

Equity Initiatives in Australian Higher Education:

A review of evidence of impact

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The Critical Interventions Framework Part Two Equity Initiatives in Australian Higher Education: A Review of Evidence of Impact

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The Critical Interventions Framework Part 2: Equity Initiatives in Australian Higher Education: A Review of Evidence of Impact



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List of acronyms used

ADCET	Australian Disability Clearinghouse of Education and Training	SES	Socio-Economic Status
AIHW	Australian Institute of Health and Welfare	SFC	Student Feedback on Courses (Student survey at The University of Newcastle)
ASGS	Australian Statistical Geography Standard	SFP	Student Feedback on Programs (Student survey at The University of Newcastle)
ATAR	Australian Tertiary Admission Rank	STARS	Student Transitions, Achievement, Retention and Success Conference
ATSI	Aboriginal and/or Torres Strait Islander	TAFE	Technical and Further Education (state government providers of predominantly vocational tertiary education courses)
CIF	Critical Interventions Framework	VET	Vocational Education and Training
CPD	Continuous Professional Development	WAM	Weighted Average Mark
DEEWR	Department of Education, Employment and Workplace Relations (Australian Government)	WINTA	Women In Non-Traditional Areas
DET	Department of Education and Training (Australian Government)		
BFOE	Broad Field of Education		
DIICCSRTE	Department of Industry, Innovation, Climate Change, Science, Research and Tertiary Education (Australian Government)		
EIF	Equity Initiatives Framework		
EPHEA	Equity Practitioners in Higher Education Australasia		
FYHE	First Year in Higher Education Conference		
GPA	Grade Point Average		
HD	High Distinction (university grade)		
HE	Higher Education		
HEAT	Higher Education Access Tracker		
HEFCE	Higher Education Funding Council for England		
HEPPP	Higher Education Participation and Partnerships Programme		
LGBTIQ	Lesbian, Gay, Bisexual, Transgender, Intersex, Queer		
NESB	Non-English Speaking Background		
PASS	Peer Assisted Study Sessions		
PQR	Planning, Quality and Reporting (The University of Newcastle)		
SA1	Statistical Area Level 1		
SEIFA	Socio-Economic Indexes for Areas		

Table of contents

List of Tables and Figures	06	6. Participation: Engagement and Progression during Studies	71
Executive Summary	07	6.1 Introduction	72
1. Introduction	10	6.2 Key Features of Effective Initiatives	75
1.1 Purpose and Background	11	6.3 Summary of Evaluation Methodology	78
1.2 Structure of the Report	12	6.4 Structure of Impact	79
1.3 Resources Provided in this Report	13	7. Completion: Attainment and Transition Out	80
1.4 Methodology	15	7.1 Introduction	81
1.5 Evaluation of Equity Initiatives	20	7.2 Key Features of Effective Initiatives	84
2. Policy Context and Evidence Base for this Research	22	7.3 Summary of Evaluation Methodology	86
2.1 Equity in the Australian Higher Education Policy Context	23	7.4 Summary of Impact	87
2.2 Equity Groups	27	8. Conclusions and Implications	88
2.3 People from Equity Groups Remain Under-represented in Higher Education	27	8.1 Key Findings	89
2.4 Most Students from Equity Groups are no Less Likely to be Successful in Higher Education	30	8.2 Implications	91
3. Pre-Access: Outreach Programs to Schools and Communities	35	Appendix 1: Literature Review Methodology	93
3.1 Introduction	36	Appendix 2: Case Study Phone Interview Questions	100
3.2 The Key Features of Effective Initiatives	40	Appendix 3: Survey	105
3.3 Summary of Evaluation Methodology	43	Bibliography	109
3.4 Summary of Impact	44		
4. Access: Pathways and Admissions	48		
4.1 Introduction	49		
4.2 Key Features of Effective Initiatives	53		
4.3 Summary of Evaluation Methodology	57		
4.4 Summary of Impact	58		
5. Participation: Transition and Engagement	60		
5.1 Introduction	61		
5.2 Key Features of Effective Initiatives	65		
5.3 Summary of Evaluation Methodology	68		
5.4 Impact	68		

Table of Tables and Figures

Figure 1. Equity Initiatives Framework	14
Table 1: Publications Included in Final Synthesis	16
Table 2: Survey Responses by State and Institution	17
Table 3: Survey Responses by Affiliation of Institution	18
Table 4: Reported Aims of Equity Programs	18
Table 5: Type of Equity Program	19
Table 6: Equity and Population Groups Targeted by Initiatives	20
Table 7: Funding and Enrolments by Target Group	25

Figure 2. Higher Education Equity Initiatives Policy Context and Evidence Base	26
Table 8: Participation Ratios of Equity Groups over Time	28
Table 9: Participation Ratios of Equity Groups by Broad Field of Education (BFOE) in 2014	29
Table 10: Success Rates of Equity Groups over Time	31
Table 11: Retention Rates of Equity Groups over Time	32
Table 12: Success Rates of Groups by Broad Field of Education (BFOE) in 2014	33
Table 13: Retention Rates of Equity Groups by Broad Field of Education (BFOE) in 2013	34
Table 14: Pre-access Initiatives and Evaluation Strategies Included in this Section	37
Table 15: Access Initiatives and Evaluation Strategies Included in this section	50
Table 16: Transition Initiatives and Evaluation Strategies Included in this Section	62
Table 17: Participation Initiatives and Evaluation Strategies Included in this Section	73
Table 18: Attainment Initiatives and Evaluation Strategies Included in this Section	82

Executive Summary

This report provides an overview of the equity initiatives in Australian higher education that have demonstrated their effectiveness through published impact studies or through participation in our national survey. The report also presents two important resources for program providers and policy makers to enhance the provision and evaluation of equity programs: a supplement of featured initiatives per stage of the student life-cycle; and a framework that provides a summary of the detail about equity program and evaluation types for general reference.

Many different types of programs demonstrate effectiveness within the various stages of the student life-cycle. There is no one specific, most effective program per stage, although there are common, underlying factors that contribute to impact. Throughout the following sections of the report, these key features and strengths are identified. An important recurring theme from this study is the interdependence of features that make an initiative effective. Singling out unitary aspects as if they work alone is not possible, as the evidence shows that a more holistic and multifaceted approach is required within any one program.

Key Findings

Overall, sector data show that students from equity backgrounds are not substantially less likely to successfully complete their studies than other students. Indigenous students continue to be the exception to this. An increasing number of initiatives demonstrate effectiveness, but sustained effort is required to support the development of work in this area.

The following key findings are based on the 76 initiatives identified that demonstrated evidence of effectiveness in promoting good outcomes for students from equity groups as defined by stakeholders. Fifty eight from the literature review and eighteen from the survey met the inclusion criteria. It is likely that effective programs that have not yet been rigorously evaluated share many of the same features. The inter-dependent features and points identified in the key findings are likely to be most effective if nested within a cohesive institutional equity strategy and national policy framework.

- Direct experiences with universities for school students and other groups make an effective contribution to widening participation.
- Mentors and role models can have a significant impact on access and success across all stages of the student life-cycle. Developing student engagement through mentoring takes time, appropriate training and incentives for mentors (forms of recognition and appropriate remuneration).
- Embedding support in the curriculum is more effective and has broader reach than extra-curricular support programs. Many of the studies cite non-engagement with traditional student support services of students from equity groups. Support should be responsive and tailored according to context.
- Well-designed technologies and online resources increase engagement and support for many students. These resources can provide greater reach and flexibility, although there are challenges in accessing good quality technologies and in sustaining engagement in online programs. Technologies are best aligned with robust pedagogies and effective teaching methods.
- Impact studies that provide details about effective initiatives for Aboriginal and/or Torres Strait Islander students contain important principles and approaches that may be useful for influencing the design and evaluation of other initiatives.
- Much of the evidence of impact draws on robust theory and research about equity, evaluation and quality program provision.
- Strong collaboration between institutions and communities, and within university environments, is a clear feature of effective programs. A major strength of the Queensland Tertiary Widening Participation Consortium has been state-wide reach and an ability to take a coordinated approach to the collection of data.
- Most studies focus on secondary school outreach programs, pathways programs and first year transition initiatives. Fewer publications evaluate the impact of specific initiatives in early outreach in primary schools and community outreach for adult education. Initiatives during later years of participation, including those relating to completion, transition to employment and postgraduate study, are also less prominent in the literature.
- Regional universities/campuses with high numbers of students from equity backgrounds are well represented in the literature about effective program provision.
- The equity group most targeted is people from low socio-economic status backgrounds, but there is a high degree of overlap in equity group participation, and many of these initiatives also capture people who identify as Aboriginal and/or Torres Strait Islander, people who are first in family to attend university, people from non-English Speaking Backgrounds, and people from regional and remote areas.
- Less represented in the literature are students with a disability and women in non-traditional areas of work and study.

Important Features of Effective Equity Initiatives

As part of this research, the following important features of effective equity initiatives in higher education emerged.

- Effective initiatives shift the focus from fitting students into an unchanging higher education system, to developing inclusive higher education programs.
- Inclusive pedagogies, curricula and support are important. This is particularly evident in the effective initiatives that draw on Indigenous knowledges and practices.
- Demystifying university culture and cultivating a sense of belonging for both current and prospective students are important for building and sustaining student engagement and success¹.
- Initiatives that are responsive, accessible and relatively easy to navigate for all stakeholders are more likely to be sustainable and effective.
- Evaluation of impact is important. From the impact studies and research participants, we found that effective evaluation in the field:
 - › is stakeholder-centred, context-specific and iterative;
 - › is undertaken most frequently through mixed methods approaches that utilise quantitative and qualitative data;
 - › reports multiple effects and outcomes, including: increased access, retention and performance; improved student experiences, connectedness and engagement; informing aspirations for higher education and awareness of pathways;
 - › is informed by those with experience in program provision and evaluation. Collaborations that join program providers' specialist knowledge with evaluation and research expertise promote rigorous forms of evaluation and high quality provision.

Implications

Evident from the wide range of findings across Australian higher education is the need for evaluation to be supported. Although there has been some recent growth, as documented in the following report, the evidence base for equity programs remains largely underdeveloped because few programs have well-developed approaches to evaluation. Suggested enhancements for supporting programs that are effective in improving opportunities and outcomes for under-represented groups are listed below:

- Frameworks suitable for equity programs are adaptable and encourage evaluation practice that is context-specific, stakeholder-centred, research-informed and iterative. The *Equity Initiatives Framework* (EIF) may be used as a reference guide for planning, monitoring and evaluating equity programs and for building a stronger evidence base for effective strategies.
- Consideration could be given to establishing a national approach that supports institutions to better develop the evaluation of equity initiatives. As part of this, development of executive guidelines around funding and compliance would minimise the risk that institutional economic and strategic needs adversely impact equity outcomes. Building an evidence base around effective equity initiatives could also be aided by policy and institutional resource allocation processes that maintain investment in equity initiatives over an appropriate time and which minimise periods where funding is uncertain.
- Specifying requirements for evaluation and program outcome dissemination in funding agreements would encourage development of effective evaluation across the sector. Once resourcing for evaluation is established, incentives for programs that engage in effective evaluation could be considered.
- Enhanced tracking of students across school, vocational education and university education systems may be useful, but would require collaboration between state and Commonwealth departments of education and training and related agencies and institutions. Similarly, promoting improved measures for shared access and usage of institutional data may be beneficial. It is important that data are contextualised and benchmarked against those of other similar programs. Where privacy, institutional or technical barriers prevent data integration, consideration should be given to the use of confidential data linkage services to support planning and evaluation.
- Institutions should be encouraged to invest in developing evaluation capacity and specific expertise within equity programs.

¹ As discussed in the Introduction to this report, student 'success' is a relative concept. Success at university is formally described as having passed a unit of study, but is informally described in terms of grades or a degree completion. However other definitions may apply, which are context dependant.

- The concentration at the access and participation end of the student life-cycle and a significant lack of initiatives at the latter end are in large part due to national policy drivers and local institutional efforts to attract students. Specific support for programs improving the transition to graduate employment and postgraduate study for students from equity groups may therefore be required. Similar support for programs enabling completion of qualifications may also be required, as this aspect continues to lag for some groups, despite relatively high success and retention rates.
- Although there have been some improvements for Aboriginal and/or Torres Strait Islander groups, the participation, success, retention and completion ratios of this group require attention as they are still significantly lower than those of other students.
- Tailored continuous professional development (CPD) based on research about program effectiveness is likely to improve provision and outcomes. Resources that could be used to develop capacity in evaluation include evaluation guides by Naylor (2015) and Hatt (2007). There is scope to develop an interactive web-based toolkit as a shared resource for institutions and program providers to help plan and evaluate equity initiatives in higher education. This site could present hyperlinks with a drill-down capacity to provide details on planning and evaluation including examples of proven interventions and exemplary evaluation practice².
- The establishment of a web-based national clearinghouse of evidence-based work about the impact of equity initiatives in higher education should be considered. Such an information and knowledge-sharing approach could work to: acquire and publish information about evaluation and program impact; connect people with a wide range of expertise in equity program evaluation; and provide comprehensive and policy-relevant analysis of research relating to equity initiatives. This could be overseen by a steering committee composed of national and international experts who would provide overarching strategy and ongoing direction in its development. The proposed clearinghouse would be focused on program impact and evaluation, with a clear focal point being critical for the effectiveness of the clearinghouse itself. This is important in ensuring its impact and reach.

Approach

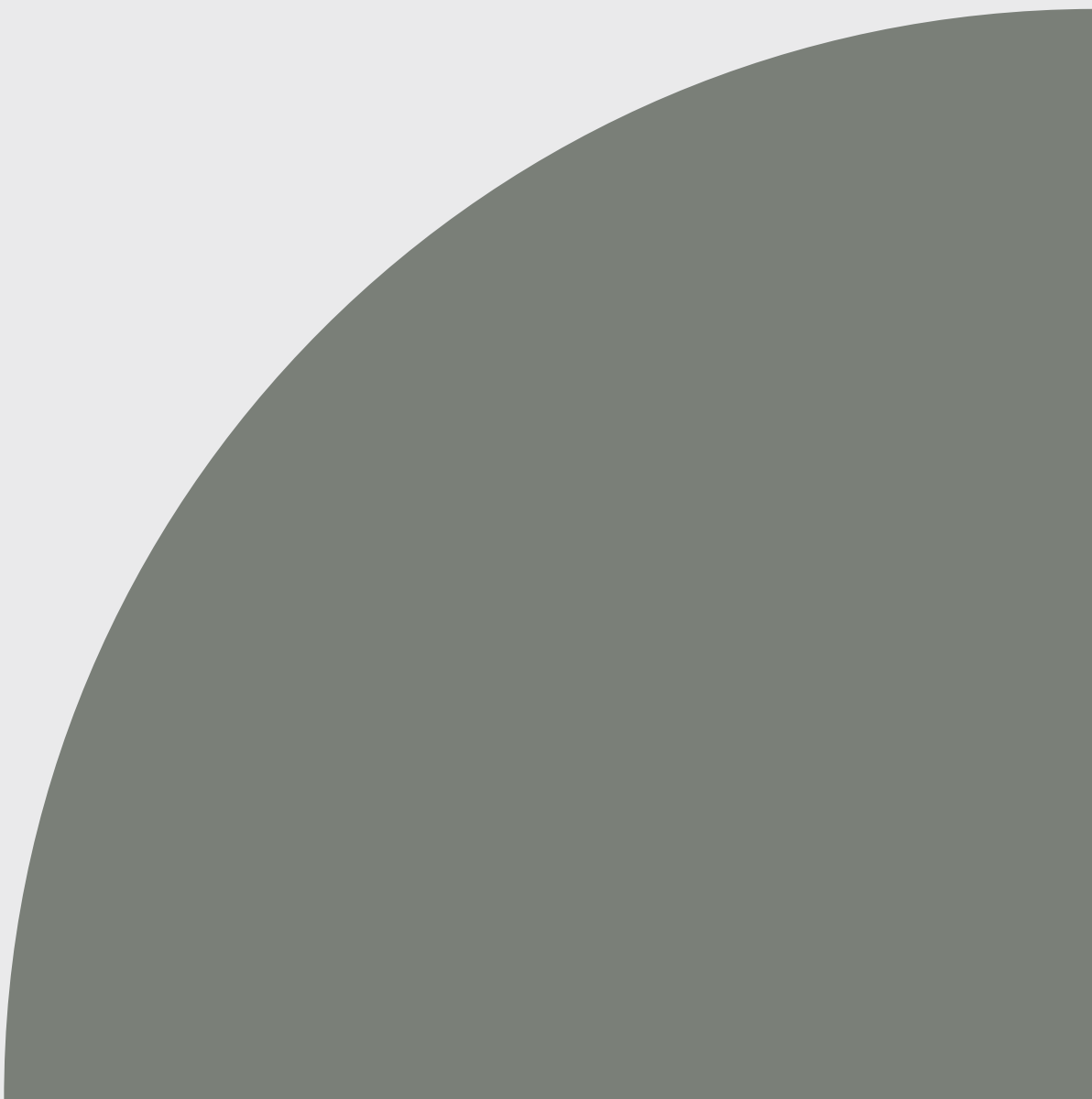
This study of program impact drew on two main components: a review of literature to identify programs that demonstrated impact through quantitative and qualitative forms of evidence, and a national online survey of equity initiatives. The study focuses specifically on evidence of program effectiveness as it has developed since the *Review of Higher Education* (Bradley et al., 2008) and following the *Critical Interventions Framework* (Naylor, et al., 2013), which found 'a paucity' of evidence of effectiveness of equity initiatives in Australia. A 'rigorous review' methodology was applied (Kingdon et al., 2014; Oketch et al., 2014). 'Rigorous review' follows the principles of systematic reviewing, while allowing for 'the incorporation of evidence that might not pass the stringent standards of a full systematic review' (Oketch et al., 2014 p. 20). This more inclusive approach to the review methodology is important given the documented lack of rigorous evidence published (Naylor et al., 2013; HEFCE, 2015) and the complexity of the field. An inclusive measurement framework was integrated into the research tools so that broad types of qualitative and quantitative methods of program evaluation were able to be captured. The study combines the rigorous literature review method with a rigorous review of evidence that was gained through survey and interview methods.

