their movement out of education and into employment, it must be noted that students are no longer supported by equity initiatives relevant to this Framework; however, given that universities prepare students for professional careers/employment and through alumnus engagement, the Employability and Career Destinations sub-column in Attainment identifies where providers may be able to influence equity in this post-attainment space as follows:

- Careers and employment activities, including professional networking, resources and support
- Inclusive alumni programs
- Developing understandings of graduate equity for employers

In terms of Intervention Types, some overarching initiatives have been noted across all four life cycle stages as essential:

- Mentoring and role-modelling, particularly by students, employers and industry from similar backgrounds/locations
- Partnerships and collaboration
- In community, on-campus, online and blended activities and interventions
- Careers and industry education and engagement

Across the latter three (Access, Participation and Attainment-Postgraduate and Other Study) financial support and accessible and affordable housing/accommodation have been identified as critical.

### *Table 1. Revised Equity Initiatives Framework*

**Equity Initiatives Framework 2.0 (2023)**

This framework is a sector-wide guide that should be adapted according to the context, participant, and stakeholder needs.

| STUDENT LIFE CYCLE | PRE-ACCESS: Engagement with Schools, VET, Communities, Organisations and Industry | ACCESS: Pathways and Admissions (including Enabling Pathways) | PARTICIPATION: Transition, Engagement, Progression and Completion (Undergraduate and Postgraduate) | | | ATTAINMENT AND FURTHER TRANSITION: Postgraduate and Other Study, Employability and Careers | |
|---|---|---|---|---|---|---|---|
| **FOCUS** | **Outreach, Development and Information** | **Pathways and Admissions** | **Transition and Engagement** | **Engagement, Progression and Completion** | **WIL, Placement and Employability** | **Postgraduate and Other Study** | **Employability and Career Destinations** |
| **STAGE & TARGET GROUPS** | • Primary school students<br>• Teachers and other school staff<br>• Parents/carers<br>• Communities | • School students and school leavers<br>• Non-school leavers including mature-age<br>• Collaborations with employers and organisations | • Commencing/first year students | • Continuing and later year students | • All undergraduate students | • Graduates | |
| | • Secondary school students<br>• Teachers, careers and other staff<br>• Parents/carers<br>• Communities | • VET students | | | • Industry and other organisations | • Industry, organisations, employer groups and professional associations | |
| | • Non-school leavers, community and industry | | | | | | |
| **MAJOR PRINCIPLES & AIMS** | • Increase awareness of higher education pathways and associated careers<br>• Improve learning outcomes and access<br>• Develop sense of belonging and preparation<br>• Professional development for careers advisors and teachers<br>• Build collaborations and partnerships | • Provide access<br>• Develop preparation and sense of belonging | • Provide academic, social, wellbeing and financial support<br>• Develop peer and staff connections<br>• Develop sense of belonging and success<br>• Provide flexible and inclusive modes of delivery and teaching, curriculum and assessment<br>• Develop competencies in discipline area/relevant knowledges | | • Support employment equity and outcomes | • Enhance employability<br>• Provide professional and career mentoring/advice<br>• Increase employment equity and outcomes<br>• Inform and support further learning | |
| **KEY INDICATORS** | • Application and admission rates from targeted communities<br>• Intent and confidence measures from participants<br>• Participant experience and learning outcomes | • Rates of admission for students without traditional entry<br>• Application, completion and conversion rates for enabling education and VET transfers<br>• Student experience and learning outcomes | • Retention, pass and completion rates (including in specific education types, such as WIL/placements)<br>• GPA<br>• Student experience and learning outcomes<br>• Confidence and sense of belonging measures | | | • Articulation and employment rates and outcomes (in field and overall)<br>• Intent and confidence measures<br>• Employer satisfaction<br>• Graduate feedback and experience | |

<table>
<tr><td></td><td></td><td colspan="5">• Nb. Any key indicators for student performance must be contextualised to student equity group and study mode</td><td></td></tr>
<tr><td rowspan="3">INTERVENTION TYPES</td><td rowspan="2">• Interventions for primary schooling<br>• Interventions for early secondary schooling<br>• Interventions for senior secondary schooling<br>• Pre-university information, academic skills, preparation and immersion programs<br>• Community and industry activities and engagement<br>• Career and pathway education<br>• University and subject tasters<br>• In-school outreach and pathways<br>• Teacher professional development and parent/carer education about developing and supporting all students' capabilities and aspirations<br>• Open access tutoring</td><td>• Inclusive access and admission strategies<br>• Alternative selection criteria, pathways and schemes for school leavers and non-school leavers<br>• Open access Enabling pathways for preparation and entry<br>• Engagement with VET/non-school leavers<br>• Bridging and taster programs (for community members, undergraduates and postgraduates)</td><td>• Orientation and bridging programs<br>• General and academic support services<br>• Peer learning and activities<br>• First Nations centres and supports<br>• Inclusive and First Nations educational design and pedagogy<br>• CPD for staff in equity<br>• First Nations cultural competency training<br>• Disability competency training<br>• Accessible and equitable online learning and technologies<br>• Inclusive student societies and social clubs and activities</td><td>• Re-engagement strategies for participation, completion and exit qualifications<br>• Support and program information, including bridging, postgraduate study, including graduate certificates and diplomas</td><td>• Equity focused, responsive and supportive employability activities<br>• Financial considerations, support and flexible arrangements for students on placement<br>• Developing student employability and professional networks</td><td>• Inclusive access, bridging and transition to postgraduate study<br>• Inclusive and culturally aware learning support services<br>• Engaging more diverse supervisors<br>• Equity-informed supervisors and staff</td><td rowspan="2">• Careers and employment activities, including professional networking, resources and support<br>• Inclusive alumni programs<br>• Developing understand-ings of graduate equity for employers</td></tr>
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<tr><td>SECTOR STRATEGIES & APPROACHES</td><td colspan="7">• Equity strategy and lens for policies and procedures<br>• Continuing professional development for equity<br>• Embedded inclusive practices, educational approaches (program, course and assessment design) and pedagogies<br>• First Nations cultural safety, competency and structures<br>• Inclusive, non-stigmatising and non-deficit approaches and language<br>• Data collection/monitoring and contextualised analysis for provision and evaluation<br>• Institution-wide research and evaluation for all student life stages</td></tr>
<tr><td>EVALUATION</td><td colspan="7">Programs that demonstrate impact use evaluation that is participant and stakeholder centred and context and equity group specific.<br><br>Rich information is gained from mixed methods approaches which enable identification of program efficacy and participant experience.<br>Quantitative and qualitative data enables understanding of outcomes for all participants, including gaps and challenges.<br><br>The following are examples of evaluation methods and data sources which could be utilised to understand equity interventions:<br>• Literature reviews<br>• Datasets from national and institutional systems<br>• Surveys of student and other stakeholders for information about demographics, experiences and outcomes (using qualitative and/or quantitative designs)<br>• Focus groups with students and other stakeholders (for eliciting targeted feedback and information)<br>• One-to-one interviews with stakeholders (for exploring more detailed or complex issues)<br>• Yarning circles and individual yarns<br>• Community, industry and stakeholder consultation and feedback<br>• Program logic analysis (including plausibility analysis, needs analysis and input/output requirements)<br>• Documentary/narrative/discourse analysis of program information and resources<br>• Documented reflective activities, which may be conducted before and after an initiative to explore its impact<br>• Creative forms of feedback from participants (via journal entries, illustrations, responses to narratives, mentors and other stimuli)<br>• Participant observation of programs in action (e.g. in learning contexts)<br>• Benchmarking (through external program review or comparisons with other interventions or sectoral and/or institutional norms)<br>• Case studies of specific interventions (which may involve comparisons between different interventions)<br>• Analysis of input/output measures (e.g. numbers of participants, qualifications, numbers of scholarships awarded, etc.)<br>• Longitudinal tracking of individual student experience and outcomes<br>• Cohort analysis (comparing program offers, admissions, enrolments, attrition, retention, success, and completion rates)<br>• Service process tracking (e.g. changes in contact waiting times)<br>• Web analytics (using the increasing amount of online data to track and analyse student and/or program performance)<br>• Market analysis<br>• Randomised control trials<br>• Economic modelling</td></tr>
</table>

## 1.4 Methodology and literature findings

The 'rigorous' methodology applied to the literature in this study follows the CIF 2 national review, influenced by approaches developed for large-scale reviews of educational literature (Kingdon et al., 2014; Oketch, McCowan & Schendel, 2014). This approach is essential for gaining an understanding of the field of equity in higher education which sits

within complex wider contexts of disadvantage which continuously impact students' participation and success.

The relevant literature about equity interventions was identified using three main sources: scholarly databases, specific journals and key websites which host research reports and other grey literature, including, for example, the National Centre for Student Equity in Higher Education (NCSEHE), the Equity Practitioners in Higher Education Australasia (EPHEA) and the National Association of Enabling Educators of Australia (NAEEA). The inclusion criteria specified published and publicly available sources likely to include peer review or adherence to professional standards of academic research (such as journal articles, books, research reports, or institutional grey literature). Studies not focused on equity interventions in Australian institutions were excluded due to time constraints and in keeping with applicability of findings to national policy.

Initial screening of the literature was conducted by title and abstract, matched to the broad inclusion criteria and imported into the project Endnote library. The literature search was conducted through the following databases: Education Research Complete/EBSCO, ProQuest/ERIC, Informit (Families & Society Collection, Humanities & Social Sciences Collection, Indigenous Collection, APAFT), and VOCEDplus (NCVER). Search terms for the project included the following core terms:

- Australia, Australian
- higher education, university
- equity
- student
- initiative, intervention, program, strategy

Relevant websites were also searched, including: NCSEHE, EPHEA, NAEEA, STARS, Universities Australia – Learning and Teaching Repository, Australian Council for Educational Research (ACER), and Higher Education Research and Development Society of Australasia (HERDSA).

368 studies were initially included in the Endnote library as making up 'the field'. This dataset was then further screened for titles which focused on targeted equity groups and specific equity interventions or which presented useful data in relation to these. Many studies provided important details about their areas of focus (e.g., equity groups or general themes such as increasing retention), but did not include enough detail about specific interventions, evaluation and/or impact and so were filtered out. The project scope required that included literature provide enough information about interventions or approaches to enable clear understanding of impact.

A total of 118 studies which provided either evidence of impact of equity interventions or offered useful data for informing decision-making were selected for inclusion in the Equity Studies Library and for synthesis in the project report. This included 89 peer reviewed journal articles and 29 research reports. These studies were subsequently reviewed for details of program implementation, evaluation methodology, and evidence of impact. Information about each study was then analysed in terms of: equity target group(s), stage(s) of the student lifecycle, program type or description, program aims, implementation details, distinct features, evaluation methodology, type of data collected, sample size, impact data and any other important outcomes or recommendations.

In the CIF 2, 63 impact studies were captured, using a sector survey and a literature review, with the majority of that literature published during 2013-2015. In this study, 29 interventions from 20 Australian universities were captured that provided clear evidence of impact, using the project methodology, as shown in tables 2, 3 and 4 (see below) incorporating 12 studies in the Pre-access life cycle stage, 10 in the Access stage and 7 in the Participation stage. Studies involving anonymised programs and universities were not captured in the tables.

As can be seen from the tables provided in each of the life cycle sections, there are some limitations in the amount of information that can be gained through a review of literature. This is largely due to approaches to the structuring and editing of literature prepared for publication, which often requires a specific and narrowed focus on certain themes aligned to journals and reports. As a result, the full range of details that can be gained about both the interventions and their impacts are somewhat reduced and not always easy to compare.

However, across the included studies it is clear that there are common methods employed to understand and measure impacts of the interventions, which point to best practice evaluation approaches, including that they:

- utilise mixed methods research, including both qualitative approaches and quantitative methods that reflect the norms of wider institutional and national higher education data collection methodologies (which provide student *counts* and *rates* elucidating student experience, participation and learning outcomes). Note that the literature did not include descriptions of the types of counterfactual approaches used in other sectors (such as health), which compare groups participating in an intervention with a control group that did not receive the intervention.
- base their analysis and findings on systematic reviews of literature;
- embed ongoing evaluation in their practice and design, to ensure continuous development and timely responsiveness to changing student and stakeholder needs;
- aim to meet a wide diversity of participants' needs through embedding critical and gap analysis, and include consideration of diversity across geographical areas and community demographics; and
- ensure that students' experiences and community needs are at the forefront of both provision and evaluation.

## 2. Policy and Sector Trends

This section frames the *Critical Interventions Framework 3* project report and guide to equity initiative impact studies within the trends observed in wider sector literature and the policy environment since the *Critical Interventions Framework* (Naylor et al., 2013) was released.

Fifteen years have passed since the Bradley *Review of Higher Education* (Bradley et al., 2008), and over 30 years since *A Fair Chance For All* (Commonwealth of Australia, 1990) put in place the basic architecture governing Australia's student equity framework. Although it is perhaps too soon to speculate about impacts arising from the changes made in the Job Ready Graduates package[4], the intentional and equity specific policies for student equity on the basis of population parity and merit-based fairness have remained largely unchanged (Pitman, 2016), and despite calls to recognise other groups, including first-in-family, parents, refugees, Pasifika students, and care leavers, among others, more formally (Harvey, Burnheim & Brett, 2016)

Since the publication of the *Critical Interventions Framework* (Naylor et al., 2013) and *Critical Interventions Framework Part 2* (Bennett et al., 2015), however, theoretical and research perspectives have continued to develop. Awareness of the impacts of financial barriers and poverty has improved (Brownfield et al., 2020), leading to calls for increases in financial support through Youth Allowance, bursaries and microloans (O'Shea, 2023) along with increased recognition that students from equity backgrounds may be more debt- and risk-averse than others (Raciti, 2019). Few systematic or broad datasets tracking financial stress among students are available, however, beyond independent studies and survey reports (e.g., Universities Australia, 2018), limiting exploration of this topic. Increased focus on employment outcomes for equity students has also been recognised as important (O'Shea, 2019; Tomaszewski et al., 2022), although again, no sector-wide data are available. Mental wellbeing (Larcombe, Baik & Finch, 2022; Naylor, 2020; Scobie & Picard, 2018) and working with students as partners and co-creators, rather than subjects, have attracted attention (Mercer-Mapstone & Bovill, 2020). Importantly, there has been increased repudiation of deficit-based models of student equity, with a resulting, albeit perhaps partial, shift to a focus on structural inequalities rather than perceived deficits in students' abilities, perspectives or personal resources (Fredericks et al., 2022; Naylor & Mifsud, 2019), and better interrogation of an individualised understanding of equity and the compounding effects of multiple equity group membership (Tomaszewski et al., 2020).

### *Data trends*

Despite theoretical and research advances, equity data (Department of Education, 2023; National Centre for Student Equity in Higher Education, 2023) continue to show—at best—

[4] Although based on concerns about equity, there have been recent Higher Education Support Amendments to the *Higher Education Support Act 2003* to 'expand eligibility for places in demand driven higher education courses to First Nations students; and remove the current requirement that students must pass 50 per cent of the units they study to remain eligible for a Commonwealth supported place and FEE-HELP assistance and instead require higher education providers to support students to successfully complete the units of study in which they are enrolled'. https://www.aph.gov.au/Parliamentary_Business/Bills_Legislation/Bills_Search_Results/Result?bId=r7060

mixed results. Year-on-year variation and short-term trends further complicate data analysis. Note that data is reported as both rates and ratios. Rates refer to the percentage corresponding to that group compared to the total population (e.g., participating in university). Ratios refer to the ratio between the percentage of students in that group who are retained, pass or complete their studies, and that of the non-equity group. Ratios draw closer attention to disparities between equity groups and other students. Note these findings can be represented equivalently as percentages (93%) or ratios (0.93).

A considerable lack of data exists reporting the performance of the sector in supporting and graduating women in non-traditional areas (WINTA).

### *Participation in higher education*

Continued growth in student numbers as a whole means that equity groups must exceed sector-wide growth rates to make gains in access and participation rates. In most cases, this has not been achieved. Although the numbers of equity students participating in higher education has increased, gains in proportional representation have not, for most groups.

Groups which have increased participation rates relative to sectoral growth are First Nations students and those studying with disabilities. The growth in participation for students with disabilities is particularly notable, having increased from 4% in 2006 to 6.4% in 2017 (the last full year of the demand driven system for admissions) to 9.4% in 2021 (the most recent data currently available). However, an increase in the number of students identifying themselves as having a disability may be at least partially due to changing social norms and understandings about disability, rather than success in attracting and supporting more students with disabilities in higher education.

First Nations students have also substantially increased participation in higher education, from 1.2% in 2006 to 1.8% in 2017 to 2.1% in 2021, compared to a parity rate of 3.2% in the 2021 Australian Census (Australian Bureau of Statistics, 2022). While growth in the First Nations population has undoubtedly contributed, the growth in participation rates appears to have exceeded that, with the participation ratio increasing from 63% in 2017 to 67% in 2021 (2016 Census data; Department of Education, 2023).

Few gains appear to have been achieved for women in non-traditional areas (WINTA). Since 2013, participation appears to have hovered about a mean of 16% (16.1% in 2021).

Participation rates for students from non-English speaking (NESB), low SES, and regional and remote backgrounds appear to be declining (although note again: the absolute numbers continue to increase, but not at the same rate as the general population, resulting in reduced participation rates). NESB participation has declined from 3.8% in 2017 to 3.3% in 2021, while the NESB population has increased, indicating a more substantial fall than these numbers suggest.

Changes in the way students from low SES backgrounds and students from regional and remote areas are identified complicates long-term analysis, but both groups appear to be declining in participation from a peak in 2017 (low SES, first address SA1 measure: 17% in 2017 to 16% in 2021; regional, first address SA1 measure: 20.2% in 2017 to 18.8% in 2021).

Given this data as a whole, it seems difficult to conclude that efforts to increase relative participation from equity groups have been expanded enough to induce any growth, with the notable exception of First Nations students, and perhaps students with disabilities.

### *Student retention*

Retention appears to demonstrate similar trends, with little substantial change. Taking the university population as a whole, retention has been largely stable across the sector since 2009, despite the increase in overall participation observed above, at an average of 82.6%, or with a slight upward trend from a low in 2017 of 81.9% to 83.4% in 2021. If such a trend exists, it is still only a minor improvement given the focus on retention across the sector.

NESB students have persistently been retained at higher rates than ESB students, with a retention ratio of 1.03 in 2009, increasing to 1.04 in 2017 and 1.05 in 2020. The other groups show little significant change. Students with disabilities experienced a slight decrease in 2020 (possibly due to disproportionately increased burdens caused by Covid-19), but otherwise are stable with a retention ratio of 0.96. Low SES and regional students similarly appear stable at 0.95 (first address SA1 measures), while First Nations students appear to have a stable retention ratio of 0.89 since 2013. Students from remote backgrounds, however, have declined from a retention ratio of 0.95 in 2017 to 0.92 in 2020.

Therefore, retention across the sector does not appear to have substantially improved. As has been observed since at least 2013 (Naylor et al., 2013), any disparities in retention rates are small compared to the disparities experienced in access and participation, with the exception of First Nations students and those from remote backgrounds.

### *Success and completion*

Naylor et al. (2013) and Bennett at al. (2015) both observed that the success rates of students from equity groups were not substantially different from those calculated for total onshore domestic students. This continues to be the case. Sector-wide success rates have been consistent at about 87.5% since 2009, with most equity groups at (e.g., NESB, regional) or near parity (disability, low SES: 0.93). First Nations students have again been consistent, with a success ratio of 0.84 since 2013.

Across the sector, six-year completion rates have declined slightly for all students since the cohort commencing in 2005, alongside increased part-time study: while the completion rate has declined from 67% in 2005 to 63% in the 2016-2021 cohort, the 'engagement' rate (students completed or still studying) has only decreased from 78% to 76%.

With the exception of NESB, who have 6-year completion and engagement rates 5% and 6% higher than ESB students, equity-background students lag the completion rates of other students.

In the case of regional students, this is by approximately 5 percentage points, but annual completion data shows an increase in regional student completion ratios from 93% in 2017 to 98% in 2021. Students from remote backgrounds show a similar trend, with a larger gap in 6-year completion rates (12%), but a decreasing gap in completion ratio from 88% in 2017 to 94% in 2021 (although note this contradicts the increasing gap in retention rates for students

from remote backgrounds reported above). These data suggest these groups will close the gap in 6-year completion rates with metropolitan students if these trends continue.

First Nations students have a much more stark gap in 6-year completion rates, compared to non-Indigenous students. The difference in the 2016 cohort was 22% for completion rates, and 17% for engagement rates, although this has increased by 6 percentage points compared to the 2005 cohort. Completion ratios for First Nations students have also increased from 62% in 2017 to 67% in 2021. There are significant improvements in this metric for First Nations students, consistent with those seen in other metrics reported here, but significant structural inequalities remain, and there is still a long way to go before parity is reached.

Students from low SES backgrounds display an 8 percentage point gap in 6-year completion rates, compared to medium and high SES students (7% for engagement rates). However, completion ratios show a slight decline, from 89% in 2017 to 87% in 2021. This finding is concerning, as the group of students from low SES backgrounds shows considerable overlap with other equity groups; 55% are members of multiple equity groups. These other groups demonstrate increasing completion ratios, suggesting that outcomes for the low SES group may be diverging, and that low SES students from metropolitan, non-Indigenous, English-speaking backgrounds may face completion rates that are declining faster than the overall figure suggests.

Six-year completion rates are not published for students with disabilities, but the completion ratio for this group appears flat at 83%.

### *Institutional stratification*

There is still considerable evidence that students from low SES, regional and remote and First Nations backgrounds are excluded from the Group of Eight (Go8) universities. Enrolments in Go8 universities for low SES and regional/remote student groups, particularly, are approximately half of what would be proportional for their total enrolments, and have declined since 2017. Note this is relative to the sector average, not the population nationally; these groups are underrepresented in higher education, and further underrepresented in Go8 universities. This therefore excludes these students from many high-status or high-future-income fields that are disproportionately taught at Go8 universities. However, Go8 institutions do enrol a somewhat higher proportion of NESB students and those with disabilities, and since 2017, First Nations enrolments have increased at more than double the rate seen in the rest of the sector.

These findings are likely a result of the Go8's academic selectivity, particularly on the basis of the ATAR (Australian Tertiary Admission Rank) (Cardak & Ryan, 2009). Go8 universities typically have higher retention rates than other institutions, and therefore may graduate a higher proportion of the equity students. However, high ATAR students in general are more likely to complete their studies (Department of Education, 2023; Tertiary Education Quality and Standards Agency, 2017), and there is little additional evidence that quality of teaching or support provided by these institutions makes a further difference.

In contrast, the other university groups provide more access for equity students, albeit with some variation. The Australian Technology Network and other universities of technology enrol higher proportions of students with disabilities, First Nations students and students from low SES backgrounds than others, but lower numbers of students from regional and remote areas, and equivalent NESB students. The Innovative Research Universities have higher enrolments from all equity groups except students with disabilities, while the Regional Universities Network has higher rates of all equity groups (particularly First Nations, low SES and regional students) except NESB students.

### *Conclusions from the sector data*

Despite many years of policy focus and practical interventions, little has changed in equity student representation and outcomes at the sectoral level for most groups.

Absolute numbers of equity student enrolments have increased, but only broadly in line with growth in the sector overall. Some groups—low SES, regional and remote, and NESB students—are at risk of losing ground.

Far greater disparities exist in access and participation for most groups than in success and retention. Arguably, NESB students have *better* outcomes than ESB peers, once within the system, although this may be more to attributable to the relatively narrow sample of NESB students admitted than any equity interventions. A more representative NESB cohort may reduce this advantage. Other groups experience a typically small, but significant, disadvantage in retention, success and completion. The outcomes of students from low SES backgrounds from metropolitan, otherwise non-equity backgrounds may require focused research to disambiguate the effects of low socio-economic status from other attributes, such as regionality, on re-recruitment, completion, and compounded disadvantage (Nelson et al., 2017).

These disparities have proven to be extremely stubborn; what progress has been made is typically at the margins, perhaps mediated by institutional interventions and programs, rather than significant step-change through large-scale policy changes to address inequalities. Institutional stratification, particularly demonstrated through the exclusion of low SES, First Nations, and regional and remote students from Go8 universities, continues to persist. However, the increase in First Nations participation towards sector averages among particularly Go8 institutions suggests that policy investment and incentives and strong institutional commitments and supports can make a substantial difference.

Outcomes for First Nations students notably buck the trend of the other groups. Although coming from vast disparities, participation and outcomes for First Nations students have demonstrated substantial improvements across access, participation, retention, success and completion rates. This is not an uncomplicated trend, as significant barriers remain in every metric reported here. Some of this improvement is no doubt due to significant social changes concerning deficit- and strength-based discussions and attitudes about Aboriginal and Torres Strait Islander peoples, and discussions and attitudes about social justice and reconciliation within the wider community. Some may be due to addressing structural barriers throughout the educational system, including through targeted funding and support from

universities. Much remains to be done. However, this demonstrates that challenging inequity in higher education is possible. Success and retention rates since 2007 have the appearance of somewhat volatile movement around a stable mean. These rates for most equity groups appear to be similarly consistent over time (although note that students from non-English speaking backgrounds and women in non-traditional areas are more likely to be retained than other students). An exception is the success rate of First Nations students, which has increased from 71.8 to 74.9 per cent over 7 years. Similarly, their retention rate has increased from 68.4 to 72.7 per cent over the same period. This may indicate that the focused support provided to these students since the Bradley review and the introduction of HEPPP funding has been effective. However, sustained, significant and systemic improvements are required before First Nations students reach the same success and retention rates as other students.