A national online survey was conducted and over 100 responses, detailing 98 unique programs, were received. The survey was followed up by targeted phone-interviews with program providers. The review of the literature identified 54 Australian and 9 international impact studies of rigorously evaluated programs. International impact studies were included because of their consistency with the themes emerging from the Australian studies, and because of the detail and rigour they provided. The majority of the published impact studies referred to in this report are from the period 2013–2015.

Overall, initiatives from 34 Australian and 9 international institutions were captured using the project methodology. However, despite this broad spread, it is important to note that this is not a complete outline of initiatives across the sector. Although potentially effective, the survey participants and authors of impact studies included in this report commented that many programs have not yet been rigorously evaluated.

² For examples of interactive evaluation toolkits in other fields of education and government, please see http://www.communityschools.org/resources/community_schools_evaluation_toolkit.aspx; http://www.dpc.nsw.gov.au/programs_and_services/policy_makers_toolkit/evaluation_toolkit

Introduction



1.1 Purpose and Background

This is the second of two reports commissioned by the Australian Government to identify equity programs across Australia's higher education sector that demonstrate effectiveness. This report focuses specifically on evidence of effectiveness as it has developed since the *Review of Higher Education* (Bradley et al., 2008) and particularly following the *Critical Interventions Framework* (Naylor, et al., 2013), which found 'a paucity' of evidence of effectiveness of equity initiatives in Australia. The report provides a detailed overview of the impact of programs that demonstrate their effectiveness at different stages of the student life-cycle. It also presents two important resources for program providers and policy makers to enhance the provision and evaluation of equity programs: a supplement of featured initiatives disaggregated by stage of the student life-cycle; and a framework that summarises key aspects of equity programs and evaluation types for general reference.

For the purposes of this study, an equity intervention is defined as a specific program or initiative within higher education institutions that seeks to enhance the access, participation, success, retention and outcomes of students from equity groups and people who are under-represented in Australian higher education. Equity groups in the Australian context are based on the Equity and General Performance Indicator framework (Martin, 1994). The six defined groups are: people who identify as Aboriginal and/or Torres Strait Islander (ATSI); people who are from low socio-economic status (low SES) backgrounds; people with a disability; people from non-English speaking backgrounds (NESB); people from regional and remote areas; and women in non-traditional areas (WINTA). Equity initiatives are strongly associated with these groups; however, other groups identified by survey participants and authors of impact studies include first-in-family, incarcerated populations and people from refugee backgrounds, and these groups are also targeted by some equity interventions. Whilst this review was based on available sector data groupings, we recognise that such groupings are complex and contested. Equity groups are described in more detail in section two of this report.

Equity programs and initiatives are nested within, and are influenced by, institutional missions and broad policy objectives. However, these initiatives are different from the continuous mainstream support that universities provide to students from equity backgrounds for legislative compliance and other reasons, for example, disability support programs. What defines an initiative is specific institutional activity that seeks to influence the participation of a specific group in higher education through a targeted approach.

These initiatives may operate within one institution or involve national collaborations (or any scale in between), and may target a broad range of students or be focused on one group. This great variety in the scope and type of equity programs leads to challenges for institutions and policy makers in discerning the relative levels of effectiveness, and for making decisions about the resourcing, of various equity initiatives. It is this challenge, combined with a significant increase in government investment in equity initiatives following the 2010 establishment of the Higher Education Participation and Partnership Programme (HEPPP) that targets students from low SES backgrounds, which led to the commissioning of the first Critical Interventions Framework.

In May 2013, the Department of Industry, Innovation, Climate Change, Science, Research and Tertiary Education (DIICCSRTE) released a background paper that described the need for evidence-based assessment of equity initiatives. Consequently, *A Critical Interventions Framework for advancing equity in Australian higher education* (CIF) (Naylor et al., 2013) was commissioned 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 initiatives described in the international research literature, and provided an assessment of the theoretical plausibility and evidence basis for each type of initiative. A consistent finding was that rigorous evidence of effectiveness for many programs was not available. A similar finding appeared more recently in a 2015 Higher Education Funding Council for England (HEFCE) report about equity initiatives, which stated that:

...there is isolated work across institutions to address differential outcomes, but it is fragmented and not well evidenced... Despite commendable work and the progress made on both access and retention... it remains difficult for institutions to demonstrate the relative impact of different interventions and approaches to support access and student success (pp. 3–4).

The CIF was developed through analysis of HEPPP funded initiatives, juxtaposed with the evidence base around the effectiveness of these initiatives. A major conceptual challenge in the development of the CIF was the variety of activities funded by HEPPP and undertaken by universities. HEPPP Guidelines (DEEWR, 2010) articulated specific conditions of funding and broad intent of the program that encouraged collaboration to drive access to and participation in higher education. By increasing the scale of funding, a more complex range of initiatives was undertaken. In 2009, the Higher Education Equity Support Programme distributed \$11.2 million to universities and this was replaced by HEPPP in 2010, which distributed \$56.4 million to universities (Department of Education and Training, 2015a).

Australian higher education equity policy was largely set around the time of the Dawkins reforms culminating in the establishment of an equity performance indicator framework (Martin 1994). There is ample evidence that equity initiatives have been undertaken over the last quarter century that are likely to have influenced the participation of equity groups in Australian higher education. However, until the advent of HEPPP, whose grant guidelines (DEEWR, 2010) explicitly required an evidence base for partnership activity, and which made research and monitoring of impact and effectiveness a legitimate HEPPP-funded activity, there was no focus on systematic rigorous evaluation of equity initiatives.

The Higher Education Participation and Partnerships Programme is budgeted as distributing \$175.6 million for the 2015–16 financial year (Department of Education and Training, 2015b). A fifteen-fold increase in designated equity funding has transformed the equity policy landscape in Australian higher education and supported a more diverse array of activity. This includes existing programs for which HEPPP funding enabled an increase in scale or greater focus on students from low socio-economic backgrounds. New initiatives were established within institutions and in partnership with others, both between universities and with organisations from outside of the higher education sector. The increase in investment also increased interest in the extent to which the investment was achieving policy objectives, and the CIF was borne from this interest.

The CIF identified effective initiative types along the higher education continuum (2013) and *The Critical Interventions Framework Part 2* (CIF Part 2) study was commissioned in 2015 to provide detail about the evaluation of equity initiatives as they have developed in higher education. This report identifies equity initiatives across the sector that have been subject to an evaluation process and have demonstrated effectiveness.

1.2 Structure of the Report

This report is divided into two main parts. The first part provides an outline of the approach, methodology and context of the review, including the policy context and current data trends, followed by sections organised by the stages of the student life-cycle that summarise the key features of effective initiatives, impact and approaches to evaluation. The second part of the report provides details about specific selected programs across the student life-cycle in a 'Featured Initiatives' supplement.

Both parts contain the 'Equity Initiatives Framework' (EIF), which is a framework that outlines the types of effective equity initiatives across the sector. The EIF provides a general snapshot of the student life-cycle, types of initiatives and a flexible and adaptable structure for evaluation and reporting purposes.

The report is based on a rigorous review of the literature and empirical data collected as part of the 2015 study. It concentrates exclusively on programs that demonstrate effectiveness. The 'key features', 'evaluation methodology' and 'impact' summaries in sections 3 to 7 of this report are based on initiatives that have satisfied the inclusion criteria for demonstrating effectiveness described in 1.4.1 below.

1.3 Resources Provided in this Report

There are a number of national frameworks, reports and instruments that have been developed to assess the extent of equity in higher education (AIHW, 2014; Pitman & Koshy, 2014; Gale et al., 2010; Centre for the Study of Higher Education, 2010). However, the reports developed so far outline specific types of programs, broad domains and indicators, rather than ways of assessing the breadth, detail and impact of programs.

The 2013 HEPPP project reports provided by the Department of Education and Training were reviewed to determine where on the student life-cycle the various initiatives were located. The evaluation methodologies and data sources used were also noted. However, in many cases, insufficient information was provided about the impact of initiatives or the evidence used to determine their effectiveness. Information from this review of HEPPP initiatives was used, in conjunction with that derived from the literature review and survey described below, to develop the *Equity Initiatives Framework*.

The Equity Initiatives Framework (EIF) (see Figure 1 on p. 13: *The Equity Initiatives Framework*) provides a detailed frame of reference for the planning, monitoring and evaluation of equity programs. The framework spans the entire higher education program student life-cycle, from access initiatives that operate in schools and communities to programs that assist with graduate employment.

In the original CIF, Naylor et al. (2013) explained that the original 'framework is a simple typology of the broad categories of equity initiatives' (p. 7). The revised EIF presents a more detailed overview of equity initiatives as the programs have been developed, evaluated and findings about their impact have been disseminated. The framework offers a flexible model for evaluation and reporting purposes, taking into account the diversity of needs, approaches and institutional requirements across the sector. As highlighted in the HEFCE (2015) report, recognition of a wide range of effects is an important part of building an evidence base for the impact of equity initiatives. The EIF aims to provide a framework that is able to capture 'the more intangible benefits of widening participation beyond the economic impacts', something that HEFCE (2015, p. 12) argued is essential for equity in higher education.

The second resource developed in this study is the *Featured Initiatives* supplement, which provides a series of brief exemplars that outline how programs are implemented and evaluated across the stages of the student life-cycle. These initiatives have been selected because of the strength of demonstration of impact, along with the level of description about approaches and methods of evaluation provided by authors of impact studies and survey participants.

1.4 Methodology

The CIF Part 2 reviews the effectiveness of equity initiatives that span the entire higher education continuum. Equity initiatives were identified through two major activities: a review of literature; and a targeted national online survey. Together these methods were designed to ensure a comprehensive data set of initiatives, including as yet unpublished activities.

Overall, initiatives from 34 Australian (Table A) universities³ and 9 international institutions were captured using the project methodology. Despite this broad spread, it is important to note that many programs have not yet been rigorously evaluated and therefore are not included in this analysis.

1.4.1 Review of the literature

The literature review was designed to capture impact studies published since the *Review of Higher Education* (Bradley et al., 2008) and particularly following the CIF (Naylor, et al., 2013), which found 'a paucity' of information about the effectiveness of equity initiatives in Australia.

The literature review was framed in terms of a 'systematic review'. While Campbell and Cochrane approaches (The Campbell Collaboration, 2015; Higgins and Green, 2011) are conventionally utilised for this purpose, an alternative review methodology was selected for this study because of its more direct applicability to the review of evaluation studies in the field of education.

A 'rigorous review' was therefore undertaken drawing on a recently developed methodology for large-scale reviews of educational literature developed by the EPPI-Centre at University College London's Institute of Education (see Kingdon et al., 2014; Oketch et al., 2014). A 'rigorous review' follows the principles of systematic reviewing, while allowing for 'the incorporation of evidence that might not pass the stringent standards of a full systematic review' (Oketch et al., 2014, p. 20). This more inclusive approach to the review methodology was taken because of the previously documented lack of empirical evidence in this field (Naylor et al., 2013; HEFCE, 2015). Evidence from case studies and studies using qualitative methodologies are incorporated in a rigorous review to help to establish if, and why, particular interventions are effective (Evans, 2001). Such a flexible approach was seen to be important especially when many equity programs are only recently developing evaluation capacity, and resources and funding for evaluation have been limited and undefined. Indeed, the vast majority of impact

studies found in this review were from the period 2013–2015, since publication of the *Critical Interventions Framework* (Naylor et al., 2013), suggesting that studies of the impact of equity initiatives are relatively new.

The literature review followed the principles Evans (2001) describes as the key features of systematic reviews:

- development of an explicit research question to be addressed;
- transparency of methods used in searching for studies;
- exhaustive searches that look for unpublished as well as published studies;
- clear criteria for assessing the quality of studies (both qualitative and quantitative);
- clear criteria for including or excluding studies based on the scope of the review and quality assessment;
- joint reviewing to reduce bias; and
- a clear statement of the findings of the review (p.529).

Relevant literature about equity initiatives was searched for in two main sources: databases and journals; and key websites and organisations, including the Equity Practitioners in Higher Education Australasia (EPHEA) and other related networks. Consistent with the 'rigorous review' methodology (Kingdon et al., 2014; Oketch et al., 2014), the inclusion criteria specified published sources likely to include peer review or adherence to professional standards of academic research (such as journal articles, books, conference papers or institutional grey literature). Other sources (such as meeting minutes and newspaper articles) were excluded from the review (also see Oketch, et al., 2014).

There is a relatively small, but increasing body of literature (including non-peer reviewed journals and 'grey' literature) reporting evaluations of individual equity initiatives. The review of the literature identified 54 Australian and 9 international impact studies of evaluated programs that met the inclusion criteria for this study. International studies were included because of their consistency with the themes emerging from the Australian studies, and because of the detail and rigour they provided. A disciplined approach to mapping literature against review templates and stringent inclusion criteria ensured consistency, which was important given the diversity of programs captured in this study. Details of this approach are provided in Appendix 1.

³ The institutions participating in the study included only Table A (public) universities, which are defined in s 16-15 of the *Higher Education Support Act 2003*. Table A universities are eligible for all teaching and research funding schemes, unlike other higher education providers such as 'non-university higher education providers' (NUHEPs), which do not receive government funding such as HEPPP for equity initiatives.

The search process identified a total of 226 publications, including general literature about types of higher education equity programs. Of these, 142 studies focused on specific initiatives and provided evidence of the impact of the program. The remaining publications were screened for details of program implementation, evaluation methodology, and evidence of impact. Many studies provided important details about programs, but did not include details of evaluation and/or impact and so were filtered out. The 63 studies that matched all inclusion criteria and passed the quality appraisal process were subsequently coded for themes and trends; however, only 58 equity initiatives with demonstrated impact were identified with some initiatives evaluated in multiple publications. The vast majority of the studies were from Australian institutions.