## 3. Pre-access

The Pre-access stage of the student life cycle involves participants across a diverse age range, including students engaged in schooling and those who have exited compulsory education and may already be working, undertaking other forms of learning, such as training, or raising a family. For this reason, the types of programs designed to engage these groups are many and varied. The literature shows that they require carefully designed and culturally-informed approaches to build awareness about higher education, create positive relationships with university staff and students, and support the development of capable learner identities, especially given where people have previously been subject to forms of exclusion or have experienced discrimination within the education system itself. Pre-access interventions in the majority involve outreach strategies that engage school students and their related communities. They typically involve programs that are designed to support the development of knowledge about and interest in educational and career pathways, related discipline knowledge and literacies, and academic self-concept and skills.

These programs are often delivered in-school/in-community for school-aged students or involve campus familiarisation/engagement activities (virtual or in-person, long or short duration) or a combination of both, with the aim of demystifying university and engendering sense of belonging and educational possibility.

Table 2 provides information about 12 highlighted pre-access programs that feature in the included literature.[5] The findings section following Table 2 highlights recurring themes, important considerations, gaps and issues which were identified from the studies reviewed.

It is clear from the research reviewed that impact studies about pre-access programs continue to be the most numerous compared to other stages of the student lifecycle (affirming the findings of Trinidad and Zacharias, 2017).

***Table 2: Pre-access program impact studies identified during study period (June 2015 – May 2023)***

| Program, University and Reference | Brief description | Method and data | Impact |
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| **First Nations** | | | |
| **1. Australian Indigenous Mentor Experience (AIME)**<br><br>Multiple: University of South Australia, Deakin University, RMIT University, Central Queensland University<br><br>* O'Shea, S., McMahon, S., Priestly, A., Bodkin-Andrews, G., & Harwood, V. (2016). 'We are history in the making and we are walking together to change things for the better': Exploring | AIME is a structured educational mentoring program which recruits mostly non-Indigenous university students to mentor Indigenous high school students with the aim of supporting them to complete high school and transition to further education and employment. | Mixed – Interviews, observations and surveys with AIME staff, mentees and mentors.<br>This article specifically considers how AIME mentors reflect upon their learning in the program and also how this pedagogic potential of mentors has been facilitated. | In 2013, the Year 11–12 progression rate for AIME students was 89.7 per cent, which was significantly higher than the national Indigenous average of 71.3 per cent and also higher than the national non-Indigenous rate of 86.8 per cent. 86.8% of mentors who participated in the post-program survey stated they learnt 'cultural and social awareness', 80.6% learnt 'respect of Indigenous knowledge, cultures and values' and 67.4% |

[5] Note that not all studies in our dataset are included in this table because they must include clear details of the intervention, including the university, as well as about the evaluation and impacts.

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| the flows and ripples of learning in a mentoring programme for Indigenous young people. *Education as Change*, 20, 59-84. | | | 'desire to implement constructive change in your community'. The AIME model engenders a more collaborative model, working 'with' rather than 'on' people. |
| **2. Indigenous Youth Sports Program (IYSP)**<br><br>Central Queensland University<br><br>* Macgregor, C., Mann-Yasso, M., Wallace, S., Savage, S.-K., & Signal, T. (2015). Indigenous Youth Sports Program: widening participation for higher education. *Widening Participation and Lifelong Learning*, 17(1), 86-102. | IYSP at CQU uses health, sports, cultural and educational activities to build confidence amongst school students, raise awareness of career and study options and become familiar with the university campus. | Quantitative – Pre and post program surveys asked participants to respond to 10 questions (8 likert scale questions, 1 yes/no question and 1 select from a list). The program had 254 student participants, mean age 11.5 (± 1.1) years, with 59.3% male. | IYSP successfully increased student knowledge of HE opportunities. There were statistically significant changes in perceptions (strongly agree/positive) in responses from pre to post program, with a strong increase in participants talking about potential careers. Demonstrates participation in HE could be increased using sports as a medium for career guidance and inspiration for post-school study pathways. |
| **3. Sharing Place, Learning Together**<br><br>University of Melbourne<br><br>Godinho, S. C., Woolley, M., Webb, J., & Winkel, K. D. (2015). Sharing Place, Learning Together: Perspectives and Reflections on an Educational Partnership Formation with a Remote Indigenous Community School. *Australian Journal of Indigenous Education*, 44(1), 11-25. | Sharing Place Learning Together project - a cross-cultural partnership between the University of Melbourne (UoM) and a remote Indigenous community school situated in Western Arnhem Land which facilitated a Learning on Country program designed for Indigenous students to learn 'on country' through day trips and bush camps. The program aims to provide a pathway to future employment by developing students' skills and confidence. An extension to the Learning on Country program included the 'Learning on City' visits to Melbourne. | Qualitative – Interviews with 14 college and community members, including Traditional Owners, university staff, and teachers. | Findings from interviews show key themes related to partnership enablers and capacity-building, and a range of learnings for developing cross-cultural outreach, e.g., the development of educational resources with students emerged as critical for growing the partnership, and that sustained time in the community builds currency. |
| **LSES** | | | |
| **4. U@Uni Academy**<br><br>University of Technology Sydney<br><br>**#+** Dodd, E., Ellis, S., & Singh, S. (2023). Making the invisible, visible: a twenty-first century approach to tertiary preparation, attainment and access for student equity. *International Journal of Inclusive Education*, 27(2), 167-187.<br><br>INCLUDES ALTERNATIVE ACCESS SCHEME | U@Uni Academy, beginning at the end of Year 10 and engaging students across two years, introduces participants to the university experience with a series of on-campus and in-school touchpoints, including workshops, mentoring, tutoring and additional support. Across the two years, students are tracked in order to identify their range of skills, knowledge and experiences and to evidence their progress and learning journey. Students | Quantitative – 249 students completed pre and post surveys used to assess the impact of the Summer School component of the programme which works with high school students from 20 partner schools in southwestern Sydney. | Findings demonstrate the Summer School broadened participants' career aspirations and gave them the confidence to work more positively towards their school studies with a view to going to university and improving job prospects. Authors note the merit of co-designed outreach and alternative admissions processes. |

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| | who successfully complete the programme and meet graduation requirements are offered an undergraduate place at UTS. | | |
| **Multiple** | | | |
| **5. I Belong**<br><br>RMIT<br><br># Fricker, A. (2015). Speaking with one voice: a partnerships approach in RMIT's 'I Belong' program. *Learning Communities: International Journal of Learning in Social Contexts* [Special Issue: Indigenous Pathways and Transitions into Higher Education], 17, 30-43.<br><br>INCLUDES ALTERNATIVE ACCESS SCHEME | RMIT's I Belong program commenced in 2011 and delivers on-campus experiences for Schools Network Access Program (SNAP) secondary school students (established 2001) - the program is tailored for the middle years (Years 9–10) and again for the senior years of schooling (Years 11–12). The I Belong program incorporates a focus on awareness, aspiration and achievement through the workshops and activities the students undertake whilst on campus.<br>Students at partner schools who complete year 12 are eligible to apply as a SNAP student and can have their ATAR increased by up to 20 points. | Mixed – Questionnaire and conversations with the students during the program.<br>In 2014, I Belong hosted over 3500 secondary students on RMIT's campus. | Evaluation responses show that the program was able to make an impact in the two areas of motivating students to learn more and do better at school. This is a positive result for the pilot of the program and indicates that the impact this program has had will have the potential to impact the students and their studies. |
| **6. Murdoch Aspirations and Pathways for University (MAP4U)**<br><br>Murdoch University<br><br>^ Vernon, L., Watson, S. J., & Taggart, A. (2018). University aspirational pathways for metropolitan and regional students: Implications for supporting school-university outreach partnerships. *Australian and International Journal of Rural Education*, 28(1), 87-103. | Murdoch's Aspirations and Pathways for University (MAP4U) - supported schools and agencies to develop and implement a range of innovative programs designed to increase the participation in higher education of underrepresented students from the south-west corridor of Perth. This study investigated reasons for lower university participation rates for regional students compared to metropolitan students. | Mixed – Using data collected over 18 months within a cross-lagged modelling framework. Likert-scale surveys to measure student desire/aspiration and expectation to go to university, academic self-concept, problem behaviour, and school satisfaction. | Metropolitan students were exposed to a greater number of school-university partnership programs than regional students. The results demonstrate that for metropolitan students, higher early university desire feeds higher university expectations, which, in turn, crystalise subsequent university desires. |
| **7. Aspire UWA**<br><br>University of Western Australia<br><br>* Skene, J., Pollard, L., & House, H. (2016). Aspire UWA: A case study of widening access in Higher Education, *Student Success*, 7(2), 11-20. | Aspire UWA's objective is to encourage and support secondary school students from LSES backgrounds to continue to higher education. The program has formal partnerships with 63 schools in WA, in regions that have low transfer rates | Mixed – Case study methodology to report on the outcomes of the first seven years of Aspire UWA. Data for this study were collected from multiple sources at different time points from 2009 to 2015, including: secondary school | Results demonstrated an upward trend from Aspire UWA schools in university enrolments. Aspire students have had first-year retention rates equivalent to or higher than other students - 92% vs 88% for students commencing in 2010. This study found the 4 key strategies of effective outreach |

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| | to higher education in comparison to urban centres. The program has 3 components; (i) a core learning framework for students in Years 7-12 in all partner schools delivered by the Student Life division; ii) an outreach program specifically for Indigenous students delivered by the UWA School of Indigenous Studies; and (iii) a pathway program to the professional degrees of medicine and dentistry for LSES and rural students delivered by the UWA Faculty of Medicine, Dentistry and Health Sciences. | students, teachers/principals and university student ambassadors who volunteer to support the program. | programs were: assembling resources, engaging learners, working together and building confidence. |
| **8. UC 4 Yourself (component of Aspire UC)**<br><br>University of Canberra<br><br>Fleming, M. J., & Grace, D. M. (2015). Eyes on the future: the impact of a university campus experience day on students from financially disadvantaged backgrounds. *Australian Journal of Education*, 59(1), 82-96. | UC 4 Yourself 'experience day' by the University of Canberra for schools identified as having substantial numbers of students from financially disadvantaged backgrounds and delivered to students from years 7-10. It provides a full day of participation in university life, taking students through an organised series of activities that include mock lectures, hands-on workshops and tours of student residences. | Quantitative – Two survey studies (n=525; n=183).<br>Study 1: 525 students (231 males, 294 females) from 29 high schools who attended the UC 4 Yourself experience days were given pre and post experience surveys.<br>Study 2: 183 students (71 males, 112 females) from five high schools attended the final UC 4 Yourself experience day. This second study comprised a 2 (gender) x 2 (pre/post-program) mixed model design. All participants completed the two-part questionnaire – at the beginning and end of their university experience day. | Both male and female participants reported increased interest in attending university after their visit. Analysis of findings demonstrate the effectiveness of university campus visits for enhancing HE aspiration for non-traditional students and highlight the importance of: a tangible experience of what university entails plus interactions with university staff and students, and the value of information to support decision-making which parents of these students may not be able to provide. |
| **9. Aspirations: Supporting Students' Futures**<br><br>University of Newcastle<br><br>Prieto, E., Sincock, K., Patfield, S., Fray, L., & Gore, J. (2022). New possibilities for engaging school teachers in widening participation: professional development to support student aspirations. *The Australian Educational Researcher*, pp. 1-27. | Paper outlines an alternative approach to widening participation through a co-designed innovative teacher professional learning (PL) course aimed at supporting student aspiration, particularly in non-traditional cohorts. Through educating teachers about inclusive approaches to student imaginings of post-school futures, their sometimes overlooked role can be harnessed. The 10-hour course is comprised of six units using digital resources. | Mixed - The study involved a national survey to ascertain teachers' perceptions of their role in aspiration formation, creation of PL course, and a pilot study with a diverse array of participants and schools to test the course with teachers. Following this, collection of survey and interview data to inform wider implementation. | Of the teachers who completed the survey, 95.9% found the PD content to be useful, and most either 'strongly agreed' (46.9%) or 'agreed' (34.7%) that they gained new knowledge about aspiration formation. Teachers reported that they gained: access to robust evidence of factors affecting aspirations; relevant theoretical perspectives to conceptualise aspirations in new ways; and insights on practical strategies to nurture student pathways to higher education. |