A disciplined approach to mapping the literature against review templates and stringent inclusion criteria ensured consistency despite the wide range and focus of programs captured in the study. Information about each study was summarised in terms of: equity target group/s, targeted programs or units of study, aims of the program, implementation details, distinct features, evaluation methodology, type of data collected, sample size, effects recorded, and any other important outcomes.

The impact studies were also summarised according to the stages of the Critical Interventions Framework continuum (Naylor et al., 2013), as outlined in Table 1. It became apparent early on that a major research gap existed at the graduate employment stage of the continuum, so a further literature search with additional search terms was conducted, which verified the relative lack of published impact studies in this area.

Table 1: Publications Included in Final Synthesis

Stage on the EIF continuum	Number of studies
Pre-Access: Outreach Programs to Schools and Communities	13
Access: Pathways and Admissions	13
Participation: Transition and Engagement	19
Participation: Engagement and Progression During Studies	11
Attainment and Transition out	7

1.4.2 Survey of program providers

A survey invitation was sent to all Australian public universities (Table A providers) (Appendix 3) and was followed-up by targeted phone interviews with program providers where initiatives appeared effective but where information was lacking (Appendix 2). In total 109 survey responses were collected. Some of these were incomplete, leaving 104 records of 98 unique equity initiatives. Surveys were received from universities across mainland Australia, from a range of different institution affiliations (as shown in Tables 2 and 3). Twelve of the identified initiatives were followed-up with a semi-structured phone interview, focusing on the specifics of program evaluation, challenges faced in evaluating the program, and details of the program's implementation.

It is important to note that the numbers in Tables 2 and 3 describe the survey sample, and not the sector as a whole. That is, the tables are not indicative of how many initiatives are active across the sector, or that particular states or institutional affiliations are more active than others.

Table 2: Survey Responses by State and Institution

State	Institution	Responses
<i>NSW</i>		34
	Southern Cross University	3
	The University of Newcastle	14
	University of New South Wales	2
	University of Technology, Sydney	5
	University of Western Sydney	8
	University of Wollongong	2
<i>NT</i>		-
<i>QLD</i>		24
	Central Queensland University	3
	Griffith University	12
	James Cook University	2
	Queensland University of Technology	7
<i>SA</i>		4
	University of South Australia	4
<i>TAS</i>		-
<i>VIC</i>		22
	Deakin University	2
	La Trobe University	1
	Monash University	2
	Royal Melbourne Institute of Technology	8
	Swinburne University of Technology	3
	The University of Melbourne	4
	Victoria University	2
<i>WA</i>		20
	Curtin University	8
	Murdoch University	7
	The University of Western Australia	5

Table 3: Survey Responses by Affiliation of Institution

Affiliation of institution	Responses
Group of Eight	13
Australian Technology Network	32
Regional Universities Network	6
Innovative Research Universities	36
Unaligned	17

A wide variety of program aims were selected from the list provided in the survey and some respondents provided other programs aims (Table 4).

Table 4: Reported Aims of Equity Programs

Program aims	% total (N = 104)
Informing aspirations and developing expectations for higher education	66
Developing academic capacity and/or providing academic support	70
Establishing inclusive processes	54
Supporting students in dealing with broader issues outside their study	53
Improving or measuring graduate outcomes	31
Increasing awareness or understanding of educational pathways	62

The survey also identified a relatively broad range of program types across the student life-cycle (Table 5). Again, this table describes the reported composition of the sample only, and does not represent a comprehensive outline of the types of initiatives in use across the sector. Survey respondents selected program types and multiple options for mixed projects. A more detailed description of the typology is available in Naylor et al. (2013).

One of the focuses of this project was later-year undergraduate 'retention and success' initiatives. Forty-four programs targeted transition (identified as a vital aspect of creating a good foundation for retention and success in later years), and another 56 focused on curricular and extra-curricular activities during studies. Another 21 were from non-academic student services that have been shown to assist students with completing their studies.

Table 5: Type of Equity Program

Type of program	% total (N = 104)
Outreach in primary schools	19
Early outreach in secondary schools (Year 10 or earlier)	35
Later-year outreach in schools (Year 11 and 12)	39
Outreach to VET or communities (adults, including parents of students)	27
School curriculum enhancement and support	21
Pre-entry university experience programs	31
Pathways (a qualification that provides entry into university upon successful completion; often from Enabling, VET or private providers)	23
Foundation programs (a program that provides extra academic development to build skills; may be a separate qualification or part of a larger degree)	13
Marketing	10
Alternative selection criteria and tools in entry requirements	13
Scholarships provision	13
First year transition/orientation programs	42
Curriculum/course design	13
Extra-curricular learning and support programs (outside or in addition to normal classes)	41
Careers and employment support (pre- or post-course completion)	30
Non-academic student services provision (child care, financial aid, student health, etc.)	20
Monitoring of student outcomes (pre- or post-course completion)	23
Professional development for staff or students (to build capacity or awareness, etc.)	48

Survey respondents were also asked to indicate which equity groups were targeted by their programs (Table 6). To recognise that some programs focus on groups that are not formal equity categories, we included other population groups and asked respondents to specify any other groups as required. Most survey respondents selected more than one group, indicating that many programs are wide-ranging in their focus. Of the programs that were specific in focus, most targeted Indigenous students or students with a disability. Students from low SES backgrounds were the most common equity group reported in the survey, followed by Indigenous students and students from regional and remote backgrounds. First-in-family students were the most frequently chosen broad social group. Of the formal equity groups, women in non-traditional areas were the least frequently named.

Table 6: Equity and Population Groups Targeted by Initiatives

Group	% total
Low SES students	72
Aboriginal and/or Torres Strait Islander students	51
Students from regional and remote backgrounds	41
Students from a non-English speaking background	35
Students with a disability	31
Women in non-traditional areas	13
First-in-family students	45
Mature aged students	32
Students from refugee backgrounds	23
Low ATAR ⁴ students	22
Pasifika students	15

1.5 Evaluation of Equity Initiatives

The evaluation of equity initiatives is complex given limitations of measurement in this domain of social activity. As Mayne (2001) notes:

...Measurement in the public sector is less about precision and more about increasing understanding and knowledge. We can almost always gather additional data and information that will increase our understanding about a program and its impacts, even if we cannot 'prove' things in an absolute sense (p. 6).

An important aspect of the evaluation of equity initiatives is managing uncertainty in outcomes by drawing on multiple lines of evidence.

The aim of measurement is to acquire some insight and develop some assurance that the program is actually having an impact... Although no one piece of evidence may be very convincing, a larger set of different and complementary evidence can become quite convincing. Thus, in trying to reduce the uncertainty surrounding attribution, using as many lines of evidence as possible is a sensible, practical, and credible strategy (Mayne, 2001, p. 21).

Equity initiatives achieve impact *in relation* to participants' histories and wider relationships (Mayne, 2001; Stenhouse, 1970; Whitty et al., 2015). As the recent HEFCE (2015) report about equity programs asserts, it is important to recognise that inequalities and differences 'outside' higher education also affect individuals' engagement, performance and choices within it. Measuring impact is therefore a complex undertaking that requires an inclusive approach to what constitutes effectiveness.

Similarly, concepts like 'success' require further consideration. Success at university is formally described as having passed a unit of study, and is informally described in terms of grades or degree completion. However, broader considerations of equity program participant success should be acknowledged. For example, Hodges et al. (2013) explain that many students who withdraw from university enabling programs (access programs) return to complete the program in the following and later years. In a comprehensive review of Australian enabling program attrition, Hodges et al. (2013) state:

non-completion of a program does not (in and of itself) equate with failure. On the contrary, there are sound reasons for seeing and acknowledging certain forms of non-completion as a successful outcome—for the student, for the institution, for the higher education sector, and for society. It is crucial, then, that this vital aspect of institutional 'account keeping' be closely scrutinised (p. 118).

⁴ The institutions participating in the study included only Table A (public) universities, which are defined in s 16-15 of the *Higher Education Support Act 2003*. Table A universities are eligible for all teaching and research funding schemes, unlike other higher education providers such as 'non-university higher education providers' (NUHEPs), which do not receive government funding such as HEPPP for equity initiatives.

The authors conclude that what is 'clear from the available range of literature is that factors relating to personal circumstances (e.g. unsustainable time pressures, financial, health, social burdens), lack of motivation, and low level of engagement are all known to be significant influences on attrition in enabling education programs' (Hodges et al., 2013, p. 123). Even as students move from pre-access and access programs into university, a substantial number of students who withdraw from university studies have been found to do so for reasons other than problems with academic performance, and many departing students are in good academic standing at the time of their departure (see, for example, Noel, 1985; Tinto, 1993 who describe college attrition in the US). What is required, therefore, is a more holistic definition of student success that includes the multiple dimensions and goals of education and personal development as defined by all stakeholders (Cuseo, 2007), which may include leaving study to enter other forms of education and employment and to take on carer roles that provide critical forms of assistance to others.

1.5.1 Supporting evaluation

Evident from the survey of program providers is the need for care and consultation with stakeholders in defining program aims and successful outcomes. Also conveyed was a desire for more detailed guidance about how to conduct evaluation. For instance, we received the following comment from a participant outlining the difficulties experienced when searching for examples of how to evaluate a program:

In particular, we were looking for examples of how the interventions can be measured i.e. before and after indications, but we did not find very much. We hope to be using students' self-evaluations of their before and after knowledge, skills and self-efficacy. Any suggestions you may have about how we can measure outcomes would be gladly received.

Since 2011, the Australian government Department of Education and Training has improved the directions it has given for methods of evaluation on HEPPP reporting templates. However, this information is not comprehensive enough to offer guidance on the conduct of evaluations. Information and guidelines provided at the reporting stage are important, but more is required at the design stage of equity initiatives. For these reasons, specific information about evaluation approaches and methods from the identified equity programs are included throughout this report, with the aim of helping providers learn about other work and benchmark their programs.

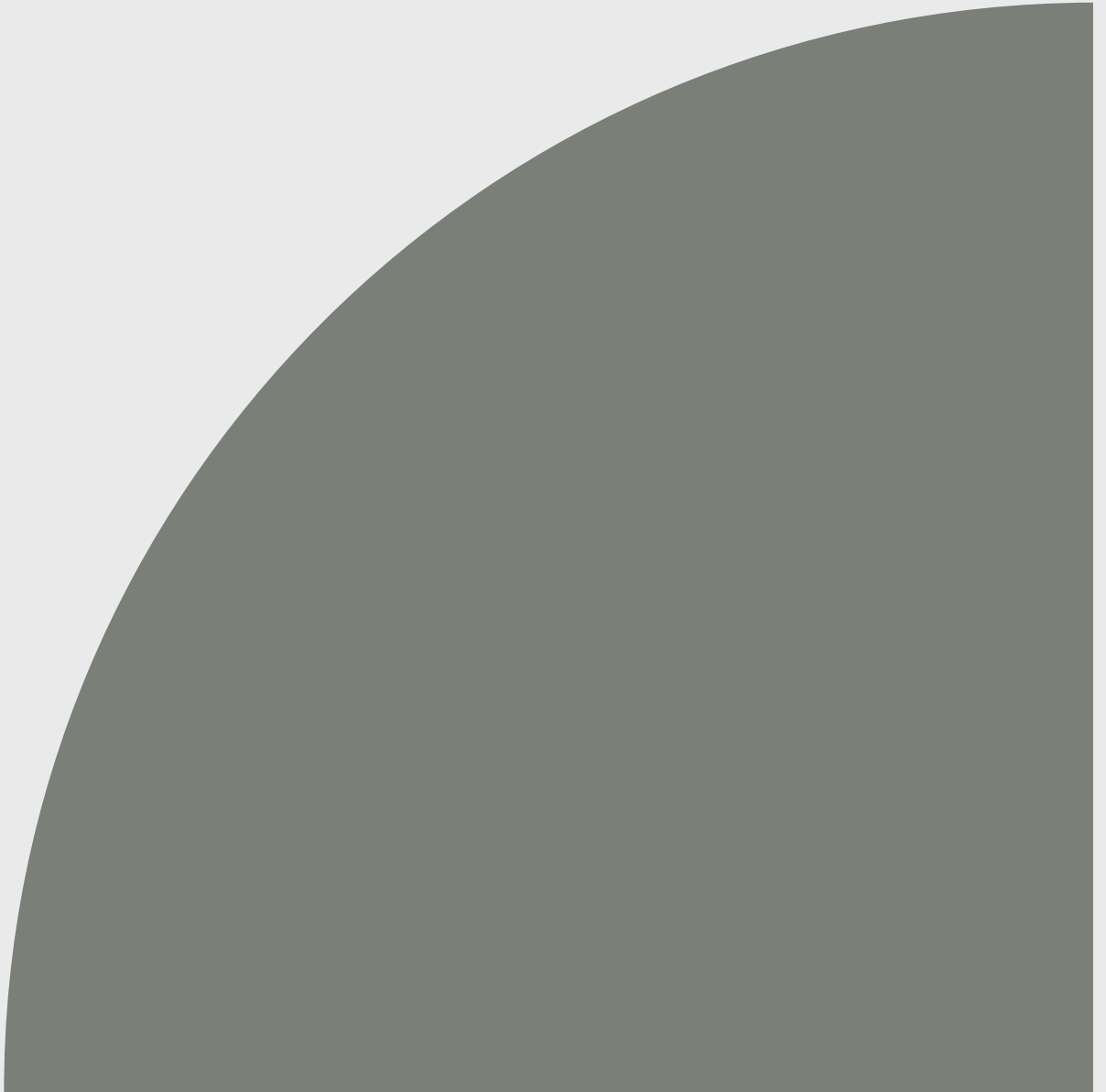
The evaluation approaches used in the *Featured Initiatives*, provided as a supplement to this report, are also included in order to expand the availability of guidance for the conduct of evaluations. In *Understanding evaluation for equity programs: A guide for supporting rigorous, detailed program evaluation*, Naylor (2015) acknowledges this need for more guidance and presents his guide as:

...a practical resource to assist at each stage of the evaluation process ... to help you analyse and reflect on evidence, rather than insist that you collect more ... It is intended to help those involved in equity programs—particularly those who lack experience in program evaluation—to build effective evaluation strategies into their daily work (p. 7).

Approaching evaluation as an ongoing, iterative and creative process can both identify and enhance the productive effects of an initiative. Asking questions that explore both unintended and intended outcomes can be very useful, even if the evidence collected is not used for reporting purposes (Fetterman, 1994; Lynch et al., 2015).

Additionally, drawing on bodies of rigorous research about other similar programs is a way of gaining ideas and insights from others. Research-informed practice is of prime importance. Indeed, in her keynote paper celebrating 50 years of the UK *Society for Research into Higher Education* (SRHE), Burke (2015) explains that 'we need a praxis-based approach to equity—that brings interdisciplinary and critical research in dialogue with policy and practice, in a reciprocal, iterative and collaborative framework' (p. 22).

Policy Context and Evidence Base for this Research



Key Points

- People from equity backgrounds continue to be under-represented in higher education, despite considerable growth in some groups (both in absolute terms, and relative to growth in the sector as a whole).
- Growth in the participation ratio is insufficient for these groups to reach, or come near to achieving, parity in a timely fashion.
- The participation ratio of students from regional backgrounds and women in non-traditional areas appears to be decreasing.
- Students from equity backgrounds are most likely to be enrolled in Agriculture, Health and Education.
- Students from equity backgrounds feature least in Architecture and Building.
- Students from equity backgrounds are not substantially less likely to successfully complete their studies, regardless of field. However, Indigenous students continue to remain the exception to this in terms of both success and retention rates, despite recent improvements on relevant indicators.