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| **RRR** | | | |
| **10. Rural In2Uni**<br><br>University of Wollongong<br><br>Brown, B., Avitaia, S., Austin, K., & Facchin, J. (2020). "Having a yarn": From one rural student to another, practical in-school programs demystifying university and enabling student progression. *Australian and International Journal of Rural Education*, 30(1), 18-32. | UOW's Rural In2Uni Program is a tailored school partnership program delivered by current university students from similar backgrounds including in-school and on-campus activities for primary and secondary cohorts. | Quantitative data – Survey of 221 Year 6-12 students in the final session of their program.<br>Qualitative data - Focus Groups with 3 university mentors, 3 school teachers and 2 school principals drawn from the 4 participating schools. | Highlights the importance of contextualised and co-led outreach programs drawing on local knowledge and university student peer mentors.<br>Development of an online toolkit for RRR schools to co-deliver university transition programs. |
| **11. ASPIRE (Digital Story workshop ASPIRing for my/our future)**<br><br>University of NSW<br><br># O'Shea et al. (2019). *Shifts in space and self: Moving from community to university*. National Centre for Student Equity in Higher Education (NCSEHE), Perth: Curtin University. | This research collaboration with the UNSW Aspire program called 'ASPIRing for my/our future' investigated how young rural and remote students 1) contemplate post-schooling options, and 2) consider and then move for university study. The study sought to understand the disproportionate attrition rates of students from rural and remote areas (as compared to students from other areas). | Qualitative – Interviews, focus groups and digital storytelling using a range of media (including oral, written and pictorial representation). Using a small sample of Year 11 students drawn from 7 central NSW schools, 26 digital stories were collected alongside conversational interviews with 15 students and a focus group with 8 teachers. 3 UOW students were also recruited to provide a digital story/reflective blog. | Findings include: Perceptions amongst young regional people that attending university was 'exceptional' rather than an 'expected' life course trajectory and that movement away from community is conceived in terms of difficulty rather than being a positive rite of passage.<br>Recommendations for education policymakers to appreciate regional and remote populations in terms of their multi-dimensionality. |
| **NESB** | | | |
| **12. Refugee Action Support (RAS) Program**<br><br>University of Western Sydney<br><br>Naidoo, L. (2015). Refugee Transition: School-University Partnerships that Support Refugee Students' Participation in Tertiary Education. *The Journal of the World Universities Forum*, 8, 15-22. | RAS provides literacy and numeracy support to students from refugee backgrounds who have transitioned into mainstream schools from Intensive English Centres.<br>Pre-service teachers/tutors visit schools 1 day a week for 12 weeks to teach a range of activities in and outside of the classroom, as well as face-to-face tutoring. | Mixed - Literature Review and survey of 100 RAS school students. | 56% of surveyed students were identified by the teachers as improving at 'substantial' to 'outstanding' levels.<br>Pre-service teachers also benefitted from the program, improving their sociocultural awareness and professional development. Many students/families from refugee backgrounds hold high aspirations for educational and employment success but encounter barriers to tertiary education. RAS provides effective support with targeted learning and teaching strategies that can improve school to university pathways for these students. |
| Discussion of program also found in:<br><br>* Barney, K. (2021). *Building a stronger evidence base to support effective outreach strategies for Aboriginal and Torres Strait Islander students: Increasing impact and university participation*. Perth: National Centre for Student Equity in Higher Education.<br><br>+ Dodd, E., Singh, S., Micsko, J., Austin, K., Morison, C., & Upton, S. (2021). Equalizing and Widening Access to Higher Education During a Pandemic: Lessons Learned from a Multi-University Perspective. *Student Success*, 12(3), 58-72. | | | |

^ Smith, J., Trinidad, S., & Larkin, S. (2015). 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? *Learning Communities: Journal of Learning in Social Contexts* [Special Edition: Indigenous Pathways and Transitions into Higher Education], 17, 12-28.

# Trinidad, S., & Zacharias, N. (2017). *Higher Education Participation and Partnerships Program: seven years on*. Perth: National Centre for Student Equity in Higher Education.

**Total: 12**

## 3.1 Findings and insights

Overall, findings demonstrate high impact in the school outreach space with researchers providing a range of important effects and numerous recommendations for improvements to enable wider reach and best practice. However, non-school leaver outreach programs are under-researched and although the growth of industry connection as part of outreach is mentioned in some studies as very important for providing meaningful understanding of how university programs link to careers, the information is comparatively scarce.

Effective approaches are described as strengths-based – they do not imply participants' lack of or deficit in knowledge and skills but connect areas of focus to existing capabilities in order to grow more knowledge and understanding. Many impactful approaches are explained to be co-designed and often co-delivered with key stakeholders.

From a high-level view, the following are critical mechanisms, challenges and gaps which are identified in the literature.

- Pre-access programs demonstrate strong empirical evidence of their effectiveness.
- Pre-access programs for school students from LSES backgrounds, First Nations students, and RRR populations are especially well-researched and show evidence of wide engagement and progression into higher education.
- Very little research describes outreach to adults. School teachers, families and community members as secondary contacts or influencers of school students, is the primary mode of engagement in the Pre-access stage. There is very little written about non-school leaver engagement in pre-access interventions. This may indicate a significant gap for non-school leavers if wider participation in higher education is sought, including for engaging this wide breadth of population age groups.
- There is a gap in information about pre-access interventions for students with disability and WINTA.

### *Key design principles*

- Recognising and catering to the diverse needs of people within and between equity groups is crucial for designing impactful interventions which are able to engage well with a diversity of participants. This is especially important for achieving engagement and impacts on a significant scale.
- Gaining and leveraging community-based knowledges, support, and influencers is essential. Co-designed programs have greater impact.
    - Collaborative partnerships with schools, communities and local industries enhance the effectiveness of pre-access programs to assist school students to understand higher education and career pathways.

    - Involvement of influencers (peers, teachers, families) is critical for informing students' post-secondary considerations and decisions.
    - Teacher training for inclusive learning and unbiased pathway options is important.
    - Including and informing parents and carers assists student decision-making, especially for students from RRR areas.
- Whose voices are heard and when, are important factors for enabling the success of pre-access interventions.
    - Early commencement of interventions, scaffolded according to student interests and academic and developmental milestones, is beneficial.
    - Mentoring programs, particularly with mentors from similar backgrounds, effectively support students.
    - Programs for First Nations students should incorporate Indigenous peoples and cultural knowledge.
- Wider community access to information about pathways, universities and careers, which are interesting and meaningful to participants, is critically limited for many communities.

#### *Types of interventions*

- Encouraging students to participate in campus engagement activities targeted to cohort boosts and further develops both academic success and university aspirations.
- Financial assistance offerings, such as scholarships, are crucial for First Nations students and students from RRR areas to consider higher education as an option and to subsequently enrol at university.
- Cultural awareness training for non-First Nations program staff is essential.
- Online or face-to-face modules for school teachers to use in classrooms or students to access in their own time can be effective, especially where widening participation programs may not be available.
- Student-centred engagement activities, e.g., sports, CAPA, can be used as a platform through which career and education guidance can be developed and made meaningful.

## 3.2 Discussion of literature

#### *Stages and approaches to interventions in schools*

The school outreach programs reviewed typically engaged high school students, often in the senior years; however, there is strong evidence that earlier interventions will have more impact, especially if contact is commenced in primary years at a time when young people are forming their learner identities and imagining career possibilities (Dollinger et al., 2021). However, Dollinger et al.'s (2021) study also found that students in Years 7 and 8 often held beliefs that it was too early to start thinking about higher education pathways and/or careers, so engaging them in the types of activities that are meaningful for them and likely to open up any limiting ideas, is important.

The case for commencing student awareness about higher education in primary school is strong, as this is when students and others around them (schools, families and peers) start to

gain a strong sense of their capabilities and limitations, with ideas about capability often becoming long-lasting throughout schooling and which can serve to enable or limit their future years.

Different program content, engagement approaches and delivery modes for different school years/stages is a key message in multiple studies (see, e.g., Brown et al., 2020). Programs aligned with stages in schools are powerful for setting the sustained and compounding effects of the opening or closing of opportunities for people from a very young age in being nurtured and immersed in stimulating and enriching learning environments for equal educational development (see, e.g., Geagea & MacCallum, 2020; Vernon et al., 2019).

Dodd, Ellis and Singh (2023) argue that Year 10 is a critical point for supporting students to choose their senior school courses and/or stream aligned with their intended further or higher education or work pathway. Raciti and Dale's (2019) study on university students from LSES backgrounds is also useful here, emphasising that the decision to go to university can occur at any point during compulsory schooling, and study participants themselves recommended that outreach begin early, with a particular focus on Year 10 to support senior high school streaming processes.

Duckworth, Thomas and Bland (2016) point to an important and emerging area of program design that involves school students undertaking access and enabling programs whilst at school (see also Vernon et al., 2019).

### *Partnerships*

Meaningful partnerships are described as key (Fricker, 2015), as are well-designed and well-resourced programs (Zacharias et al., 2018). Brown et al. (2020), for example, describe a RRR intervention that gives target schools the opportunity to lead the program in partnership with the university, which means instead of a 'one size fits all' approach, the program is tailored to the local school context. This flexible approach hinges on a transferable framework that can be utilised in other school settings.

Some interventions reach multiple schools and others are specific to one school (see Godhino et al., 2015 which partnered with a remote Indigenous school), with others involving multi-university programs (see O'Shea et al., 2016).

### *Campus experiences*

A number of studies emphasise the power of stepping onto campus, with short-duration experiences such as day-based activities regarded as impactful, and longer experiences, particularly residentials, found to be very effective for familiarising students with university life, developing student engagement in learning and affirming post-secondary educational choices as well as improved sense of belonging in higher education.

For First Nations students, camps were found to be particularly effective for giving them an opportunity to connect with other First Nations students (see Barney, 2021; Barney & Williams, 2021). Peer influence and support being identified as important in general in a number of studies (see, e.g., D'Angelo & Dollinger, 2023).

### *Aligned careers and employment information*

Appropriately designed and well-timed career education is an area of outreach practice which requires further attention (see Austin et al., 2022; Gore et al., 2017). Scaffolded approaches are described as important, particularly across years 7 to 10, and studies show that key influencers (peers and parents/carers) and industry representatives should feature in interventions (see D'Angelo & Dollinger, 2023). In RRR areas in particular, tangible employment possibilities (D'Angelo & Dollinger, 2023) and positive narratives about regional life were found to be important (see, e.g., Dollinger et al., 2021; Dollinger et al., 2022; Mahat et al., 2023).

### *Engaging disciplines*

Some studies focused on how specific disciplines can be useful for engaging students and through which careers and educational information and guidance can be provided, for example, sports programs (see Macgregor et al.'s, 2015 study of an Indigenous sports program), STEM (Barnes et al.'s, 2022 study of an Indigenous STEM program) and creative arts interventions (see Felton, Vichie & Moore, 2016; Geagea & MacCallum, 2020; Geagea, Vernon & MacCallum, 2019).

### *Modules*

The development of modules that can be embedded in curriculum (for example, early stage career education lessons as described by Mahat et al., 2023) or online modules that provide information, resources and motivational activities to increase accessible content for RRR students (see Poretti, 2019) aim to overcome barriers for cohorts who may not have access to in-community widening participation outreach or campus immersion experiences.

### *Participants*

Some interventions are aimed at capturing a diverse range of non-traditional/ disadvantaged student groups, while others focused specifically on First Nations students (see, e.g., Barney's 2022, overview study) and/or RRR students (see Fray et al.'s, 2020 literature review). Impact studies about pre-access interventions specific to students with disability or WINTA (although see Michell et al., 2018) were not identified during the search period. This gap in research on pre-access programs for particular equity groups is notable for future work.

### *Influencers*

Involving teachers and families to support the potentials of all students and of each person's ability to learn and change over time as a result of learning new things in new ways is essential (see Brown et al., 2020; Gore et al., 2015).

A small number of studies looked at the importance of teachers in nurturing awareness about aspiration (see Prieto et al.'s, 2022 study on teacher professional development and Duckworth et al.'s, 2016 evaluation of a program to support non-traditional students entering education degrees). Gore et al.'s (2015) study demonstrated the significance of teacher-student relationships for post-school transitions.

Building the capacity of key higher education influencers in RRR areas is described as an important whole-of-community approach which can support students' education and career pathway choices (see Kilpatrick et al., 2022).

### *Mentoring*

Mentor programs also featured as valuable, especially for specific groups (see O'Shea, 2016 and Cairnduff, 2015 regarding the value for First Nations students, and Heberlein, 2020 and Lynch, Walker-Gibbs and Herbert, 2015 on the need for increasing access to mentors and role models for RRR students).

### *Evaluation*

Evaluation of impact for continuous program improvements is described as essential, with pre and post surveying being a widely-used approach (see, e.g., Barnes et al., 2022; Cairnduff, 2015; Lynch, Walker-Gibbs & Herbert, 2015; Macgregor et al., 2015). In the studies reviewed, mixed methods were typical for data collection and the inclusion of responses from multiple stakeholders was also apparent (e.g., Austin et al., 2022; Barnes et al., 2022). Comparison of populations exposed to widening participation programs versus those who were not, as in Raciti and Dale's (2019) study of university students, is also useful for building the knowledge base on pre-access interventions.

Individual tracking of students in order to identify and support skills and interests as well as program impact is discussed in Dodd et al. (2023), although perhaps easiest to implement in programs with smaller numbers. The practice of continuing post-program engagement is identified as important in one study about an Indigenous on-campus school holiday camp (Barney & Williams, 2021), an idea which has merit for all equity groups.