2.1 Equity in the Australian Higher Education Policy Context

Equity programs and initiatives that are the focus of this study occur within a broad and dynamic Australian higher education policy context. The conventions shaping equity policy and practice today have their origins in the policy decisions and path dependencies of the past. Like many developed nations, Australia has demonstrated a major expansion in participation in higher education over many decades. This expansion has served social and economic policy objectives, and has seen higher education attainment rates increase dramatically. For instance, in 1982, only 3.1 per cent of persons between the ages of 25 and 69 held a degree (Department of Employment Education and Training, 1993). In comparison, in 2014 the attainment rate for persons between the ages of 25 and 64 was 10 times higher at 30.2 per cent (Australian Bureau of Statistics, 2014).

Equity has been a key consideration of higher education policy throughout the expansion of higher education. The Martin Committee Report (Australian Universities Commission, 1964), for example, recommended the establishment of additional universities and Colleges of Advanced Education in areas where access to higher education was limited. Subsequently, the Whitlam government's 1974 decision to abolish student fees for higher education was grounded in concern about the implications of student fees for access to higher education (Knox, 1988).

Perhaps more important was the establishment of the current Unified National System of Higher Education by Minister for Education, The Hon John Dawkins, in 1988. Under this reform, the binary system of universities and Colleges of Advanced Education, established by the Martin Committee, was collapsed into the Unified National System. During this unification, 19 universities and 70 Colleges of Advanced Education of 1987 were transformed into 36 universities by 1996 (Larkins, 2011). All but one of these universities had state legislation underpinning their establishment, although the Federal Government has had primary responsibility for higher education funding and policy since the early 1970s.

The new Unified National System was designed to increase student participation, and absorb the impact of microeconomic reforms that would dismantle protectionist policies, and open the Australian economy. The subsequent expansion of the system would be financed by the introduction of a student contribution, with payment deferred through a world-first income contingent loan scheme, the Higher Education Contribution Scheme (HECS). Whilst the subject of many protests at the time of its introduction, HECS has remained in place and influenced equity policy intervention that has shaped equity policy in ways that are different from other nations across the world.

Establishment of the Unified National System followed the Green and White papers circulated by the Minister for Employment, Education and Training in 1987 and 1988 (Dawkins, 1987, 1988), both of which stressed the importance of student equity and noted the ongoing inequities of access to higher education among particular groups (Dawkins, 1987, p. 21).

The discussion paper, *A Fair Chance for All*, was subsequently released in 1990 as a joint publication of the Department of Employment, Education and Training (DEET) and the National Board of Employment, Education and Training (NBEET), and this paper both affirmed the student equity categories to be prioritised and set higher education system performance targets

In recognition of the equity concerns associated with the introduction of the Unified National System and HECS, work was commissioned to define the groups whose participation should be prioritised, and to identify the policy interventions that could facilitate their participation. The landmark report *A Fair Chance For All* (DET, 1990) affirmed the priority equity categories and set higher education system performance targets.

The establishment and durability of the Australian higher education policy framework has largely determined the equity interventions in Australian higher education identified in this study. There are, however, important policy factors that reside beyond the equity categories and performance indicator framework that are worth noting, and which span a spectrum from broad policy intervention through to institutional practice.

The Australian higher education system is dominated by public universities, which account for around 95 per cent of all students. This is more consistent with patterns evident in the United Kingdom than the United States of America (Moodie, 2015). These universities are established by Acts of parliament, and in many instances target specific areas where higher education participation is low, and where social and economic disadvantage is high. The establishment of institutions targeting specific locations and communities can often determine the equity programs and initiatives that are adopted. Whilst much of this activity will align with, and respond to, the broad higher education policy priorities of the day, in some cases specific communities that are not overtly included in Australia's higher education policy framework are targeted. Programs targeting Pasifika communities, for example, are evident in universities in New South Wales and Queensland, but rarely in other states or jurisdictions. The role of state governments in establishing universities is also significant at an institutional level; and the localised needs of state constituencies can drive state-funded equity initiatives.

The financing of Australian higher education has been subject to iterative changes over time, but key features have been maintained since the introduction of the Unified National System. Universities derive a high proportion of their income from student enrolments, with contributions made by government and students. The base funding of institutions, and number of places that are available for institutions, has been influential in shaping the degree to which institutions will invest in outreach, access and participation support programs. In recent years, where the number of places has been uncapped (Bradley et al., 2008), some institutions have adopted specific equity programs as part of an institutional approach to growing or maintaining their market share of student places and of students with equity characteristics. These broad financing issues have indirect but important effects on the types of equity programs that institutions have adopted over time.

In addition to the base funding of Australian higher education, government policy prioritises specific objectives that vary across time, both in terms of the quantum of funding and specificity of target group. Since the Review of Higher Education (Bradley et al., 2008) and Government response, *Transforming Australian Higher Education* (2008), significant investment has been made in supporting the participation of students from low SES backgrounds through HEPPP in support of what were known as the 20/40 targets (20 per cent participation rate of students from low SES backgrounds by 2020 and 40 per cent attainment rate of 25–29 year olds by 2025). This influx of funding through HEPPP has exerted some influence on the nature and character of equity initiatives over recent years. Table 7 highlights the specific funding streams associated with Australia's equity categories, demonstrating variable allocation for funds to progress participation of these categories.

Equity initiatives are the result of much more than government policy targeting participation of Australia's equity categories. There are many policies and funding streams that include and embed equity considerations in their design. Teaching grants through the Office of Learning and Teaching and its antecedent organisations, for example, have included priority grants considering student equity related issues. Research grants awarded through the Australian Research Council Linkage Grant program have funded work on equity initiatives under the rubric of research rather than student equity. Equity initiatives are not merely institutional responses as instruments of government policy. Equity initiatives can be a manifestation of institutional mission, strategy and culture, funded through internal grant processes, independent of government, and consistent with principles of university autonomy.

Table 7: Funding and Enrolments by Target Group

Source: Appendix 2, Higher Education Statistics, Department of Education and Training; Education Portfolio Budget Statement 2014/15, Commonwealth Government; Prime Minister and Cabinet Portfolio Budget Statement 2014/15, Commonwealth Government.

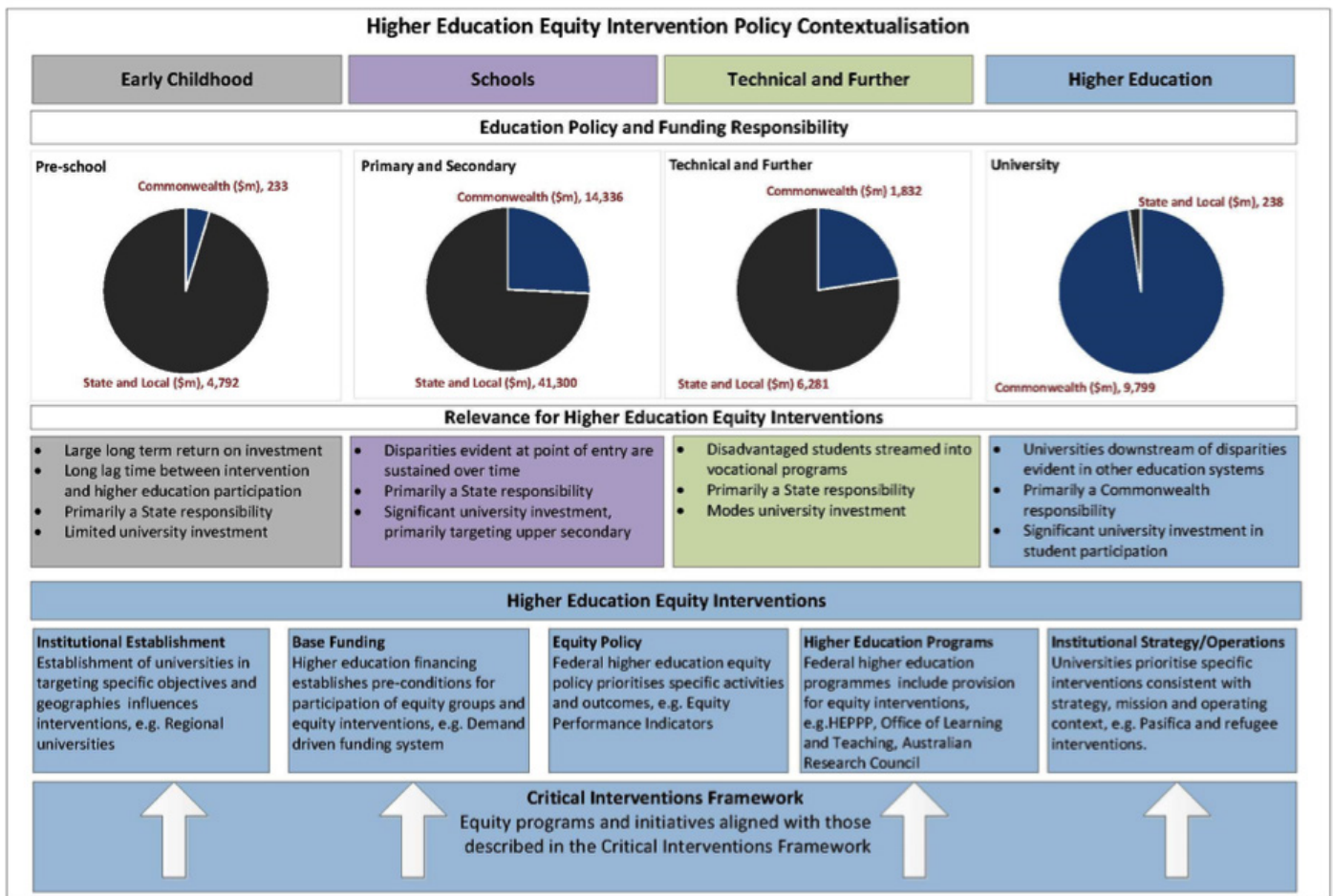
Funding Stream	Target Group	Target Group Enrolments 2014	Budget Allocation 2014/15
HEPPP	Low SES (SA1 measure)	150,078	\$158.9 m
Regional Loading	Regional and remote (2011 ASGS measure)	204,500	\$66.7 m
Indigenous Support Programme	Indigenous	15,043	\$39.4 m
Disability Support Program	Disability	55,605	\$6.9 m
Nil	Women in non-traditional areas	163,409	Nil
Nil	Non-English speaking backgrounds	39,023	Nil

Higher education does not operate as a closed system disconnected from outside influences. Higher education interacts with other education systems, and is dependent on the performance of early childhood education, schools education and vocational education systems for the students that it enrolls. The division of funding and policy responsibilities between the Commonwealth and state governments varies from one part of the education system to another. The Government Finance Statistics, Education, Australia, 2013–14 provide a cross jurisdiction summary of operating expenses on education, by purpose. Public funding of higher education now overwhelmingly comes from the Commonwealth (\$9799 m compared to \$238 m from the states). The states, however, provide the bulk of public funding for technical and further education (\$6281 m compared to \$1832 m from the Commonwealth), and of primary and secondary schools (\$41 300 m compared to \$14 336 m from Commonwealth). The Commonwealth's share of public funding of early childhood education is smaller still (\$233 m compared to \$4792 m from the states) (Australian Bureau of Statistics, 2015). The interactions between higher education and other parts of the education system are, in part, shaped by the distribution of funding and policy responsibilities between the Commonwealth and the states, and by the different aims embodied in the decisions at each level. Higher education objectives for boosting aspiration and achievement and participation in higher education may be shared by other parts of the education system, but there are clear limitations on the higher education system in terms of its capacity to influence the broad character and outcomes of early childhood, schools and vocational education systems.

Disparities in performance across these education systems have an effect on the type of students who participate in higher education, and on the equity performance of the higher education system. Many higher education equity initiatives intersect with institutions and students of education systems outside higher education.

The policy context and evidence base for this research can be summarised in Figure 2 below, which draws together the relationships between various elements of the Australian education system, higher education institutions, financing and policy, and the equity initiatives associated with them. Each equity initiative is context dependent and influenced by the factors outlined. Despite this context dependence and specificity, there are insights to be derived from the evaluation of equity initiatives that can inform the prioritisation, resourcing and design of future equity initiatives. These insights are not just derived from within the Australian education system, and there are relevant exemplars from a range of international jurisdictions. The challenges relating to equity in mass higher education participation systems across the world may have localised differences, but there are many common features. Universities also operate in an increasingly globalised and interconnected form, with much policy transfer and adaptation occurring.

Figure 2. Higher Education Equity Initiatives
Policy Context and Evidence Base



Preceding paragraphs have outlined the multi-dimensional nature of equity initiatives and some of the factors that drive them. Notwithstanding the complexity of these policy drivers, the significant investment in HEPPP over recent years has been a major policy driver of equity initiatives. The dual emphasis on participation (and support services for higher education students) and partnerships (and on the activities that would, through partnering with other institutions within and beyond higher education) has been the primary, but not exclusive mechanism by which equity initiatives have been funded and prioritised.

2.2 Equity Groups

The formal equity groups included in this study are based on the historical under-representation of the following groups, as developed by *A Fair Chance for All* and subsequently operationalised by Martin, (1994):

- People who identify as Aboriginal and/or Torres Strait Islander;
- People who are from low SES backgrounds;
- People with a disability;
- People from non-English speaking backgrounds;
- People from regional and remote areas; and
- Women in non-traditional areas.

It is important to note that there is considerable overlap between the equity groups. That is, students belonging to one equity group are likely to also belong to another equity group. In particular, there are considerable overlaps between students of low SES background and other educationally disadvantaged groups. They are also more likely to have other characteristics linked to lower levels of completion, such as being mature age or enrolled in part-time study.

In this study, an 'other' category was introduced for research participants to provide information about other groups of interest to equity programs. Groups reported by research participants included students who are first-in-family (FIF, who are a different group of students despite often being treated as being synonymous with low SES students), Pasifika students, students from refugee backgrounds, LGBTIQ, alternative/non-traditional pathways students, students with a low ATAR, and mature age students. Although these groups are not formally equity groups, they have been identified by providers and therefore will be referred to as such in this report.

In the following analysis, equity group categories include only domestic onshore undergraduate students, where onshore is taken to mean the student has a permanent home address in Australia. Students who have an offshore permanent home address are not included, although some of these students might otherwise be included in equity group categories. Trends in postgraduate education are not examined here. Low SES students are identified using the SA1 measure, supplemented by the 2011 SEIFA Education and Occupation Index postcode measure where necessary. Students from regional and remote backgrounds are identified using the Australian Statistical Geography Standard (ASGS) Remoteness Structure.

This statistical analysis was developed using data supplied by the Department of Education and Training for the periods 2007 and 2011 to 2014. Full details and further discussion of the methods of analysis may be found in Naylor et al. (2013).

The year of 2007 was chosen as a comparative marker to ensure consistency with the original *Critical Interventions Framework*. Data from 2011 provided a baseline for analysis because it was quoted in the Critical Interventions Framework by Naylor et al. (2013). Our analysis therefore continues to examine trends identified in the *Critical Interventions Framework* that have arisen since the Bradley review.

2.3 People from Equity Groups Remain Under-represented in Higher Education

It was noted in the *Critical Interventions Framework* (2013) that students from the existing equity groups continued to be under-represented in terms of their access to and participation in Australian higher education, despite considerable growth in the participation rates of some groups following the uncapping of student places (Naylor et al., 2013). This under-representation continues to be the case in 2015.

The absolute numbers of students from most equity backgrounds have continued to increase since 2007, leading to an increase in the participation ratios of most equity groups (Table 8). The ratios reflect participation for equity groups compared with all other domestic students, except for low SES students where the participation comparator is high SES students. The rate of increase is relatively slow; however, indicating that, even if growth rates are maintained, parity will not be reached (or even approached) for a considerable length of time assuming recent growth trends continue.

Naylor et al. (2013) indicated that growth in the numbers of students from remote backgrounds and women in non-traditional areas had not kept up with growth in the sector as a whole, leading to decreasing participation ratios. Since then, the participation ratio for students from remote backgrounds has steadied at 0.35. However, the participation ratio of women in non-traditional areas has continued to decrease, as has that of students from regional backgrounds.

Table 8: Participation Ratios of Equity Groups over Time

Note that the values for 2007 and 2011 have been corrected using current population reference values to allow comparison.

Equity group	2007	2011	2012	2013	2014
Non-English speaking background	0.62	0.62	0.65	0.66	0.70
Students with a disability	0.52	0.59	0.62	0.65	0.68
Regional	-	0.71	0.71	0.70	0.69
Remote	-	0.35	0.35	0.35	0.35
Indigenous	0.47	0.51	0.52	0.53	0.54
Low SES	-	0.42	0.43	0.44	0.44
Women in non-traditional areas	0.42	0.39	0.38	0.38	0.38

Participation for students from equity backgrounds, however, is not evenly distributed among broad fields of study (BFOEs). Table 9 details the participation ratios in 2014 for equity groups by BFOE. The Food and Hospitality BFOE has been excluded due to lack of student numbers in this field.

Table 9: Participation Ratios of Equity Groups by Broad Field of Education (BFOE) in 2014

Parentheses indicate the participation ratio for each BFOE relative to the overall participation ratio for each equity group.

Equity group	Non-English speaking background	Students with a disability	Regional	Remote	Indigenous	Low SES
Natural and Physical Sciences	0.93 (1.3)	0.78 (1.1)	0.64 (0.9)	0.29 (0.8)	0.35 (0.6)	0.37 (0.8)
Information Technology	1.08 (1.5)	0.8 (1.2)	0.58 (0.8)	0.2 (0.6)	0.32 (0.6)	0.55 (1.3)
Engineering	1.42 (2.0)	0.43 (0.6)	0.62 (0.9)	0.32 (0.9)	0.22 (0.4)	0.43 (1.0)
Architecture and Building	0.77 (1.1)	0.46 (0.7)	0.46 (0.7)	0.23 (0.7)	0.28 (0.5)	0.25 (0.6)
Agriculture, Environmental and Related Studies	0.44 (0.6)	0.71 (1.0)	1.25 (1.8)	1.04 (3.0)	0.54 (1.0)	0.48 (1.1)
Health	0.92 (1.3)	0.59 (0.9)	0.81 (1.2)	0.4 (1.1)	0.59 (1.1)	0.61 (1.4)
Education	0.2 (0.3)	0.61 (0.9)	0.99 (1.4)	0.5 (1.4)	0.87 (1.6)	0.97 (2.2)
Management and Commerce	0.85 (1.2)	0.47 (0.7)	0.55 (0.8)	0.31 (0.9)	0.37 (0.7)	0.37 (0.8)
Society and Culture	0.42 (0.6)	0.93 (1.4)	0.65 (0.9)	0.32 (0.9)	0.7 (1.3)	0.38 (0.9)
Creative Arts	0.3 (0.4)	0.8 (1.2)	0.64 (0.9)	0.23 (0.7)	0.55 (1.0)	0.28 (0.6)
Total (All BFOE)	0.7	0.68	0.69	0.35	0.54	0.44

Table 9 shows the 2014 equity participation ratios by broad field of education. It shows that participation ratios were not evenly distributed among broad fields of study (BFOEs), with a number of fields showing participation ratios comparatively higher or lower than the overall participation ratio for each equity group. For example, the overall university participation ratio for NESB students is 0.70 but it was 0.93 for NESB students within the Natural and Physical Sciences broad field of education. These two figures show that NESB students are under-represented in higher education, but are more likely to be studying Natural and Physical Sciences than other broad fields of education.

Architecture and Building is the least accessible BFOE for students from most equity backgrounds. Engineering also has lower levels of participation from students with a disability and, particularly, Indigenous students, whereas Creative Arts has lower levels of participation from low SES students and students from remote areas.

Students from equity backgrounds are far more likely to participate in the fields of Agriculture, Health and Education. Society and Culture also has higher levels of participation from students with a disability and Indigenous students.

Interestingly, students from non-English speaking backgrounds display a different pattern of participation by field than the other equity groups. They are more likely to be enrolled in Engineering, Architecture, Information Technology, Health and Natural Science, but participate in Education, Society and Culture and Creative Arts in relatively low numbers. The difference in Education, particularly compared to the relative proportions of students from other equity backgrounds, is especially notable.

2.4 Most Students from Equity Groups are no Less Likely to be Successful in Higher Education

Naylor et al. (2013) observed that the success and retention rates of students from equity groups were not substantially different from those calculated for total onshore domestic students. This continues to be the case. However, as outlined previously, Indigenous students continue to remain the exception to this in terms of both success and retention rates, although there are some signs of improvement in both these measures.

Success and retention rates⁵ 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 Indigenous 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 and significant improvements are required before Indigenous students reach the same success and retention rates as other students.

⁵ 'Success rate' is the rate of subjects passed as a proportion of those attempted. The 'retention rate' is the proportion of students enrolled in a given calendar year (excluding those who completed) who continued their course to be enrolled at some stage the following calendar year. 'Success ratios' in these data are defined as the ratio between equity groups and total students in the proportion of actual student load (EFTSL) for all units of study that are passed, divided by those attempted. Retention ratios are the ratio between equity groups and total students in the proportion of students who enrol in one year and continue in the next year, divided by the number of students who are enrolled in one year and did not graduate at the end of the year.

Table 10: Success Rates of Equity Groups over Time

Also shown is the 2014 success ratio and ratio between the number of students who commenced in 2011 and had completed their studies by 2014 (compared to total onshore domestic success and completion rates).

Equity group	2007 (%)	2011 (%)	2012 (%)	2013 (%)	2014 (%)	Success ratio (2014)	4 year completion ratio (2014)
Non-English speaking background	84.9	84.4	84.4	84.2	84.8	0.98	1.04
Students with a disability	83.4	83	82.4	81.4	81.6	0.94	0.87
Regional	-	87.1	86.8	86.1	86.2	0.99	0.94
Remote	-	83.5	84.0	83.4	84.0	0.97	0.85
Indigenous	71.8	72.8	73.9	75.2	74.9	0.86	0.76
Low SES	-	84.2	83.7	83.0	83.2	0.96	0.91
Women in non-traditional areas	88.1	87.8	87.5	87.0	87.5	1.01	1.07
<i>Onshore domestic students</i>	88.0	87.6	87.2	86.6	86.8	-	-

Table 11: Retention Rates of Equity Groups over Time

Also shown is the 2013 retention ratio (compared to total onshore domestic retention rate).

Equity group	2007 (%)	2011 (%)	2012 (%)	2013 (%)	Retention ratio (2013)
Non-English speaking background	87.4	86.5	85.3	85.3	1.04
Students with a disability	79.6	79.7	79.4	78.7	0.96
Regional	-	80.5	79.6	78.9	0.97
Remote	-	74.3	77.0	76.6	0.94
Indigenous	68.4	70.0	71.5	72.7	0.89
Low SES	-	80.4	79.8	78.9	0.97
Women in non-traditional areas	84.8	84.7	84	83.3	1.02
<i>Onshore domestic students</i>	83.2	83.2	82.6	81.7	-

There is some variation in the success and retention rates of students in different fields of study (Table 12 and 13). After controlling for the success and retention rates of their group, students from equity groups do not generally differ from these general trends. That is, students from low SES backgrounds, for example, have a total retention ratio of 0.97. Their retention ratio in the field of Natural and Physical Sciences is slightly higher than their total retention rate, but still 97 per cent of the retention rate for all onshore domestic students in this field.

Two exceptions exist. Indigenous students have lower success rates in Information Technology, and are less likely to be retained in the field of Agriculture (95 per cent of expected values in both cases). Students from remote backgrounds are also less successful and less likely to be retained in Information Technology (93 per cent of expected values in both cases). However, they are more likely to be successful in Agriculture, and more likely to be retained in Natural and Physical Sciences and Architecture (105 per cent of expected values).

The success and retention rates are 86.8 and 81.7 per cent respectively across the sector (although there is of course significant variation between institutions in these measures) and they are not significantly lower for students from equity groups. However, as Table 10 shows, the 4 year completion ratio (the proportion of students who commenced in 2011 and had completed their courses by 2014, comparing students from equity backgrounds to their comparison groups) for some groups is lower, indicating that some students from these backgrounds are less likely to translate their performance in success and retention into successful completion of qualifications. This is not the case for all equity groups, however.

**Table 12: Success Rates of Equity Groups
by Broad Field of Education (BFOE) In 2014**

Equity group	Non-English speaking background	Students with a disability	Regional	Remote	Indigenous	Low SES	Onshore domestic students
Natural and Physical Sciences	85.3	81.1	85.2	85.8	72.9	82.4	86.7
Information Technology	78.9	76.0	75.0	70.1	64.1	75.7	78.7
Engineering	83.2	80.1	85.0	81.3	76.3	82.4	85.7
Architecture and Building	87.0	83.4	87.9	86.4	77.2	85.8	88.8
Agriculture, Environmental and Related Studies	84.0	78.9	85.2	87.1	71.6	81.9	85.8
Health	89.6	86.9	90.7	88.1	79.4	87.9	91.0
Education	85.3	82.6	87.1	86.4	78.6	85.2	87.9
Management and Commerce	82.2	79.8	82.4	79.0	69.6	79.3	84.2
Society and Culture	83.2	79.5	84.3	79.7	71.3	80.8	85.6
Creative Arts	89.0	85.0	88.7	86.2	78.9	86.7	89.6
Total	84.8	81.6	86.2	84.0	74.9	83.2	86.8

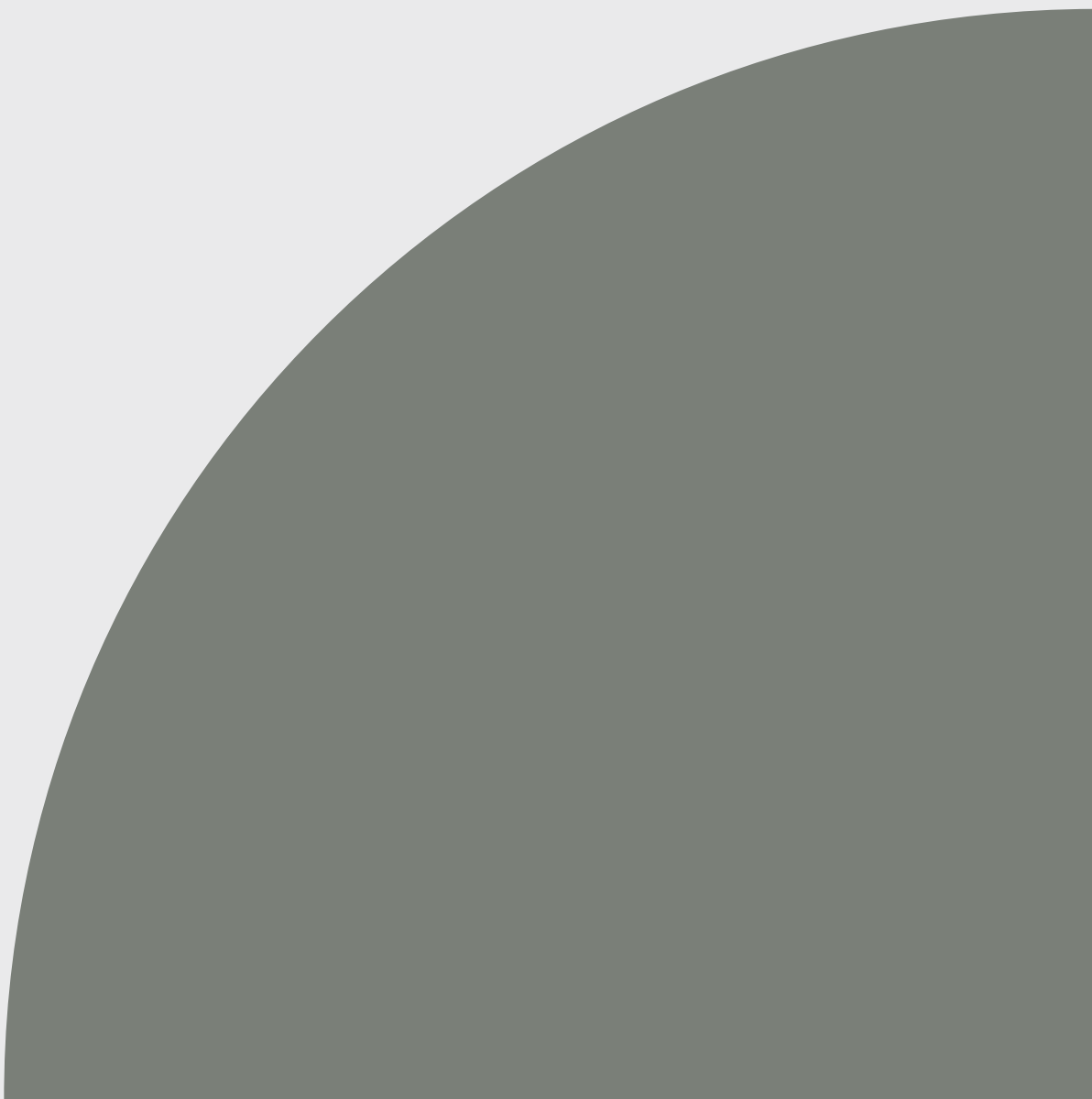
Overall, this statistical analysis shows that people from equity backgrounds continue to be under-represented in higher education, despite considerable growth in some groups. It is particularly concerning that the participation ratio of students from regional backgrounds and women in non-traditional areas appears to be decreasing.

Importantly, the figures show that students from equity backgrounds are *not* substantially less likely to successfully complete their studies, regardless of field. Where differences exist, it is most likely due to other factors known to reduce likelihood of success, such as having a low ATAR, being mature aged or studying part time. While students from equity groups are more likely to have these characteristics than other students, the moderating effect is most likely to be their mode of study (for example), rather than their equity group status per se. That is, a full-time, low SES student with no carer responsibilities is no more likely to drop out than any other student in the same circumstances. Indigenous students, however, continue to remain the exception to this in terms of both success and retention rates, despite some growth in these indicators.

**Table 13: Retention Rates of Equity Groups
by Broad Field of Education (BFOE) in 2013**

Equity group	Non-English speaking background	Students with a disability	Regional	Remote	Indigenous	Low SES	Onshore domestic students
Natural and Physical Sciences	86.9	80.9	80.4	82.3	73.8	80.9	83.4
Information Technology	81.8	79.1	75.3	68.8	74.2	78.2	79.9
Engineering	86.2	79.9	82.9	78.2	75.8	82.2	85.1
Architecture and Building	85.1	77.7	80.7	81.0	74.2	79.9	82.0
Agriculture, Environmental and Related Studies	83.0	74.8	79.5	73.8	66.5	78.3	79.7
Health	87.4	79.8	82.8	79.1	76.8	80.9	84.0
Education	81.8	77.7	78.4	76.2	73.2	79.1	80.6
Management and Commerce	83.6	79.1	77.0	75.1	71.1	77.8	81.9
Society and Culture	84.5	77.4	76.6	73.6	70.1	77.2	80.1
Creative Arts	84.6	79.2	73.8	72.0	72.6	75.7	78.9
Total	85.3	78.7	78.9	76.6	72.7	78.9	81.7

Pre-Access: Outreach Programs to Schools and Communities



Key Points

- Most outreach programs that provide evidence of effectiveness focus on high school.
- The majority of access initiatives are centred on: familiarising school students with the university environment, disciplines and people (staff and students); and provision of teaching modules designed for school teachers to use in classrooms.
- Informing aspirations for higher education is a central theme in these programs, through providing information and developing awareness about programs, associated careers and university pathways.
- Outreach programs that demonstrate effectiveness involve collaborative partnerships with communities and other stakeholders. This ensures a better understanding of the needs of the community, and increases effectiveness by enabling a tailored approach and community support.
- Programs utilising sustained mentoring have been shown to be effective in familiarising students with university. In particular, high school students have been found to connect and respond to university student role models or mentors from similar backgrounds.