## 4. Access

The Access stage of the student life cycle represents a critical transition point where individuals are making important decisions about entering higher education and investing time and resources in preparing themselves for university study. University pathways (enabling and bridging programs), other entry qualifications such as VET, admission strategies for widening participation, and guidance to support student decision-making about appropriate program choice aligned with career destinations, are shown to be key for equity students, with differences in need for school-leaver and non-school leaver groups.

Table 3 highlights 10 access interventions identified by impact studies.[6] The findings section following highlights recurring themes and important considerations or gaps and issues which were identified from the studies reviewed.

***Table 3: Access program impact studies identified during study period (June 2015 - May 2023)***

| Program/Initiative | Brief description | Methods and data | Impact |
|---|---|---|---|
| **First Nations** | | | |
| **1. K-Track**<br><br>Murdoch University<br><br>Bennett, R., Strehlow, K., & Hill, B. (2022). Myth-busting in an Aboriginal pre-university enabling program: Embedding transformative learning pedagogy. *Australian Journal of Indigenous Education*, 51(1), 1-19. | Murdoch's K-Track is a pathways program for First Nations students takes a holistic approach to learning. The program is designed to help students with academic skills and other core skills that enable success, such as time management, communication skills, critical thinking, and mindfulness practices. | Mixed – Analyses student weekly reflections across 7 iterations of K-Track and compares student data (2005-2017) with the original program (KATEC). | Since the implementation of K-track, the total completion rate of the program increased from 6% in KATEC to 39% in K-Track. Transitions into undergraduate study from K-Track were also significantly higher than KATEC. Enrolment into STEM degrees tripled. |
| **2. Preparation for Tertiary Success (PTS) Program**<br><br>Batchelor Institute of Indigenous Tertiary Education<br><br>* Hall, L. (2015). What are the key ingredients for an effective and successful tertiary enabling program for Aboriginal and Torres Strait Islander students?: An evaluation of the evolution of one program. *Australian Journal of Adult Learning*, 55(2), 242-264. | The PTS program aims to teach students necessary academic skills to successfully navigate tertiary study. PTS is delivered to First Nations students Australia wide and is released in blocks where students attend campus for periods of time. | Quantitative – Program data from a period of 8 years was extracted and analysed to compare course enrolments and completions between course iterations. | The iteration of PTS analysed had increased completion rates (2012, 30%) compared to the old version of the program (2007, 9%). Student completion is likely to be a result of holistic, learner centred curriculum and pedagogy, meaningful and culturally relevant content, strong learning relationships and engagement with a twenty first century learning environment. |
| **LSES** | | | |
| **3. The Foundations Studies Program**<br><br>University of South Australia | The Foundations Studies Program is a one-year enabling program where students undertake core courses focused on | Qualitative – Interviews with students were undertaken to explore experiences and transition into enabling programs and into degree | The programs allowed students to overcome obstacles associated with traditional university entry and gave them |

[6] Note that not all studies in our dataset are included in this table because they must include clear details of the intervention, including the university, as well as about the evaluation and impacts.

| | | | |
|---|---|---|---|
| Habel et al. (2016). *Exploring the Experience of Low-SES Students via Enabling Pathways*. Perth: National Centre for Student Equity in Higher Education. | academic literacy, English language studies, individual and group skills, information literacy and research skills and electives aligned to their preferred undergraduate program. Students earn a GPA across the year which they can use to apply for entry into an undergraduate program. | study via an enabling pathway. | confidence in being a student and capacity to succeed. |
| **4. University Preparatory Program (UPP)**<br><br>University of Adelaide<br><br>Habel et al. (2016). *Exploring the Experience of Low-SES Students via Enabling Pathways*. Perth: National Centre for Student Equity in Higher Education. | UPP is an enabling program comprised of core courses and electives, designed to give access to a degree program upon completion of the required core courses. | Qualitative – Interviews with students were undertaken to explore experiences and transition into enabling programs and into degree study via an enabling pathway. | The program gave students confidence to talk to other students, building necessary skills, self-efficacy, and an overall basis for moving into their degree program. |
| **5. Early Offer Year 12 (E12)**<br><br>University of Sydney<br><br>Ng, F., Shirley, D., Willis, K., Lewis, S., & Lincoln, M. (2015). The E12 experience: students' perceptions of a widening participation scheme. *The International Journal of the First Year in Higher Education*, 6(1), 35-47. | The E12 program is a widening participation scheme targeting LSES students by offering a lowered entry score, conditional offer prior to final high school examinations, transition support, and a first-year scholarship. | Mixed – Interviews with 9 students in the Faculty of Health Sciences across Semester 1 and 2 combined with analysis of student grades and achievements. | Found that E12 enabled students to study at University of Sydney or in an undergraduate program where previously it was not an option due to the competitive nature of entry. |
| **6. The Learning Centre 110 (TLC110)**<br><br>Murdoch University<br><br>Vernon, L., Watson, S. J., Moore, W., & Seddon, S. (2019). University enabling programs while still at school: supporting the transition of low-SES students from high school to university. *The Australian Educational Researcher*, 46, 489-509. | The Learning Centre 110 (TLC110) is a Year 12 embedded enabling pathway program aimed to widen participation in higher education by reducing the gaps between desires to go to university, expectations of studying at university and belief of obtaining a university degree.<br>This study investigates whether school satisfaction and increased desire for university differed based on pathway of study: traditional ATAR pathway vs TLC110. On completion of TLC110, students were provided opportunities to study at university. | Mixed – Study 1 involved students at 18 schools in outer metropolitan Perth (n=257; 58% female). Students taking either an ATAR path (n=176) or enabling program (n=81) took the Murdoch Tertiary Aspirations Survey at the start and finish of the school year.<br>Study 2 involved focus groups with students who completed TLC110 in the previous 2 years (n=9, female = 8). | There was a high degree of association between desires and expectations for university study for ATAR participants ($rT1 = 0.81$, $p < 0.05$; $rT2 = 0.82$, $p < 0.05$), whereas for the TLC110 group, the associations between desires and expectations were weaker ($rT1 = 0.30$, $p < 0.05$; $rT2 = 0.55$, $p < 0.05$). Teacher encouragement was significantly associated with school satisfaction and engagement for both groups; however, the magnitude of the association was greater for the TLC110 group ($r = 0.46$, $p < 0.05$) compared to the ATAR group ($r = 0.27$, $p < 0.05$).<br>Focus groups showed that TLC110 attendance helped to improve students' confidence and belief in their abilities stemming from prior academic results and relational engagement in school. |

| | | | |
|---|---|---|---|
| **Multiple** | | | |
| **7. Open Foundation**<br><br>University of Newcastle<br><br>Bennett, A., Motta, S. C., Hamilton, E., Burgess, C., Relf, B., Gray, K., Leroy-Dyer, S., & Albright, J. (2016). *Enabling Pedagogies: A participatory conceptual mapping of practices at the University of Newcastle, Australia*. Newcastle, Centre of Excellence for Equity in Higher Education. | Open Foundation is the largest and longest running enabling program in Australia. The program employs enabling philosophy and pedagogy coupled with wrap-around services to support preparation, develop academic skills and build student confidence. In its current form, students undertake 4 discipline-based courses of their choice and, on passing, are guaranteed entry into numerous undergraduate degrees or gain entry to higher ranked degrees if they score suitably. | Mixed – Literature review, document analysis, interviews with teaching staff representative of discipline areas (n=30) and with past and current students (n=21), and reflective data from 7 research team workshops (n=8 academics). | Findings show that enabling pedagogies are effective for both student preparation and access to HE by creating engaging teaching environments where epistemic access and academic success are achieved through connecting new disciplinary knowledge with students' existing knowledge, as well as making explicit the underlying approaches and principles involved in university study, including the hidden curriculum, and allowing students to re-narrativise and prove themselves as capable learners. |
| **8. OnTrack Enabling Program**<br><br>Murdoch University<br><br>Lisciandro, J. G. (2022). First-Year University Retention and Academic Performance of Non-Traditional Students Entering via an Australian Pre-University Enabling Program. *Australian Journal of Adult Learning*, 62(2), 167-201. | OnTrack delivers high and sustained in-program retention and conversion to undergraduate enrolment. | Quantitative – Data was obtained from Murdoch student records, with students differentiated on basis of admission pathway, including OnTrack. Demographic, retention and academic data from these students were analysed. | A greater proportion of transitioning students via OnTrack were from equity backgrounds, demonstrating an important function of this enabling program. OnTrack students were retained at university at a rate similar or better than students entering via other admission pathways. |
| **9. QUTeach**<br><br>Queensland University of Technology<br><br>Duckworth, V., Thomas, L., & Bland, D. (2016). Joining the dots between teacher education and widening participation in higher education. *Research in Post-Compulsory Education*, 21(3), 260-277. | QUTeach aims to increase the numbers of teachers from LSES and non-white backgrounds, and involves students across years 11 and 12 (nominated on the basis of ability in English and an interest in a career in teaching) undertaking 4 first-year Bachelor of Education subjects. Students passing at least 2 of the 4 subjects studied received guaranteed entry to a range of undergraduate programs with fees for subjects undertaken during the program were waived and credit given for each subject passed. | Qualitative – Student participant interviews carried out in 2009.<br>25 students across 5 high schools were involved in the program. Of the initial intake, 16 were offered guaranteed entry to the university. | Evaluation showed that the program was successful in several ways with many participants stating that, without QUTeach, they would not have considered university, with some reporting that they would not have applied for a teaching course as they would not expect to obtain a sufficiently high school qualification. While still at school, key influencing features including: an introduction to university learning, a strong focus on academic writing, support from university staff, access to the university library, amongst other things. |
| **RRR** | | | |
| **10. University Preparation Program (UPP)**<br><br>University of Tasmania | UPP aims to provide HE access to mature-aged individuals in the Cradle Coast region of Tasmania which experiences low | Mixed – Surveys and follow up semi-structured interviews were employed to explore outcomes of participation in UPP. | The program allowed students to study for a range of reasons; to explore different life paths, for personal development, and to gain new opportunities. |

| | | | |
|---|---|---|---|
| Johns, S., Crawford, N., Hawkins, C., Jarvis, L., Harris, M., & McCormack, D. (2016). Unlocking the potential within: A preliminary study of individual and community outcomes from a university enabling program in rural Australia. *Australian Journal of Adult Learning*, 56(1), 69-88. | levels of educational attainment. Content focuses on academic skills, written and oral communication, critical thinking and numeracy as well as allowing students to familiarise themselves with university culture. | | UPP was shown to be an accessible local option that prepared mature-aged students for further study and employment opportunities that they may not otherwise have accessed. |
| Discussion of program also found in:<br>* Barney, K. (2021). *Building a stronger evidence base to support effective outreach strategies for Aboriginal and Torres Strait Islander students: Increasing impact and university participation*. Perth: National Centre for Student Equity in Higher Education. | | | |
| **Total: 10** | | | |

## 4.1 Findings and insights

Overall, the following key insights and equity mechanisms were identified in the literature as important.

- Students from LSES and other disadvantaged backgrounds often do not have the financial means to participate in or continue with university study.
- Non-ATAR pathways and admissions schemes are increasing, especially for those in equity groups.
- Engaging students from First Nations backgrounds and in RRR areas in university study, and especially in STEM and STEM-related fields, requires attention.
- The lack of studies on interventions which focus on students from non-English speaking backgrounds, students from RRR locations and WINTA means there is a gap in understanding the Access stage.
- Teacher, parent and peer expectations are key to influencing the understanding that one is able to participate in university learning. Limiting views which are often socio-culturally biased require interventions, as they significantly contribute to barriers to equity of access.
- Comprehensive access and pathways strategies and structures which coordinate effective mechanisms, including orientation, enabling and bridging programs, supports and services, are described as effective ways to enable students to engage with university and prepare for success in study.

### *Types of interventions*

- School and community collaborations and partnerships are key to universities enabling access for students from disadvantaged groups.
- Government financial support and timely promotion of scholarships, bursaries, grants and other forms are vital.
- VET to higher education pathways need to be strengthened and redesigned, including utilising university-based free enabling units or courses to facilitate the transition where retention and performance issues occur.
- Pre-university enabling programs are shown to be effective for engaging students from equity groups to ensure they are able to prepare and qualify for entry to university and succeed in their studies. In most cases, this approach provides a free experience of university and preparation before students enrol. Students from equity

groups report that these pathways allow them to trial if university is the right path for them.

- Supporting students and their families and communities to better understand university is essential.
- A choice of on-campus and online access and supports is required to reach and include a diversity of students from all backgrounds, with online being especially important for those in RRR areas.

Most studies explore:

- factors in access interventions which drive success, retention and attrition rates;
- barriers to accessing higher education;
- demystifying university life and students;
- highlighting access to university services;
- the success of enabling programs;
- gathering and analysis of student experiences of access; and
- continuous feedback from students to enable responsive redesign of access interventions.

## 4.2 Discussion of literature

### *Collaboration between universities, high schools and communities*

Building strong collaborative relationships between universities and high schools is likely to increase high school retention and completion, and rates of progression to higher education. It is highly recommended that engagement efforts commence as early as possible in school, beginning at least with students in Year 7 (see, e.g., Dang et al., 2016).