3.1 Introduction

Initiatives discussed in the following sections were analysed according to the rigorous review methodology described earlier (Kingdon et al., 2014; Oketch et al., 2014). The 'key features', 'evaluation methodology' and 'impact' summaries in sections 3 to 7 of this report are based on initiatives that have satisfied the inclusion criteria for demonstrating effectiveness.

Because of the wide scope and importance of enabling access for equity groups, in this report initiatives conventionally described as access programs are categorised into two main types: 'pre-access' outreach programs to schools and communities, which are detailed in this section; and 'access' pathways and admissions initiatives that are outlined in section 4 of this report.

Outreach initiatives vary in structure, length and approach. The literature includes evidence of the effectiveness of outreach programs that work with primary schools, secondary schools and communities (Aitken, 2013; Cuthill & Jansen, 2013; Drummond et al., 2012; Fleming & Grace, 2014; Penman & Sawyer, 2013; Rissman et al., 2013; Singh & Tregale, 2015; Terton & Greenaway, 2015). However, the majority of impact studies are based on secondary school outreach initiatives and university experience programs. Some of these initiatives are conducted as long-term programs that run across a number of school terms or years, and some are offered as one-day events.

The evidence from the literature suggests that school curriculum enhancement and pre-entry university experience programs are effective (Fisher et al., 2015; Fleming & Grace, 2015; Macgregor et al., 2015; Thomas et al., 2014). There are fewer studies that evaluate the impact of specific initiatives for prospective mature-aged learners and students in primary schools.

Table 14: Pre-access Initiatives and Evaluation Strategies Included in this Section

Note that 'surveys' is used in this report to mean the broad method of surveying stakeholder experiences, perceptions or feedback, rather than a survey instrument.

Initiatives	Target equity group	Brief description and reference (if published)	Evaluation strategy	Impact
AIM HIGH The University of Newcastle	Low SES Regional/remote WINTA First-in-family Refugee	The program targets students from primary school Year 4 to high school Year 12. It includes school-based projects in curriculum and mentoring as well as university experience visits. <i>AIM HIGH</i> links with a large number of internal initiatives at the University of Newcastle.	<ul style="list-style-type: none"> • Pre/post quality assurance surveys with students, family members and educators • Enrolment rates from partner and 'comparison' schools • Quality assurance focus groups with university student mentors and past participants 	Program data show that mentoring has a significant impact on high school students' knowledge and interest in higher education as a pathways option. Data on the primary school curriculum programs show that after participating, more students consider a future in science. They also communicate a greater awareness and understanding of what happens at universities.
Aspire UC University of Canberra	Regional/remote	The initiative includes Year 7–10 students and provides in-class sessions delivered by university teaching staff about the academic, social and cultural aspects of university (Fleming & Grace, 2014).	<ul style="list-style-type: none"> • Student pre/post program surveys 	The authors report broad impacts on informing aspirations, including different forms of post-school education and employment options. However, the strongest increase in student aspirations is shown to be for higher education.
Aspire UWA The University of Western Australia	ATSI Low SES NESB Regional/remote First-in-family Refugee	The program involves school-based workshops, mentoring and university immersion experiences. It includes academic extension activities and industry visits. It is coordinated with other transition, support and pathway programs and also supports community activities, for example the Kimberley Cup sporting competition.	<ul style="list-style-type: none"> • Student intention/ experience surveys • School teacher surveys of perceived impact • University student surveys • Participation numbers • Enrolment rates 	Program data show improvement on school students' knowledge and interest in higher education. Enrolment numbers into first year at UWA from students who participated in the program have increased.
Digital Divas Monash University, Swinburne University of Technology, Deakin University	WINTA NESB Low SES	The initiative developed curriculum and teaching modules for high school teachers to deliver in-class. The modules aim to increase girls' interest and confidence in their ability to study IT (Fisher et al., 2015).	<ul style="list-style-type: none"> • Student pre/post surveys • Pre/post focus groups with students and teachers • Class observations • Follow up focus groups 1–2 years later 	The impact of the program shows an increased and sustained interest in IT for participants, as well as greater confidence in using IT.
Excite Explore Empower Federation University	General cohort Low SES	This is a regional schools outreach program that targets primary and later high school students. It aims to support aspirations and raise awareness of the benefits of staying at school and engaging in higher education (Evaluation Report prepared by 'Effective Change', 2014).	<ul style="list-style-type: none"> • Independently evaluated • Quantitative data from data bases e.g. My school • University applications data • Focus groups • Surveys • Parent interviews • Principal/ staff interviews 	The program is shown to make a difference to students' intentions to stay at school and complete the Victorian Certificate of Education. The program is also effective in building family information and knowledge about pathways options.
In2Uni University of Wollongong	ATSI Low SES Regional/remote Mature age First-in-family	The initiative includes a coherent suite of student diversity outreach programs. It offers both university preparation programs and vocational pathways to encourage people to remain connected with education.	<ul style="list-style-type: none"> • Student intention/ experience surveys. • Surveys of university students, program staff, other partners. • University articulation and retention rates. 	The initiative has shown impact in raising aspirations and awareness of higher education. The program also increases preparedness and skills development for Year 12 students with a growing number of students receiving university offers. Program data show increasing engagement with schools and local community.

Table 14: Pre-access Initiatives and Evaluation Strategies Included in this Section

Note that 'surveys' is used in this report to mean the broad method of surveying stakeholder experiences, perceptions or feedback, rather than a survey instrument.

Initiatives	Target equity group	Brief description and reference (if published)	Evaluation strategy	Impact
Indigenous Youth Sports Program Central Queensland University	ATSI	This initiative is offered on campus over a three to five day period. Students participate in sporting activities as well as arts and cultural activities and university studies. Sport is used as a way to engage students and increase interest in the program which aims to raise awareness of higher education options. (Macgregor et al., 2015).	<ul style="list-style-type: none"> Student pre/post questionnaires 	The program increases awareness of university options and has a positive impact on perceptions of university and study.
Mentoring Program The Flinders University of South Australia	Low SES Regional/remote	The program includes mentoring and campus visits for Year 9 and 10 students from peri-rural regions. It is a long-term sustained approach to mentoring and students have contact with university student mentors once a week over seven school terms (Curtis et al., 2012; Drummond et al., 2012).	<ul style="list-style-type: none"> Student questionnaires Demographic data 	The main impact of the program is described as the positive effect of mentoring on students' intentions to seek higher education after high school. The study also found that mentoring over a longer period has more impact than 'short bursts'.
MyTED eBook University of the Sunshine Coast	Low SES	This project designed an interactive eBook as an in-school learning resource for Year 4 primary students. It aims to 'awaken' aspirations to go to university in young students while they work on their literacy skills (Terton & Greenaway, 2015).	<ul style="list-style-type: none"> Questionnaires Teacher feedback Observations 	The initiative is shown to be successful in developing students' aspirations.
QUTeach Queensland University of Technology	ATSI Low SES	The program is a pathways outreach initiative for Year 11 and 12 students. University lecturers teach first year university courses on site at the school and the school teachers are trained to act as university tutors. Students enrol in four subjects and if they pass two, they are offered entry into a degree (Rissman et al., 2013).	<ul style="list-style-type: none"> Parent and student focus groups Enrolment data 	Impact is reported as raising awareness of higher education for students and community members, providing financial relief and increasing academic university preparedness. Progression to university increased for the general student cohorts of participating schools (not just for the program participants).
Tertiary Education Experience for Students with Disabilities Griffith University	Students with a disability	This initiative provides information about the university experience through pre-orientation workshops for prospective students with disabilities. It targets school and VET students. All activities in the program include mentoring from university students with disabilities. Some sponsorship is offered for students travelling from regional and remote areas.	<ul style="list-style-type: none"> Student experience and parent surveys Enrolment data Academic outcomes at university University staff surveys Activities after workshops 	Qualitative feedback indicates the program increases aspirations and provides awareness of support networks available to students with disability.
The Young Achievers Program The University of Queensland	Low SES Regional/remote ASTI First-in-family	The program targets Year 11 and 12 students who are provided with mentoring, residential camps and information about pathways programs. On university admission, the students are also provided with support during their four years of university study through scholarships, and mentoring (Cuthill & Jansen, 2013).	<ul style="list-style-type: none"> Extensive interviews Survey data Enrolment records Residential camp feedback 	Evaluation of the program shows that it helps to develop better awareness of pathways, course options, support services and the practical aspects of university for students. It increases students' recognition of their own capabilities and increased family, community and school pride.
U@Uni Summer School University of Technology, Sydney	Low SES	This program targets Year 10 and 12 students in two weeks of on-campus workshops and experiences designed to support post-school aspiration. Students have a choice of a number of subjects, for example, in business, filmmaking and science. They also participate in a 'Managing Your HSC' workshop (Aitken, 2013).	<ul style="list-style-type: none"> evaluated both internally and externally student, parent and teacher surveys case studies and focus groups 	The program increases preparedness and skills development for Year 12 students studying for the HSC. The program also increases students' development of and confidence in their academic identities.

Table 14: Pre-access Initiatives and Evaluation Strategies Included in this Section

Note that 'surveys' is used in this report to mean the broad method of surveying stakeholder experiences, perceptions or feedback, rather than a survey instrument.

Initiatives	Target equity group	Brief description and reference (if published)	Evaluation strategy	Impact
UC 4 Yourself University of Canberra	Low SES	This is a university experience day providing a 'taster' for students from disadvantaged schools. Students visit the campus and take part in organised activities, for example, mock lectures, workshops and tours. Students are accompanied by peers, teachers and family (Fleming & Grace, 2015).	<ul style="list-style-type: none"> • Student pre/post program surveys 	The initiative helps to inform aspirations and students' pathways plans.
UniCamps University of South Australia	ATSI Regional/remote	This is a one-week on-campus residential program for Aboriginal and/or Torres Strait Islander students from remote communities. The initiative provides a first-hand experience of university life and increases knowledge of higher education options (Thomas et al., 2014).	<ul style="list-style-type: none"> • Student and teacher surveys • Feedback 	The program is reported to provide students with a greater understanding of what higher education is like for students and the range of options available within it.
UniReady Program University of South Australia	Low SES NESB	A one-day campus tour and information session that builds participants' understanding and knowledge of how to gain entry into higher education and how to access support. It aims to attract migrants to university (Penman & Sawyer, 2013).	<ul style="list-style-type: none"> • Student/staff surveys 	The main effect reported is an improvement in understandings about how to access university. The initiative is also shown to increase familiarity with academic practices and the higher education system in general.
UNSW ASPIRE University of New South Wales	ATSI Low SES Regional/remote First-in-family Refugee Pasifika	This is an integrated program of workshops for Year 11 and 12 school students. It includes positive role modelling through student mentors and aims to build capacity at student, school and community levels.	<ul style="list-style-type: none"> • Student intention/ experience surveys • Assessment of learning outcomes (e.g. identify courses offered at university, careers they could lead to, identify pathways) • Cohort analyses by target groups • University offer rates 	The program has shown a positive impact on attitudes towards higher education and on enrolments in university.

3.2 The Key Features of Effective Initiatives

Following our analysis of the evidence provided by survey/interview participants and the authors of impact studies, the following themes were identified as key features of initiatives that demonstrate effectiveness. This discussion of effective features also provides information about some of the programs that provided evidence of impact.

3.2.1 Collaboration

Close, collaborative partnerships with communities and stakeholders are frequently cited in initiatives that show evidence of effectiveness as an important element of success for outreach programs. A collaborative approach involves inter-university projects (Silburn et al., 2010; Kerr et al., 2014) or internal collaborations of multi-disciplinary teams contributing resources and expertise (Lawrence, 2013). Collaboration is also about relationship building between higher education institutions and community groups (Thomas et al., 2014).

A collaborative approach provides a better understanding of stakeholder needs and is more effective because it receives greater participant and community support (Gale et al., 2010). For example, Thomas et al. (2014) describe the University of South Australia's program *UniCamps*, which was developed in consultation with the community of a remote South Australian school, where the majority of students are *Anangu* and their first languages are *Pitjantjatjara* or *Yankunytjatjara*. The project team gained support for the initiative by visiting the remote community and engaging in extensive consultation. In this way, the team acquired the necessary understanding and knowledge that informed the design of the program. The school principal, teachers, community members and students all had input into program design and, within the university itself, the *Centre for Regional Engagement* provided resources and support. There was ongoing collaboration and dialogue between the university and school, and the approach was inspired by 'the Pitjantjatjara concept of "ngapartji" (give and take) [which provided] a model for this two-way exchange process' (Thomas et al., 2014, p. 27).

Thomas et al. (2014) describe how *Anangu* voices and experiences are embedded in the program activities. For example, students gave presentations about their remote Mimili community to university staff. Students also shared *UniCamps* experiences back home with their Mimili friends and families. The authors argue that 'these knowledge exchanges are important [and] they can be considered a validation for how valuable and useful the program may be' (Thomas et al., 2014, p. 30). Knowledge exchanges between students and their networks show program effectiveness in reaching the broader community and sustaining interest in university as a future option for remote Indigenous students.

Collaborative approaches lead to a better understanding of participants and contexts and, therefore, a more informed approach to program design and delivery. *Digital Divas* provides an example of the benefits of including people with diverse forms of expertise to design and implement a program. Fisher et al. (2015) explain that the *Digital Divas* program was designed and implemented with the involvement of researchers and an educational specialist who was recruited to help develop the curriculum. Women working in IT were engaged as role models from the community who acted as guest speakers, university students were employed as 'expert Divas' and school teachers delivered the program (Fisher et al., 2015). The collaboration between the 10 schools, three universities and community role models provided broad ranging industry and pathways information, dispelled myths around stereotypes about who studies and works in IT, and served as an inspiring element of the program for the high school participants. One participant commented that 'the most interesting things I learnt from Digital Divas were [from] the speakers that came in and talked about what possibilities and opportunities there are in technology' (Fisher et al., 2015, p. 10). The authors' evaluation of *Digital Divas* showed an increased and sustained interest in IT for participants, and according to their analysis of student feedback, this is, at least partly, the result of the collaborative efforts of the speakers.

Collaborative approaches involve listening to and focusing on stakeholders' needs. For example, Rissman et al. (2013) describe how *QUTeach* involved building relationships between community stakeholders (school staff, principals, parents, students) and the university. They explain that information about the needs of the community and schools were sought and became integral to program design. The program was developed at the suggestion of one of the school principals who argued that 'we need to grow our own teachers' or encourage students to consider the option of becoming teachers (Rissman et al., 2013, p. 5).

Rissman et al. (2013) explain that when students successfully complete *QUTeach*, they are 'eligible for up to four credit points towards their Queensland Certificate of Education (QCE) and credit for each unit passed, giving them an entire semester's head start to the tertiary course' (Rissman et al., 2013, p. 6). Student needs were a priority in decisions made about the session times and project sites because some of the students in the cohort worked in paid employment outside school hours to help support their families. The decision was made to hold the program on school grounds at convenient times for the students so that they would not have to travel or miss work, demonstrating an awareness and responsiveness to the needs of participating students.

3.2.2 On-Campus Experiences

According to the growing evidence base for the efficacy of pre-access initiatives, providing activities that focus on familiarising high school students with the university environment and pathways options is a particularly effective approach to outreach. Some university 'familiarisation' programs are offered long-term and others are conducted as brief sessions.

An example of an effective long-term initiative is *Young Achievers*, which is located at The University of Queensland. *Young Achievers* supports students, their families and schools during Years 11 and 12 in the form of campus experiences, study bursaries, mentoring, career planning and information about study options and pathways (Cuthill & Jansen, 2013), followed by additional support during students' four years of university study. Twenty-seven schools participate, and the aim is to engage 100 'educationally disadvantaged state secondary-school students, primarily in Ipswich, Darling Downs and South West regions of Queensland' (Cuthill & Jansen, 2013, p. 9). The program has selection criteria for participating students (the main being that students identify with equity groups). Participants who achieve the required entry score are guaranteed an offer of a place at the provider university.

Delivery of direct on-campus experiences is highlighted by Fleming and Grace (2015) as a critical aspect of the impact of the program *UC 4 Yourself*. The authors contend that physically attending a university as part of this pre-university experience program was the likely reason why the program had a significant impact on the increased likelihood of participant students considering university in future plans. Similarly, the *Indigenous Youth Sports Program* (IYSP) provided a direct experience in a three-day campus visit session. Writing about the program, Macgregor et al. (2015) cite research about the importance of trusted face-to-face contacts for Aboriginal and/or Torres Strait Islander students when accessing information about university. The IYSP, designed as a direct experience approach, was evaluated and showed success in increasing awareness of university options and had a positive impact on perceptions of university and study for participants (Macgregor et al., 2015).

Some outreach initiatives include on-campus residential stays. For example, *UniCamps*, which is a program from the University of South Australia, provides rural and remote Indigenous high school students with a sense of university life and a living away from home experience (Thomas et al., 2014).

Academic and information sessions, student ambassador programs, recreational activities, campus tours and mock lectures also feature as effective university experience initiatives that are offered over shorter one- or two-day sessions (Cupitt et al., 2015; Drummond et al., 2012; Fleming & Grace, 2015; Macgregor et al., 2015; Penman & Sawyer, 2013).

3.2.3 Mentoring and Role Models

Mentoring stands out as an important aspect of effective outreach initiatives. Evidence also shows that merely visiting a campus is not as effective as having mentors involved in this (Drummond et al., 2012). As Gale et al. (2010) point out: '... the better forms [of campus visits] are those that involve extended interactions with universities and university staff and students' (p. 10).

The way mentoring is approached and implemented varies across initiatives. It is generally defined as 'peer mentoring', with the role of mentors carried out by university students whose primary aim is to build relationships with high school students on campus or in-class to increase school students' knowledge of pathways, higher education options and academic expertise (Cupitt et al., 2015; Curtis et al., 2012). University student mentors also act as 'role models', displaying qualities that school students are inspired by or can relate to (Fisher et al., 2015; Singh and Tregale, 2015). Other programs take a strong student-centred approach to avoid setting up potentially alienating 'ideals' and use terminology like 'coach' rather than 'role model' (see, for example, *AIM HIGH*, p. 43).

However, despite wide practitioner recognition of the important role of mentoring for inspiring students, Drummond et al. (2012) explain that there has been a lack of research about the effects of mentoring on 'student intentions prior to pathway selection' (p. 31). In order to contribute to the emerging body of literature, they sought to examine a mentoring program at Flinders University and measure the effects of 'proactively modifying student intentions to pursue higher education' (2012, p. 31). As a result, Drummond et al. report that contact with mentors had a positive effect on participants' intentions to access university. Another analysis of the same program by Curtis et al. (2012) reveals that mentoring is effective—when compared to no mentoring—and that mentoring has an even greater effect when it continues over a period of time. In other words, sustained mentoring, compared to 'short bursts', is identified as achieving the most impact (Curtis et al., 2012, p. 25). Curtis et al. (2012) explored whether the effects of sustained contact with peer mentors (undergraduate students) led to Year 9 and 10 students developing a stronger identification with the university 'in-group'. Their evaluation of the program showed that students who received more mentoring recorded higher levels of university 'in-group' identification. The authors suggest that this could be a reason for students recording higher levels of 'aspiration' as a result of participating in the program (Curtis et al., 2012).

Similarly, Singh and Tregale (2015) report that 'in-group' identification of high school refugee students with university student mentors is linked to a greater sense of belonging and intentions toward higher education participation. Reflecting this, one student enrolled in the Macquarie University LEAP mentoring program (which is part of the Sydney university consortium *Bridges* program) commented in feedback:

I saw the university students come to my school. I was surprised to see them. They looked like me (sic) age and were here to talk to me about university. I didn't hear about Macquarie University before but now I feel I am a very special part on the university. I came on a campus visit and felt I knew this place. I belong here (Singh & Tregale, 2015, p. 20).

The Queensland Consortium evaluation of student ambassador programs highlights personal 'narratives' shared by tertiary students with school students as a major reason for impact. Informal personal stories told by mentors about their own experiences prove effective in overcoming misconceptions about higher education. This is also supported by other forms of research cited in the report (Cupitt et al., 2015).

'Story-sharing' is also a feature of The University of Newcastle's intensive 'coaching' approach to mentoring in *AIM HIGH*'s Year 8 and Year 9 school program. The program aims to shift perceptions away from presenting the mentor as an ideal future version of self. Instead, a story-sharing approach is used as a strengths-based practice that includes: recognising existing strengths and resilience, building awareness of career influences, developing a vision of a valued future, and practice-mapping this journey. Students in the early years of high school are coached in small groups by trained university students over multiple sessions. The project aims to support the development of 'navigational capacities' (Appadurai, 2004) relating to career and educational aspiration. Program data show that *AIM HIGH* mentoring activities influence high school students' knowledge about, and level of interest in, higher education as an important post-school option.

3.2.4 Collaborative Teaching and In-school Learning Activities

Many outreach initiatives that have been evaluated and show evidence of effectiveness introduce new curricula and teaching methods into school classrooms. As referred to above, *AIM HIGH* also engages children 'early' at primary school level. It links primary school curriculum to careers through the use of role models. The program partners with 67 primary schools and delivers a series of in-school projects such as 'Careers through Science' for Year 4 and 'Careers through

Reading' for Year 5. Both projects are multi-visit and led by university students. Survey data show an increase in students considering a future in science (from 31 per cent at the beginning of the program to 50 per cent by completion) as well as greater awareness and understanding of what happens at universities. Increased intentions to attend university were also recorded. At the beginning of the 'Careers through Reading' project, 63 per cent of student respondents agreed 'I want to go to University one day' and at the close of the project, 71 per cent of student respondents agreed with the statement.

Another example of developing school curricula and teaching methods is the *Digital Divas* program, which consists of two components: the development of teaching modules (a curriculum designed for school teachers to use in classrooms), and the use of role models (Fisher et al., 2015). Both aspects are shown to increase girls' interests in careers in IT. Another program that utilises in-school learning resources is *My Tertiary Education Day (MyTED)*. It focuses on engaging Year 4 primary school students' interest in tertiary education through an interactive e-book. The narrative is designed to 'awaken' aspirations to go to university in young students while they work on literacy skills. Students' responses to the narrative are then assessed. Describing the approach, Terton and Greenaway (2015) explain that the activities 'also included interactive work sheets and participatory research activities such as *Photovoice* and *MyVoice* to stimulate the thoughts of the students and parents to consider their aspirations and career pathways' (Terton & Greenaway, 2015). The initiative is shown to be successful in developing students' aspirations to go to university.

Run by the University of Canberra, *Aspire UC* is another effective initiative that consists of in-school sessions delivered by university teaching staff. Scaffolded activities are conducted around themes of academic, social and cultural aspects of university. Also considered are broader options and goals such as employment and VET programs (Fleming & Grace, 2014). The authors of a study about the program report broad impacts on informing aspirations, including different forms of post-school education and employment options. However, they show that the strongest increase in student aspirations is to study in higher education.

Another in-school program demonstrating impact is one that involves university lecturers who teach first year education subjects on site in high schools. In *QUTeach* (Rissman et al., 2013) the school teachers are trained to act as university tutors and classes are held outside of school hours. Students enrol in four subjects, and if they pass two, they are offered entry into a degree:

Students who successfully complete two of the course units are guaranteed a place at QUT at the end of Year 12, with no requirement for the normal tertiary entrance qualification, known in Queensland as an Overall Position (OP) score (Rissman et al., 2013, p. 6).

Rissman et al. (2013) report that the program is effective in raising awareness of higher education for students and community members and increasing academic university preparedness. Progression to university increased for the general student cohorts of participating schools (not just for the program participants).

3.3 Summary of Evaluation Methodology

Most impact studies on outreach initiatives utilise a mixed methods approach. Program maturity and availability of resources influence the breadth and depth of evaluation reported (particularly in terms of sample size used). The most common evaluation method is to collect data through pre-program and post-program surveys. Interviews, data from enrolment/student records, participant feedback, focus groups, class observations and case studies are also used to assess student experiences and satisfaction with programs.

Information is typically collected from students, but several studies also collect data from school staff, parents, university staff, mentors and researchers. In one study, students, university staff, school staff and parents all took part in interviews, either individually or in groups (Rissman et al., 2013). Some providers/evaluators emphasise the need to go beyond satisfaction surveys to provide a thorough examination of impact. For example, Thomas et al. (2014) outline the need for more formal evaluation that drills further down into the program's strengths and weaknesses.

Data collection needs to be adapted to suit the purposes of a program and the characteristics of cohort participants. For instance, researchers working with younger children on the *myTED* e-book initiative (Terton & Greenaway, 2015) used data collection tools as part of a method they called *MyVoice*. Children were asked to draw a picture that represented their aspirations and then to complete prompted sentences to describe the picture. The activity was included in evaluation data and analysed thematically. As the name suggests, *MyVoice* was designed to give young students a voice in the

project and to use their creativity and imagination (Terton & Greenaway, 2015).

Other data reported by participants include student retention rates at school, participant (or community) application rates, offer and articulation rates, academic performance and assessment of work (both at school and at university), and university retention and success rates and graduate outcomes linked with pre-access initiatives. Some programs provide data based on the number of participants who have sought leadership positions at school, or who volunteer as mentors once they are at university. Importantly, learning analytics and resource usage is also reported as evidence for online programs. Output measures, such as the number of participants in programs or the number of partnerships in the program, were also quoted. Although not evaluations of impact, some participants also commented on the importance of demographic analyses and feeding data back to partner schools or community groups to maximise program outcomes.

Tracking post-school outcomes for students who have participated in outreach programs was noted in the survey as a particular problem for measuring the impact of programs. This is particularly so where students participated in programs run by one university, but go on to enrol in another. Although *ad hoc* collaborations between institutions may allow some of this data to be collected, there are currently no systems in place for tracking these outcomes in Australia.

The difficulties involved in evaluating outreach initiatives is reflected by the now discontinued UK national widening participation outreach program *Aimhigher*, which demonstrated some evidence of success for raising pathways awareness and academic attainment in schools (Doyle & Griffin, 2012), but faced challenges with post-participation tracking and evaluation. The National Foundation for Education Research Report (2009) outlined significant difficulties that *Aimhigher* partnership schools had in tracking student progression into university: (Terton & Greenaway, 2015).

Partnerships reported that working with UCAS [Universities and Colleges Admissions Service] and HESA [Higher Education Statistics Agency] data was unsatisfactory, saying that access is expensive, that it is difficult to access individual data and that monitoring progress through these bodies needs to be a continuous process as participants do not necessarily enter HE at the age of eighteen. In this context, one partnership expressed frustration that HESA data was not available to all partnerships as a matter of course; another suggested that HEFCE could approach UCAS to make their data available to all partnerships (Passy, Morris & Waldman, 2009, p. 14).

A potential model for tracking outcomes is the UK's Higher Education Access Tracker (HEAT) initiative. Tracking student access and participation through quantitative measures, HEAT consists of 21 universities 'collaborating on the provision of a monitoring and evaluation service and building on the work started by *Aimhigher* South East in 2004 with the aim of building evidence to show the impact of outreach engagement on student aspirations, attainment and progression' (HESA, 2014, p. 2). The Higher Education Statistics Agency tracker (HEAT):

...explores the relationship between participation in outreach activity and HE progression. The H.E.A.T database allows universities to capture details of participation at activity type level and frequency of student engagement. Furthermore, student characteristics are recorded to enable analysis by student background, etc. and this helps to provide a useful context for the results. Where possible, results are presented against a national backdrop to enable comparisons (HESA, 2014, p. 2).

Institutions that collect data on student participation in outreach as a matter of course upon enrolment or during transition improve the capacity for evaluation. In addition, the sector's ability to measure the effectiveness of these programs may be enhanced by formalised sharing of these data.

One common thread noted in the literature that requires careful consideration is the possibility of participant selection bias and the impact this may have on program effects. For example, Cuthill and Jansen (2013) note that the *Young Achievers* selection process seems to favour students who already show aspirations for higher education and have a supportive family environment. Similarly, students were nominated to participate in the *Indigenous Youth Sports Program* if they 'showed positive attitudes towards learning at school' (Macgregor et al., 2015, p. 94), which may exclude other students who would benefit (perhaps more so) from the program. Macgregor et al. acknowledge that further investigation needs to be undertaken to explore whether this kind of program could have a positive effect on students who are experiencing greater difficulties in school. This is a pressing and important task as a recent research report entitled 'Educational opportunity in Australia: who succeeds and who misses out' (2015) has shown that:

...the nature and quality of school completion for young people varies, and this is important because it affects access to later opportunities. Only 56 per cent of young people gain an Australian Tertiary Admission Rank (ATAR) that allows competitive access to university. This is linked to student background, with SES having a strong effect (Lamb et al., p. vi).

The authors conclude that disengagement from school must be addressed for children who come to consider themselves as educational failures so early in their learning trajectories.

However, the selection criteria Aitken (2013) outlines for *U@Uni* are promising because there is some emphasis on students who may be under-performing and having trouble at school. Selection criteria include 'a student who has the potential to attend university, but may not be applying him/herself to their schoolwork' and 'Someone who has the academic ability but lack [sic] in confidence or social skills' (Aitken, 2013, p. 4). Still, even in this case, students need to demonstrate 'potential', which is very problematic and often connected to socio-economic and socio-cultural forms of (mis)recognition and exclusion (Karabel, 2005; Burke et al., 2015; Burke & McManus, 2009; Southgate & Bennett, 2014).

3.4 Summary of Impact

There is some diversity in the types of impacts recorded for pre-access initiatives, although many reveal considerable levels of effectiveness.

3.4.1 Increased Awareness of Pathways and Opportunities

Studies of outreach initiatives included in this report demonstrate positive effects on increasing the awareness of pathways and different types of study available within higher education, as well how higher and further education is related to professions and careers. Outreach initiatives work to inform 'navigational capacities' (Appadurai, 2004) and increase preparedness. By participating in these initiatives, participants learn how to navigate the 'dense combination of nodes and pathways' (Appadurai, 2004, p. 69) into and through higher education. Reflecting the importance of learning how to navigate one's way into and around higher education, especially for students unable to draw on family (or support networks) familiar with university structures and processes, Fleming and Grace (2015) argue that 'aspirations must be mapped, or scripted, into coherent paths although even the clearest directions can be difficult to follow without prior experience' (p. 85).

Furthermore, about student experiences in the *UniCamps* program, Thomas et al. argue (2014):

...even if students do not aspire to eventual tertiary participation, they will have been exposed to other experiences and opportunities for training or possibilities for joining the workforce. It is important for the program to remain flexible, open and encouraging with regard to these different pathways and opportunities for the Mimili students (Thomas et al., 2014, p. 32).

Fleming and Grace (2014) also report the broader effects of informing aspirations for *Aspire UC* participants, which include different forms of post-school education and employment options (not just higher education). However, they reveal that the strongest increase in student aspirations was in higher education options, although aspirations also increased for other post-school education and work choices.

Fleming and Grace's recent study (2015) of *UC 4 Yourself* outlined two evaluation studies conducted with two separate cohorts. They report that both studies (using pre- and post-surveys) showed a strong level of interest in university before the program and this climbed higher post-*UC 4 Yourself* when students were surveyed again: 'both males and females were more likely to see themselves as university students after their day on campus [and were] better able to imagine themselves as university students' (2015, pp. 91 and 83).

Increasing intentions to go to university is also an effect of The Flinders University of South Australia mentoring pilot program (Drummond et al., 2012) that involves campus visits and mentoring of Year 9–12 school students by university students across two terms. Drummond et al. (2012) report the positive effects of mentoring on the students' intentions to seek tertiary education after high school. Interestingly, higher rates of interest in higher education recorded did not have a negative impact on aspirations for vocational education within this cohort. Students were interested in further education in general, both vocational and university-based. Drummond et al. (2012) found that 'students may be interested in either (or both) vocational education and university education' (p. 38).