Relationships between universities and regional and remote communities are important, particularly for First Nations peoples, given that many regard university as beyond reach or a complex transition away from family and friends (O'Shea et al., 2019). Regional and remote populations in general need to be understood for their multidimensionality and variety of needs, including for high quality online learning (see O'Shea et al., 2019). Diversity of need in terms of geographical areas and demographics should be part of continuous forms of enquiry and review.

A strong correlation was found between university enrolments and positive student-teacher relationships in school (see, e.g., Tomaszewski, Perales & Xiang, 2017) and also in enabling programs (Hall, 2015). Initiatives aimed at providing and/or improving student-teacher relationships for access outcomes are likely to result in expanded and more representative university enrolments.

### *Financial support*

The literature suggests there is a need to develop a more nuanced and sophisticated understanding of the role of financial support in mitigating the disadvantages faced by students from low SES backgrounds (see Burke et al., 2023; Reed & Hurd, 2016). Equity scholarships are identified as providing the opportunity for a better work-study balance for students. However, as Burke et al. (2023) argue, government funding should seek to address financial hardships impacting on access and completion, and not expect scholarships alone

to address this issue, as the research shows many scholarships are subject to prior performance requirements (i.e., are based on merit from schooling) which means they are widely inaccessible to those from equity groups who have also experienced inequities in schooling.

### *Campus familiarisation*

University familiarisation and on-campus experiences are powerful for non-traditional students learning about what university environments, staff and students are like, in order to disrupt rigid stereotypes about university being elitist and disconnected from wider society and people like them. Programs work best if they are people-rich, including peer-supported activities, and involve demonstrator/facilitator training along with mentors and positive role models (e.g., Smith, Trinidad & Larkin, 2015), to inspire belonging, develop engagement and confidence, and enable academic success (see, e.g., Beltman, Samani & Ala'I, 2017; Naidoo, 2015).

### *Online and other support*

High quality, inclusive and supportive online education is essential for ensuring equity of access to higher education. A considerable number of RRR students want the option to participate in on-campus activities and/or subjects but many also need to have access to sustained, tailored online support (see, e.g., Cairnduff, 2015).

Online enabling programs are important, as are other online university programs, to enable access, particularly for more significantly disadvantaged groups who cannot afford to travel to campus for all classes, have unpredictable work shifts, have disabilities, health issues, caring responsibilities, and especially for those from RRR areas. Stone, King and Ronan (2022) assert that Regional University Centres (RUCs) play a critical role. For example, approximately half of students included in their study reported that they would be more likely to consider studying online with the support of an RUC – soon to be part of an expanded system, the Regional University Study Hubs (RUSH). Stone et al. (2022) recommend that Australian universities build closer connections with RUCs to raise awareness across high schools and the broader local community in RRR areas of the potential for regional study through online study options with the support of these hubs.

### *Access schemes*

Increasingly, universities recognise the correlation between socio-economic and other inequities on school academic performance and resultant impact on university access, with schemes and approaches emerging to ameliorate educational disadvantage. This is provided through inclusive admission and pathways programs, units and schemes.

Non-ATAR pathways and admissions schemes are growing, especially for those in equity groups. Access is an important step, but the literature shows that generally students entering from non-traditional non-ATAR pathways experience lower retention rates, grades and outcomes (see, e.g., Li, Carroll & Jackson, 2022). Li et al. (2022) identify that students who enter university via a non-ATAR pathway report less positive experiences at university.

### *Enabling pathways*

Studies assert that enabling pathways (see, e.g., Johns et al., 2016) are well-placed to address issues of access. Students accessing university via enabling pathways generally experience better first-year retention rates than those articulating via most other sub-

bachelor pathways, and report higher rates of satisfaction in comparison with VET pathways, including in terms of being prepared for university (see Pitman et al., 2016; Li et al., 2022).

Enabling and bridging programs are shown to be effective for re-engaging students in learning, with most describing a commitment to and including a focus on significant numbers of students from equity groups, through inclusive (often called 'enabling') pedagogies, programs and curriculum design, which support both participation and success at university (see, e.g., Syme et al., 2022; Bennett et al., 2016). Student-centred and strategic approaches focused on equity, including implanting more equitable approaches to assessment scheduling and flexibility, which is the key mechanism that enables access to a degree, is critical for pathways programs (see, e.g., Willans & Seary, 2018).

Ensuring such interventions are always learner-centred and based on meaningful and culturally relevant content and engagement, with contemporary online/technology-enhanced learning environments, are described as essential (see, e.g., Hall, 2015; Osborne et al., 2019).

Leveraging and expanding open access enabling pathways for widening participation, particularly for First Nations students, is described as important, and ensuring that the admission process to such programs is not exclusionary is a critical part of upholding equity of access (see, e.g., Baker, Ulpen & Irwin, 2021) given merit or performance (including interview) based interventions are fraught with subtle and invisible biases which reproduce disadvantage.

For First Nations students, Frawley et al. (2017) argue that the second-chance opportunity and the university preparation that enabling programs provide are an essential part of this prominent pathway into university, but pathways from VET to higher education are still overly complex and difficult to navigate, including through enabling pathways, given the lack of clarity and clear visibility for facilitating Indigenous student transitions across the country.

### *Inclusive and Indigenous pedagogies and educational design*

Incorporating Indigenous pedagogies, knowledges and approaches is described as particularly important for First Nations students. For example, Fredericks et al. (2015) report that developing cultural identity and recognising the cultural capital of all participants impacts self-esteem and confidence through a 'both-ways philosophy of education' is important for best practice in First Nations access education, along with developing other forms for navigating institutional systems. Embedding engaging content and approaches from and respectful of both Indigenous and non-Indigenous learning approaches, are found to be important (Hall, 2015). University environments should be culturally and physically safe, with all students, especially those from First Nations backgrounds, feeling respected and comfortable.

### *Challenging stereotypes about learning capacity*

Approaches which are designed to challenge deficit myths, and limiting beliefs and stereotypes about the educational capacity of people from non-traditional backgrounds are critical, particularly for First Nations peoples, and for these to be implemented in multiple locations, across communities, families, schools and universities. Concerningly, both teachers and students have reported believing that some people are not 'smart enough' to enrol at university (see, e.g., Dang et al., 2016). Limiting self-concept and lack of confidence arising

from cultural biases and discrimination need to be prevented before they develop or addressed if they do, through initiatives that challenge and educate communities, students and staff (see, e.g., Dang et al., 2016; Prieto et al., 2022). Based on limiting views of student academic capacity, the provision of career guidance in schools is also described as impacting access to higher education for many. For example, Tomaszewski et al. (2017) found that students from low SES backgrounds are less likely to receive the types of career guidance and sessions which would support decisions to enrol at university.

For First Nations school students, some teachers' low expectations, described as especially low in subjects such as mathematics (see Dang et al., 2016), and bias, play a role in preventing students from considering university and/or they are often not presented with the same opportunities as non-Indigenous students to explore a pathway into higher education. As Rutherford, McCalman and Bainbridge (2019) identify, the expectations of parents and peers are important factors driving intention to attend university. Fredericks et al. (2015) argue that producing feelings of success, allaying fears, and increasing self-acceptance and self-worth, through a supportive learning environment in First Nations access programs works to ameliorate damaging self-concept about academic capability coming from school/peers and/or home.

Initiatives which educate students and families to have high expectations of themselves and their teachers, and to acknowledge and then move past negative learning experiences to improve future experiences, are identified as critical. Interventions which clearly value all students' participation, convey that they belong, and work to empower them with the expectation that they can succeed in higher education are also essential (see, e.g., Syme et al., 2022; Bennett et al., 2016).

### *Institutional strategies and structures*

Equity needs to be deeply rooted within every university's academic strategy and practices, and integrated into curriculum and other relevant processes, funding and initiatives. This includes help with each step from pre-enrolment, enrolment (which is recognised as being more daunting and complex in universities than in other educational systems) and transition (see, e.g., Elsom, Greenaway & Marshman, 2017; O'Shea et al., 2019). Equity outcomes will then form an integral part of the governance and resource allocation processes within the university, including an institutional evaluation framework which explores activities and impacts across the whole student life cycle using methods that identify participation, success, retention, and graduate destinations, as well as broader engagement, participant experiences and insights, with senior leaders driving implementation across the institution to achieve and maximise impacts (see Falconer, 2019).

Policy, funding and institutional structures which provide holistic approaches to supporting students, especially important for First Nations students, to both access and succeed in higher education (see, e.g., Rutherford et al., 2019), including the provision of financial support through scholarships, are described as important from entry to graduation and within postgraduate study (see, e.g., Reed & Hurd, 2016).

### *Participants*

Students studying STEM from equity groups entering via non-ATAR interventions are identified by Li et al. (2022) as being most disadvantaged. This is especially the case for First Nations

students and students from NESB. This suggests a need for targeted initiatives and support to be provided for these groups when accessing, and then when enrolled in, STEM degrees.

Students who are parents have been identified as experiencing significant barriers and challenges. Play spaces, on-campus accommodation, dedicated car parking bays, as well as accessible parenting facilities, are also identified as beneficial for the increasingly large numbers of these students who are often time poor due to their parenting and caring responsibilities (see Andrewartha et al., 2022).

### *Evaluation*

The majority of included studies employ a mixed methods approach, often utilising literature reviews, student enrolment and retention data, surveys, and semi-structured interviews to collect information and impact data. As identified in the previous section on pre-access interventions, ongoing evaluation should feed back into program design continuously, rather than an intervention simply being considered effective, given that contexts and participant needs can shift over relatively short periods of time, in relation to wider developments and changes. The experiences of students as well as community needs should be front-and-centre of design and evaluation (see, e.g., O'Shea et al., 2019; Bennett, 2018).

## 5. Participation

The Participation stage is an important part of the student life cycle, representing a period of years when students are working towards completing a qualification and attempting to balance study with other aspects of their lives. For each individual, there are multiple decisions, challenges and opportunities across their time at university, all of which require navigation and resources. Programs and services designed to enable and support equity students are therefore critical for their engagement, progression and success in the subjects and programs in which they are enrolled. It is not enough that people have secured a place at university, either in a degree or post-graduate program, it is essential that universities provide a range of inclusive and targeted strategies and initiatives to ensure all students have an equal chance of completing their program and, moreover, setting themselves up for successful careers in their chosen field and/or further study.

This section highlights 7 programs that feature in the included literature, as identified in Table 4,[7] and other important knowledge and understanding in relation to transition, engagement, progression and completion whilst students undertake degree or postgraduate qualifications. The findings section below highlights recurring themes, important considerations or gaps and issues which were identified from the studies reviewed.

***Table 4: Participation programs identified during study period June 2015 - May 2023***

| Program/Initiative | Brief Description | Methods and data | Impact |
|---|---|---|---|
| **First Nations** | | | |
| **1. Indigenous Tutorial Assistance Scheme-Tertiary Tuition (ITAS-TT)**<br><br>Multiple<br><br>Wilks, J., Fleeton, E.R., & Wilson, K. (2017). Indigenous Tutorial Assistance Scheme: Tertiary Tuition and Beyond: Transitioning with strengths and promoting opportunities. *Australian Universities Review*, 59(1), 14-23. | ITAS-TT provides Australian government funding for one-to-one and group tutorial study support for Aboriginal and Torres Strait Islander students. | Qualitative – Focus groups and interviews with 18 students who were receiving or had received tutoring, 15 tutors and four university personnel across two regional NSW universities. | Evidence found that ITAS was a vital means of assisting First Nations students to achieve their academic goals, and was highly beneficial, positively influencing the student experience. |
| **LSES** | | | |
| **2. Business for Success (B4S)**<br><br>University of Wollongong<br><br>Almeida, S., Ranabahu, N., & Verma, R. (2022). Reducing inequality through institutional action: towards a process framework for student transition and support. *Higher Education, Skills and Work-Based Learning*, 12(6), 1138-1153. | B4S is a faculty specific support program designed to help LSES students with their transition into university, engagement and completion of their degrees using: bridging courses, workshops, resource loans, tutoring allowance, ongoing communication, exam support, peer mentoring and supported internships. | Mixed – Case study using bridging course evaluation questionnaires (121 student respondents), interviews with 4 students, group discussions with 5 students, feedback from 6 peer mentors and 6 mentees, and secondary data on student performance and experience to investigate the B4S program and explore how it addressed structural inequalities associated with students' educational journeys. | The B4S program was found to provide encouragement, support and necessary services to students during their studies and facilitated them in reaching their study goals. |

[7] Note that not all studies in our dataset are included in this table because they must include clear details of the intervention, including the university, as well as about the evaluation and impacts.

| | | | |
|---|---|---|---|
| **3. Equity Scholarship Program**<br><br>Macquarie University<br><br>Reed, R. J., & Hurd, B. (2016). A Value beyond Money? Assessing the Impact of Equity Scholarships: From Access to Success. *Studies in Higher Education*, 41(7), 1236-1250. | The Equity Scholarship Program aims to mitigate associated costs of university for LSES students, enabling and encouraging them to apply to university. | Mixed – Identification of retention rates and collecting narrative data through in-depth, semi structured interviews with scholarship recipients. | Students receiving a scholarship had retention rates of 90.6%, compared with non-scholarship holders 84.1% and LSES non-scholarship students 78.6%. |
| **Multiple** | | | |
| **4. Succeed at La Trobe (S@LT)**<br><br>La Trobe<br><br>Cox, S., & Naylor, R. (2018). Intra-university partnerships improve student success in a first-year success and retention outreach initiative. *Student Success*, 9(3), 51-64. | S@LT is a commencing student transition and academic outreach program, designed to support retention, academic preparation, and sense of belonging. 'At-risk' students are identified, and personalised, course and subject based advice is developed. | Quantitative – Weighted average marks, retention data and demographic information was retrieved for students who were contacted to calculate academic improvement as a result of the program. | There was clear evidence of success for S@LT participants using several key indicators, including: retention, success, student satisfaction, and academic achievement. Contacted students displayed higher retention rates (80.5%) than those who were not contacted (72.65%). Contact with S@LT also reduced attrition under the university average of 20.77%. |
| **5. Students Together with Academics ensures Retention and Success (STARS)**<br><br>University of Newcastle<br><br>Ebert, L., Watkins, S., & Dowse, E. (2021). Students together with academics ensures retention and success: The STARS project. *Nurse Education Today*, 97, 104723. | The STARS project is aimed at supporting student success in Midwifery programs with traditionally high rates of equity students, and particularly where Professional Practice Experiences (PPE) are part of the program. | Mixed – Data was collected from 42 first year midwifery students enrolled in their first year. Qualitative data was collected via a focus group and quantitative data through university systems. | Impacts of the program showed there were greater retention and progression rates and a shift in the grade distribution towards higher course grades overall. Student satisfaction with learning activities was scored out of 5, and was shown to have increased (3.19 to 4.18) along with course assessment satisfaction (3.55 to 3.91). |
| **6. Equity Scholarships**<br><br>Multiple: Deakin, Queensland University of Technology, University of Sydney<br><br>Zacharias et al. (2016). *Moving beyond 'acts of faith': effective scholarships for equity students*. National Centre for Student Equity in Higher Education (NCSEHE), Perth: Curtin University.<br><br>Zacharias, N., & Ryan, J. (2021). Moving beyond 'acts of faith': effective scholarships for equity students. *Journal of Higher Education Policy & Management*, 43(2), 147-165. | Study reports on the first cross-institutional Australian research to investigate the relationship between equity scholarships and recipients' retention and success outcomes. Scholarships at 3 universities (Independent university, Innovation university, Sandstone university) were investigated - differing approaches including payment type. | Mixed – Comparative case studies based on a snapshot of scholarship recipient retention and success data, and scholarship recipient responses to a survey. | The study found consistently that even a comparatively small scholarship amount aided equity student retention especially when targeting students with high need and life circumstances. |
| **NESB** | | | |
| **7. Equity Buddies**<br><br>Western Sydney University<br><br>Vickers, M., McCarthy, F., & Zammit, K. (2017). Peer mentoring and intercultural understanding: | Equity Buddies at WSU is a student mentoring program recruiting students in their second and third year of university to become mentors for first year | Qualitative – 32 intercultural mentor-mentee pairs constituted the study sample. Mentors completed written reflections, log books, and a brief demographic survey. | The program enables students to build capital and develop a sense of agency (i.e., control and purpose). It promoted increased social inclusivity and created wider social networks. |

| | | | |
|---|---|---|---|
| Support for refugee-background and immigrant students beginning university study. *International Journal of Intercultural Relations*, 60, 198-209. | students from refugee backgrounds. | | Mentees became more accustomed to the university environment while mentors gained a widened intercultural perspective. |
| **Total: 7** | | | |

## 5.1 Findings and insights

A multitude of factors were identified that influence student participation, retention and completion, including:

- financial assistance mechanisms;
- disability, health and academic support;
- culturally-informed, engaged and safe learning environments;
- student support networks;
- inclusive and flexible pedagogical, curriculum and assessment design; and
- targeted and comprehensive institutional strategies, including holistic transition and support services implemented at each of the different stages of the students' education journey.

Overall, the following are critical mechanisms, challenges and gaps identified in the literature.

- Financial hardship is often reported as the reason for students discontinuing study. Managing competing obligations also poses a significant challenge. Everyday costs of study, including for fuel and transport to campus and placements are significant for students on low incomes.
- Students living with disability have reported stigma and lack of knowledge and understanding amongst staff, with some perceived as holding assumptions of reduced individual capacity, particularly for those with visible disabilities.
- Although inclusive educational design (including pedagogy, curriculum and assessment) for student equity is highlighted as essential, there is a large gap in practice and a lack of strategy and structure at both the national and institutional levels.
- Accommodation does not feature prominently in studies, although it is widely known that lack of accommodation and housing affordability are critical issues which impact students' ability to study and their overall wellbeing.
- WIL, placements and internships often reproduce disadvantage or make it worse. Degree requirements relating to employability are often significant barriers to students being able to complete their degrees.
- Interventions are needed to improve the rates of retention and completion of WINTA students and to attract more women into STEM subjects.
- It is noted that there is little to no support for students nearing the end of degrees.

### *Key design principles*

- Financial and family support are identified as important for retention and completion. Initiatives are required to ameliorate where financial and family support are unavailable.

- Prejudice and racism are often felt by First Nations students. Developing cultural competency training, which educates non-Indigenous staff and students about the importance of Indigenous knowledges and cultures and clearly valuing them, is essential.
- Staff flexibility, empathy and care are identified as facilitating student success. Continuing professional development which enables understanding, sensitivity and responsiveness of academic staff to student equity, including students' circumstances and needs, are crucial for retention and completion.

### *Types of interventions*

- Financial assistance and scholarship schemes are identified as having a diverse and broad range of benefits, but merit-based and other competitive approaches can reproduce inequalities.
- Continuing professional development for equity is required for all staff to achieve:
    - culturally-informed programs, including Indigenous knowledges, are essential for more equitable outcomes;
    - disability awareness, approaches and understanding of policies; and
    - inclusive approaches to all services, pedagogy, curriculum and assessment
- First Nations student centres and First Nations staff provide important academic, social, emotional and cultural supports, and play a critical part in First Nations students remaining at and completing university.
- Provision of peer mentoring and networking opportunities allow students to develop meaningful and effective learning, and also supports wellbeing and degree progression.
- Flexibility in modes of study (especially online) and for assessments, is critical for engaging a wide diversity of students from equity groups.

The impact studies collected investigated:

- targeted support for commencing students
- inequalities within student journeys
- factors shown to be effective for increasing retention and success
- practices and policies which enable or constrain students
- challenges faced in study for specific groups
- insights into overlooked equity groups
- intersectionality between equity groups
- employability related activities
- effects of mentoring on students and online learning

## 5.2 Discussion of literature

### *Transition and support services*

Early intervention campaigns to commencing undergraduate students from equity backgrounds are essential, including, for example, 'welcome' and program advice calls, subject information and partnerships with academics, orientation sessions, academic advice days and mentoring (see Cox & Naylor, 2020). Interactions with career advisors, disability support services, counsellors, financial advisors, and administrative staff are also shown to have positive impacts on transition and learning outcomes. Institutions need to deliberately

create links between students and members of support services, teaching staff and the student body in direct and ongoing ways to ensure student participation and success (see Groves & O'Shea, 2019). Peer support and mentoring are also shown to benefit both new and established students (see, e.g., Groves & O'Shea, 2019), as well as provide academic, professional and personal growth for continuing students.

Family support, including emotional, financial and physical support, is also reported as important for retention and completion, and important for ensuring participation, reducing stress and challenges (see Taylor, Lalovic & Thompson, 2019; Stone et al., 2016).

Conventional forms of extra-curricular support services (e.g., learning support and Peer Assisted Study Sessions - PASS) are described in the literature as less well utilised by many students from equity groups (see, e.g., Uink et al., 2022; Ebert, Watkins & Dowse, 2021) because they require extra time, and are not normalised, targeted or tailored enough by academic staff, so that perceptions and feelings of deficit and stigma, which are often associated with accessing student support services, are reduced or removed.

### *WIL, internships and placements*

Internships and placements during degree programs often reproduce inequalities and can serve to further disadvantage equity students, compounding the stress already experienced due to: many losing income while participating, the costs involved in travel and for accommodation, the need to make alternative care arrangements for dependents, and/or the risk of losing current employment (see, e.g., Usher et al., 2022). Inequitable practices can make it easier for some students to access, experience and leverage future careers as compared to others. Most studies about this issue argue that a rethinking of dominant WIL and placement practices is required to disrupt the reproduction of social inequalities and exclusions. Students who are parents have been identified as experiencing significant barriers and challenges in relation to program placements. To increase the participation and outcomes of student-parents, accessible and preferential modes, which can accommodate parenting responsibilities, are important (see also Andrewartha et al., 2022).

Jackson and Dean (2022) argue that it is important to embed equitable approaches to all Employability Related Activities (ERAs), which support lifelong learning and transition to work, such as volunteering, club/society roles, leadership/awards, micro-credential/digital badge programs, industry-student mentoring, and enterprise incubator/start-up activities. This is vital because positive impacts for those engaging in activities involving preparedness for work, as compared to those who did not engage, have been found. Inclusive ERAs, which are flexibly designed to cater for all students' needs and circumstances, are required and linking activities to graduate selection criteria will help students demonstrate their skills and achievements to recruiters and employers (Jackson & Dean, 2022).

### *Financial hardship and support*

Financial hardship is a significant issue impacting student participation and completion more generally. It is often reported by students as a reason why they are not able to continue with study. For students, the costs of study materials and fuel for traveling to campus while on low incomes, coupled with living costs of accommodation, food and other necessities, are compounding (see, e.g., Devlin & McKay, 2018). Students report that government support

and institutional scholarships increase their participation and success (see Devlin & McKay, 2018).

Scholarships influence equity student retention and pass rates, as they provide both material living, learning and psychosocial benefits, which make a difference, particularly for First Nations students (see Ng et al., 2015; Almeida, Ranabahu & Verma, 2022; Uink et al. 2022). However, financial supports need to be provided in time for students to be able to cover the living costs of commencing study and the cost of course materials.

Recipients have reported that having a scholarship made them feel supported by the university and gave them a sense of belonging. Even a relatively small scholarship amount influences equity student retention, having practical and psychosocial benefits, with the exception of students 'doubly disadvantaged' (e.g., from RRR areas, with relocation expenses and loss of social networks during transition to university) who often require additional support due to the loss of multiple sources of support (Zacharias & Ryan, 2021). Zacharias and Ryan (2021) found that scholarships targeting students with demonstrated high need and the greatest risk of attrition, had a particularly positive effect on retention rates. Additionally, the selection criteria for scholarships influences student retention and success outcomes more than the scholarship 'product' itself because, for example, merit-based criteria are subject to achievement and selection biases. That is, these programs may reward individuals who would have succeeded irrespective of being awarded the scholarship, while excluding those who require such support to adequately demonstrate the academic 'merit' initially needed.

Students have reported they experienced WIL-related financial hardship which affected their wellbeing and reduced enjoyment of their placement. Lloyd et al. (2019) suggest that to reduce the strain of WIL on student wellbeing, universities should partner with industry and, importantly, remove or reduce the barrier to completion set up by the need for students to complete hours or units in order to complete their degree. The expectations of professional accreditation also have an important role in creating, and potentially addressing, these barriers to completion in many disciplines.

A substantial number of students need to travel long distances to do placements, with lack of accommodation or affordable accommodation identified as challenging (see Clerke et al., 2021; Andrewartha et al., 2022). Many students suggest that universities lack understanding or do not care, and that placement affects their usual employment, in terms of them either being unable to work, losing their jobs or negatively affecting their employer relationships. A ‘living wage’ remuneration (potentially a government responsibility rather than a university one), and equity targets for WIL engineering placements, and less intensive and more flexible models of WIL, if unpaid placements are unavoidable, and reducing the ‘hours’ needed for graduation requirement, are all described as important (see Clerke et al., 2021; Lloyd et al., 2019).

### *First Nations educational design and support*

Support from First Nations academics and staff is reported as critical to First Nations students remaining at and completing university. Culturally inclusive courses assist with student retention, redressing various forms of racism and discrimination (including and often seemingly inadvertent due to lack of training and understanding). Fredericks et al. (2022)

report that, to ameliorate issues, teaching and learning should involve First Nations perspectives and engagement with Indigenous knowledges and cultures. This can be achieved through ongoing cultural competency training of staff and students which enable culturally enriched knowledges and learning, and safety for First Nations students. Recognising discriminatory and exclusionary structural and cultural practices in and beyond education and actions which address and challenge them are required (see, e.g., Lin et al., 2021). Uink et al. (2022) identifies the Indigenous Tutorial Assistance Scheme (ITAS) as a highly utilised service associated with positive pass rates for First Nations students.

On-campus First Nations student centres (of various kinds appropriate to context) are essential for providing important academic, social, emotional and cultural supports. These structures include provision of peer networking which allow First Nations students to build meaningful relationships and connect with other First Nations students. Flexibility in course delivery modes (internal/external, full-time/part-time) also provide the flexibility required by students to achieve academically so they can modify their mode of study according to personal needs (Taylor et al., 2019). Taylor et al. (2019) found that discrimination and racism are the most pervasive and debilitating barriers to successful course completion, and family support as the most frequent enabler of retention, in providing emotional, financial and physical support. They found that where this is not available, students experience stress, loneliness, isolation and financial hardship.

### *Inclusive educational design and pedagogy*

Although extra-curricular and more generic learning support are important for addressing issues experienced by some equity students, more inclusive and responsive courses and pedagogies across the board are reported as essential for retention and completion. Inclusive pedagogy is found to make a substantial difference to student success, allowing students to be active and interactive (see, e.g., Devlin & McKay, 2019). Learning and assessments that are relatable and 'real-world' based, are described as more engaging and meaningful for effective learning. So too, teaching staff who are available, responsive, caring and solutions-focused are reported by students to be fundamental to their success (see Groves & O'Shea, 2019). Staff understanding and responding to the circumstances and needs of students is therefore important. Being flexible around life, work and family pressures, being empathetic, and checking in on students to make sure they know someone 'cares', are identified as facilitating student success (Groves & O'Shea, 2019).

Approaches which assist busy students with juggling multiple commitments, with classes, assessments and placements, and have flexible time structures, are described by students as very helpful. Innovative approaches, such as providing an assessment submission period (rather than a specific date) and automated reminders, have been identified as assisting students to effectively manage study in the context of other competing roles and responsibilities (see, e.g., Ebert et al., 2021).

Technology-enhanced teaching is also identified as an important way to make learning available at the places and times students require, given they are often very time poor. Flexibility in mode of study and allowing students to change according to work and personal needs which occur over a term are described as important. Time flexibility (see Hughes, Corcoran & Slee, 2016), is identified as crucial, and the requirement of in-class attendance

presenting a barrier for many (often due to transportation and/or mobility issues, and fatigue related to other commitments and financial issues).

### *Online*

Online study is chosen by many students for the essential flexibility it offers, so they can learn where and when they need to, around work, care for children and other responsibilities (see Stone et al., 2016). Online access is about providing equity of opportunity, so institutions need to provide effective and tailored resources, approaches and supports, rather than privilege on-campus students. However, challenges include: issues with accessing some online sites and poor internet.

Students with medical issues, including mental health, have reported a preference for studying online due to mobility and other reasons, and that this option has assisted them in their study (see Kent, 2016; Hughes et al., 2016). Benefits include allowing them the flexibility to study self-paced, when they are able to and from the comfort of home. Online study has been reported as making a substantial impact on many students being able to complete units.

### *Disability and disclosure*

A small number of studies focused on students with disability and ways to understand and improve student experience and retention (see, e.g., Kilpatrick et al., 2017). Rooney (2019) found universities often reinforce deficit views of people with disability through positioning them as problematic. Students have reported a lack of knowledge about disability amongst teaching and academic support staff, with some perceived as holding assumptions of reduced individual capacity (see Rooney, 2019). Staff training is therefore essential, as is involving students with different types of disability in policy and practice development is key (Kilpatrick et al., 2017). Moving from aspirations to practice means equity of experience and participation in higher education must be embedded throughout all parts of an institution (Rooney, 2019).

Some recommendations identified by students with disabilities include: online courses be self-paced, including for assessments, there be provision of alternative assessments, clearer instructions of expectations of coursework, personal mentoring, and access to extensions if required. More recognition and accommodation of the needs of students with a disability, other than just extra time, are noted. For example, offering a study period which allows for more breaks for students to recuperate from fatigue and physical issues is identified as important (Kent, 2016). A disability friendly environment which is welcoming and accommodating to this community and the development of online fora for students with disabilities are also highlighted as important.

Student reasons for not disclosing their disability include: feeling shame and feelings of inadequacy, feeling as though their disability is not apparent enough to warrant support, or because they want to be taken seriously. Students with mental health issues often do not disclose due to stigma and fear of discrimination, or because of a lack of awareness of disclosure procedures. On the other hand, students with disability have also identified the benefits of peer support and engagement with student services in order to mitigate any feelings of inadequacy or negative learning experiences. Having someone to advocate for

them, who can understand and represent their interests, is described as making a difference to their experience of university.

### *WINTA*

Interventions are needed to improve the rates of retention and completion in the WINTA group and to attract more women into STEM subjects. For example, Bennett, Bawa and Ananthram (2019) report that WINTA are more likely to drop-out of their studies than men. They argue that more effort and initiatives are required to attract greater numbers of women and improve these rates, including within employability-focused learning and initiatives. Lloyd et al. (2019) point out that for Work Integrated Learning, WINTA are also often subject to prejudice and biases which are discriminatory.

### *Re-engagement*

Re-engaging and re-recruiting cohorts who withdraw from studies is discussed as important, given that when attempting to return to study, students have reported being stigmatised or feeling stigmatised due their 'drop-out' status or they found the process of applying for credit for prior learning was too complex (see Harvey & Szalkowicz, 2017). Instead, as Harvey and Szalkowicz (2017) suggest, this cohort should be considered an alumni subset or as partial completers who should be re-engaged with given their previous units of achievement and for providing recognition of learning, which is especially important for providing equitable participation because a high proportion of those who leave are from equity backgrounds. Outreach to students on a leave of absence (LOA) may reduce the risk of attrition, given that contact with them has shown a positive effect on re-engagement (Naylor, Cox & Cakitaki, 2023).

### *Evaluation*

Mixed methods approaches were most commonly used to draw on the richness and variety of qualitative and quantitative data to better understand participation trends as well as student experiences and insights, including:

- institutional data
- sector data
- national datasets
- other studies with large datasets or larger scale projects
- case studies
- surveys
- online self-assessments
- semi-structured interviews
- in-depth bibliographical interviews

## 6. Attainment and Further Transition

The Attainment and Further Transition life cycle stage involves a critical point in student decision-making where employment, further study or a combination of both are made. Further study may be at university or through other providers depending on career/employment demands but where postgraduate programs are concerned it is important to acknowledge that some equity students may encounter barriers similar to those experienced at the Access and Participation stages of the life cycle. In terms of post-degree career pathways, it is critical that graduates from equity backgrounds are able to find employment in their chosen field, otherwise the time, effort and cost associated with attaining their qualification goes unrewarded, this having implications for future equity students who are making decisions about whether to go to university.

This section provides a brief discussion of literature associated with Attainment and Further Transition. As there were no programs specific to this reframed life cycle stage that featured in the included literature during the search period, there is no table included. However, it should be noted that interventions and activities outlined in a number of studies associated with the Participation stage of the student life cycle, have significant bearing on rates of student completion and graduate employability, for example WIL, career guidance and other employability initiatives, and post-qualification destinations.

The small number of studies drawn on here about barriers and enablers for equity groups are discussed in relation to challenges and recommendations for students at the Attainment and Further Transition into employment and/or further study stage.

### 6.1 Findings and insights

It is clear from the literature search across the study period (June 2015-May 2023) that there are limited studies which include sufficient information about an intervention, the approach to evaluation and impacts, supporting equity students in the final life cycle stage. This does not mean that there are no programs across the sector aimed at supporting students to complete their qualifications and transition to employment and/or further studies, but that there has been limited research on or dissemination of the impact of these interventions. The findings discussed in this section are important for illuminating some of the barriers and enablers for equity student completions (at degree or HDR level), as well as implications for employability. However, due to the low numbers of impact studies found, it is not possible to reach strong conclusions about best approaches and strategies to support targeted students.

The literature on the Participation stage suggests that students from equity groups are much less likely to participate in activities which increase employability due to lack of time, financial resources, paid work, and fear of discrimination, meaning that they can be disadvantaged in finding work as graduates. The following points emerged from the literature about Attainment and Further Transition:

- Many graduates from equity groups have expressed a sense of being underprepared for employment in their field.

- Perceptions of English language proficiency and lack of permanent residency or ongoing work rights, contribute to an unwillingness on the part of many employers to fairly consider students from NESB. Greater funding and development of initiatives or programs for this group, as well as addressing and targeting others from equity groups, are required.
- Barriers to attracting and retaining First Nations students in Higher Degree Research (HDR) programs include discrimination, cultural and social isolation, and a shortage of First Nations mentors/academics. These factors also impact completion rates.
- Meaningful student-supervisor relationships allow First Nations HDR students to succeed. Supervisors who are supportive and culturally sensitive are essential.
- Employment of more First Nations supervisors and involving Elders in supervisory processes are likely to have a positive impact on students.
- Despite the significant increase in postgraduate pathways from degrees and work to graduate certificates and graduate diplomas over recent years, they did not feature in any studies found. For the same reasons as other pathways and from the points made in the literature regarding challenges, it is highly likely that students embarking on this part of the student journey would benefit from academic bridging and supports, especially for those entering without a degree or those gaining access to postgraduate pathways based on work experience but where significant time has lapsed since last studying.

## 6.2 Discussion of literature

### *Employability*

Students from equity groups are less likely to participate in employability activities during their studies due to lack of time, financial resources, obligation to paid work and fear of discrimination. Therefore, equitable employability strategies are important for universities to develop and need to involve students in design. However, providing students with the choice to either focus more on employability or a broader education focus, depending on their needs and ambitions, is argued by Andrewartha and Harvey (2017b) to be important.

Activities targeted to equity groups are required, including developing placements and internships, more employer networking events, careers fairs, professional mentoring opportunities, increased access to extra-curricular opportunities, integration of employability into compulsory units, and increased funding to provide more careers advisors and services to support employability for these groups.

Many graduates from equity backgrounds have expressed how unprepared they felt for employment. Some assume that a degree is all that is required to compete in gaining the employment aligned to their degree (see O'Shea, 2023). Groves, O'Shea and Delahunty (2022) found that students who are first in family (FIF) report difficulty in finding a job in their degree field. Some students who are FIF are unaware of or do not have the social capitals (e.g., people networks) nor the connections gained through extra-curricular activities, required to gain an advantage in a competitive employment market. Students who are FIF often do not have the family contacts and connections which enable them to gain employment after their degree.

Some equity students have reported a low sense of belonging and self-confidence in the employment context (see Groves et al., 2022). Therefore, as Groves et al. (2022) argue, students should be made aware of the critical approaches and activities for gaining employment, including extra-curricular activities and networking during a degree. Making such hidden knowledges explicit is crucial.

Student union leadership positions and management of clubs and societies, enables students to learn transferrable skills which could improve employability. Student union careers services are identified by Andrewartha and Harvey (2017b) as an important way to increase employability. Participation in clubs and societies with low or no cost, are found by Andrewartha and Harvey (2017b) to assist in building positive relationships, which is considered beneficial for improving a student's marks and providing networks related to work after graduation.

Analysing the labour market outcomes of university graduates from equity groups, Li et al. (2017) argue that greater support needs to be provided through policies encouraging access to and completion of higher education. They raise concern that some groups, particularly NESB and WINTA, may be discriminated against, finding, for example, that although STEM graduates are employed at higher rates than non-STEM graduates, higher paying STEM jobs are male dominated. In order to ensure all groups are provided with opportunities for employment, equal employment policies should be enforced and monitored.

Newman et al. (2022) found that few universities offer career guidance and WIL specifically for CALD students, as well as insufficient resources and programs. Perceptions of English language proficiency and lack of permanent residency or ongoing work rights, contribute to an unwillingness on the part of many employers to fairly consider CALD students. Greater funding and development of initiatives or programs for this group are required.

### *Postgraduate study*

Hutchings et al. (2019) report that barriers to attracting and retaining First Nations students in Higher Degree Research (HDR) programs include: institutional racism and discrimination, lack of spaces in universities conducive to effective learning, cultural and social isolation for students, as well as lack of First Nations mentors/academics.

In addition, Hutchings et al. (2019) argue, meaningful student-supervisor relationships are essential for First Nations HDR students to succeed. Supervisors who are supportive and culturally sensitive are required, so employment of more First Nations supervisors and involving Elders in supervisory processes are likely to have a positive impact on students. Individual tailored approaches to recognising First Nations HDR student needs and providing responsive support as required throughout different stages, are essential.

### *Learning and other important supports*

Studies have found that very few universities provide adequate support for postgraduate students, especially First Nations HDR students (Hutchings et al., 2019). However, regular and ongoing workshops and support groups, including peer support, and ensuring that scholarships information is available and put in place in good time, are all identified as critical for equity students to participate and succeed.

More support in the transition to postgraduate study, as well as for student employability are required during this last but very important stage of the student life cycle. This is a critical stage, given that attainment and employment are the drivers for engaging in higher education in the first place. This is also true for the increasing numbers of people who are interested in and enrol in postgraduate pathways and programs.

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