A partnerships approach to collaboration was developed by the *Queensland Widening Participation Consortium* group of eight universities in 2009. The *Queensland Widening Participation Consortium* report that evaluation is providing evidence of initial impact; however, as with other initiatives, sustained effects are more difficult to track:

Qualitative feedback from students, staff and principals indicates that program activities are having positive impacts on students' engagement with school and their interest in pursuing further study... In some LSES [low SES] schools, evidence is emerging of a new culture where university is both achievable and desirable. A survey of over 6,000 school students in 2013 found agreement with the statement "I believe it is possible for me to go to university" improved by 15 per cent between pre- and post-attendance at on-campus visits. Application data from the QTAC shows tertiary application rates for students most engaged in program activities improved by 2.5 per cent between 2012 and 2014 (NCSEHE, 2015, p. 41).

Advantages of the Queensland consortium have been identified as 'economies of scale, avoiding gaps and duplications in partnerships with low SES schools, sharing good practice and aligning evaluation activities' (Queensland University of Technology Equity Services, 2014, p. 7). Through this strategy, all low SES schools in the state are targeted by a higher education institution and student mentors 'promote participation in tertiary study generally rather than promoting the specific attributes of participation at their university' (Cupitt et al., 2015, p. 4). The largest number of studies about the effectiveness of initiatives categorised by region in this review of literature (which ranges from pre-access to graduate employment) are from Queensland institutions. As evidence of impact from other consortia builds over time, it will be possible to gauge their effects, and as with any initiative, large or small, if rigorous evaluation is not factored in to activities and associated workloads, the evidence base will remain limited.

3.4.2 Increasing Understanding of Pathways

Young Achievers bridges information and resources gaps for secondary school students regarding their plans to study at university. The program helps develop awareness of pathways, course options, support services and practical aspects of university for students and their parents/guardians (Cuthill & Jansen, 2013).

The importance of getting information to students is reinforced in the *UC 4 Yourself* initiative that produces effects such as a reduction in negative perceptions of university (Fleming & Grace, 2015). Fleming and Grace (2015) describe initial feelings students conveyed about not being 'smart enough' to attend university, as well as inflated perceptions of cost. These initial perceptions are described as being formed in relation to wider perceptions in schools and communities regarding who is capable of participating in higher education.

In *Young Achievers*, 'relief' from financial anxiety for families about the cost of higher education, including relocation, accommodation and living allowances costs, was experienced as one of the program's effects. Cuthill and Jansen (2013) include participant feedback that highlights this as an important social justice element for alleviating the challenges of intergenerational poverty.

3.4.3 Self-concept

Increased student confidence in relation to higher education is an important part of the success of outreach initiatives. This effect was noted by Fleming and Grace (2015) as an increased ability to see 'self as student' (p. 90). Effects of increased recognition and confidence also feature in Aitken's (2013) article about *U@Uni*:

Of year 12 students in 2013 who participated in the program, 74 per cent (N = 24) commented that since this experience they felt more confident about themselves and 84 per cent (N = 27) felt more confident about their studies. This can be further evidenced through comments such as "I'm feeling more confident and I'm participating in more group work and activities at school." A teacher commented, "Attending Summer School gives them (students) confidence, networking and interpersonal skills". Another comments "Quite a few participants are now prefects and (one is) also the School Captain. The captain was considered a very unlikely candidate but he blew everyone away with his speech (p. 7).

Digital Divas increased female participants' ability to 'see' a non-traditional area of work/study in a positive way (women studying and working in IT). Increased confidence with IT was recorded, with the majority of students who answered (76 per cent) indicating that their confidence had improved and overall results showed an increased and sustained interest in IT (Fisher et al., 2015).

Another effect identified in Cuthill and Jansen's (2013) study about the *Young Achievers* program was 'recognition'. In *Young Achievers*, some of the effects recorded were increases in students' recognition of their own capabilities and increased family/community/school pride (Cuthill & Jansen, 2013). Similar effects on a sense of self and relations with others were also evident in *UniCamps*, as reflected in a teacher's comment about students: 'they have a better idea of possible study and career pathways. They have grown in confidence and ability to communicate with unfamiliar people' (Thomas et al., 2014, p. 30).

3.4.4 Preparedness and Skill Development

The University of Technology, Sydney's *U@Uni Summer School* (Aitken, 2013) targets Years 10–12 students from low SES schools in two weeks of workshops and experiences designed to support post-school aspirations. Students have a choice of a number of subjects in business, filmmaking and science. They also participate in a 'Managing Your HSC' workshop. Evaluation shows that in 2013, 94 per cent of students who participated in the program found stress management and study strategies valuable and beneficial (Aitken, 2013).

In another program, *QUTeach*, focus group data and completion results show how the initiative prepared students academically. They undertook first year university education subjects and learned academic skills. In this way, they developed authentic academic capabilities (Rissman et al., 2013).

Financial support offered as part of *QUTeach* is cited by parents and students during focus groups as providing a significant impact. The program covers all fees, and participating students who are offered a place at university after completing the program have a whole first semester 'head start' as university fees are waived, thereby providing students and parents some financial relief from first semester costs (Rissman, 2013).

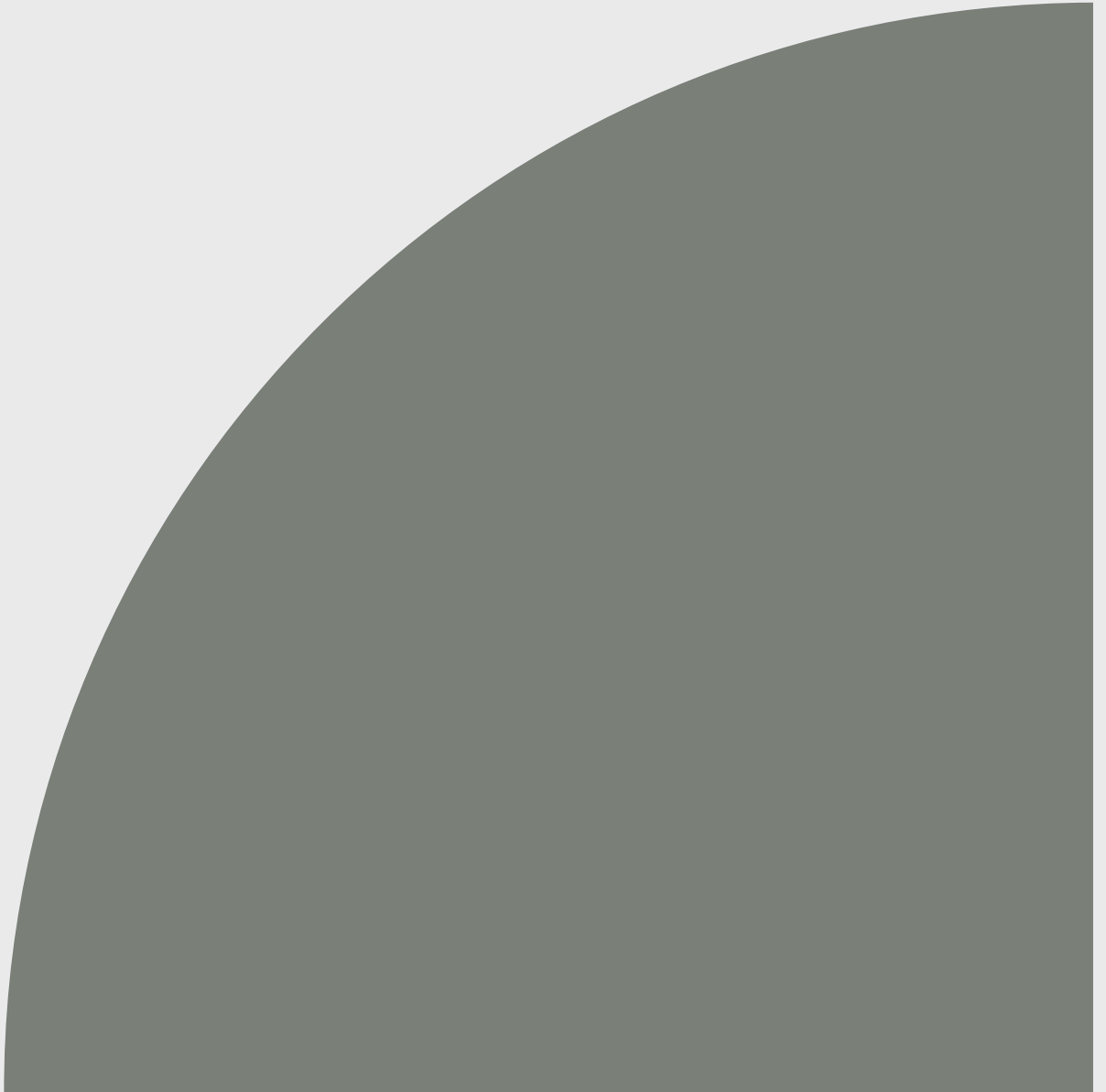
The NSW *Bridges to Higher Education* collaboration was established in 2012 as a collaboration between five Sydney universities. KPMG reports that for Bridges participants in low socio-economic areas, 'there was a statistically significant difference between Bridges and non-Bridges schools. That is, the average increase in rates of Bridges applicants receiving an offer was significantly higher than that of non-Bridges schools. The size of the difference (5.13 per cent) is substantial' (KPMG, 2015, p. 5). In KPMG's evaluation of the Bridges consortium of programs, data included economic indicators, retention and performance data, and other forms of quantitative and qualitative data that was collected from participating universities, 'secondary data sources (i.e. University Admissions Centre) and financial information provided by participating universities to inform an economic analysis' (KPMG, 2015, p. 5). Evaluation attempted to capture the scope and complexity of the programs by taking a 'multi-level approach' including 'individual project level; cluster and/or project objective level; and whole of initiative level information' (KPMG, 2015, p. 5).

3.4.5 Building Broader Community Support for Higher and Further Education

Outreach initiatives introduce important opportunities for under-represented students and communities to build social and resource-rich support networks. For example, the *Indigenous Youth Sports Program* (Macgregor et al., 2015) demonstrates impact on perceptions of university and study as linked with career or job interests. Macgregor et al. (2015) report 'strong agreement amongst the students that education is the key to success in their career or job, and education/university is an option they could consider in the future' (p. 98). They also report that raised awareness of the link between higher education and an array of different kinds of careers was experienced community-wide. Students showed a marked increase in discussing aspirations with family, friends, teachers and community Elders, an effect which broadens the impact of the initiative.

Rissman et al. (2013) outline the effects of *QUTeach*, highlighting the participants' positive perception of Queensland University of Technology support and strong relationship between the school and university. This was considered to be due to the commitment of lecturers and university staff. The school principal observed: 'initially, parents were reluctant to believe that a "wonderful" school–university partnership could develop, and they needed encouragement to come on board and be confident that students could do the work' (Rissman et al., 2013, p. 10). Similarly, in their discussion of *Young Achievers*, Cuthill and Jansen (2013) describe how the program provided a network for participants to form social connections and share information with peers and university student mentors. Families experienced a sense of 'back-up' support from the program and schools reported stronger connections with the university through access to more resources and opportunities to support their students.

Access: Pathways and Admissions



Key Points

- Universities recognise the relationship between secondary school academic performance and educational disadvantage through flexible and inclusive admission processes.
- The main aims of pathway and bridging programs are to engage and empower students in learning and to increase preparedness.
- Effective pathway programs include a specific focus on inclusive pedagogies and curricula. This is particularly important in programs targeting Indigenous students, but is valuable regardless of audience.
- Academic skills development is enriched by a holistic approach to student support, with a strong focus on student engagement.
- There are some public concerns about bonus point university entry schemes and similar approaches leading to decreased academic standards. There is no evidence from tracking student performance that these perceptions are valid.

Two initiatives captured in this review specifically target cultural groups and Indigenous students, although they are not Australian. However, the authors of these impact studies cite features relevant to the Australian context that are important to consider. One outlines a program engaging Māori and Pasifika students (Curtis & Townsend, 2012), and another initiative includes African American, Native American and Hispanic students (St John et al., 2014).

Eight of the Australian initiatives captured mature-age alternative pathways students (Andrewartha & Harvey, 2014; Bennett et al., 2013; Christensen & Evamy, 2011; Cocks & Stokes, 2013; Goode, 2013; Lambrinidis, 2014; McNaught & Benson, 2015; Relf & Burgess, 2014). Impact studies of pathways and admissions that target people who identify as Australian Aboriginal and/or Torres Strait Islander, people with a disability, and women in non-traditional discipline areas, are under-represented in the literature.

4.1 Introduction

The 'key features', 'evaluation methodology' and 'impact' summaries in this section of the report are based on initiatives that have satisfied the inclusion criteria for demonstrating effectiveness. Initiatives that demonstrate effectiveness at the access and admissions stage can be categorised into three main types, although the nomenclature differs slightly across the sector:

- Alternative selection criteria (Allison, 2013; Ng, 2015);
- Pathways or Foundation programs, which provide an entry qualification to university upon successful completion (Andrewartha & Harvey, 2014; Bennett et al., 2013; Christensen & Evamy, 2011; Cocks & Stokes, 2013; Goode, 2013; Lambrinidis, 2014; McNaught & Benson, 2015; Relf & Burgess, 2014; Ryan & Hopkins 2013); and
- Bridging programs that provide extra academic development to build skills (Curtis & Townsend, 2012; St John et al., 2013).

Many pathways programs in Australia are referred to as 'Enabling' programs. For enabling courses, the government pays the contribution for Commonwealth-supported places and universities that offer Commonwealth-supported places in enabling courses cannot charge an additional student contribution (Behrendt et al., 2012, p. 50). In the UK, these programs are often called 'Access' programs. The main forms of impact of these types of programs are an increase in familiarity, preparedness and empowerment for participants, and the establishment of more inclusive admissions processes.

Table 15: Access Initiatives and Evaluation Strategies Included in this Section

Initiatives	Target equity group	Brief description and reference (if published)	Evaluation strategy	Impact
Alternative selection criteria The University of Manchester	Low SES First-in-family	This initiative uses demographic information about students in addition to academic results as part of the admissions process. It aims to increase entrants from non-traditional backgrounds into a four-year pharmacy course (Allison, 2013).	<ul style="list-style-type: none"> • Student surveys 	Students with the identified demographics of disadvantage achieved entry into a four-year pharmacy program and the majority of participating students went on to successfully complete the degree.
Academic Survival Skills Online The University of Newcastle	Low SES Regional/remote Low ATAR Mature age First-in-family	The program is an open access online bridging course with nine modules on academic skills and aspects of university experience, for example, using the library for research. It is free and accessible to anyone regardless of age or education level.	<ul style="list-style-type: none"> • Student experience surveys • Academic performance 	Program evaluation shows an increase of confidence and improvement in academic performance.
ATAR bonus point schemes State tertiary admission centres	Low SES Regional/remote WINTA	An admissions initiative that includes an increase in selection rankings for particular equity groups to acknowledge educational disadvantage or to widen participation.	<ul style="list-style-type: none"> • Degree offer acceptances • Enrolment data • Academic performance 	These access schemes have been shown to increase access for equity groups who typically perform better at university than high SES counterparts with the same ATAR
Early Childhood Education, Deakin Learning Centres Deakin University	Low SES, Low ATAR, Mature age	This is a TAFE pathway program delivering undergraduate units across multiple sites with real-time video conference plus face-to-face tutorials and intensive subjects. Students have access to university facilities and support. There is a local orientation program prior to commencement each trimester.	<ul style="list-style-type: none"> • Enrolment numbers (by equity group) • TAFE pathway numbers • Academic performance • Completion rates • Number of students accessing writing mentors and other support staff 	Percentage of low SES students enrolled via the Learning Centres exceeds the university overall low-SES percentage by over 20 per cent.
E-learning tools, enabling program Charles Darwin University	Low SES NESB Regional/remote	E-learning tools were introduced to an enabling program targeting a cohort where 62 per cent of students study via online. The tools include video clips, online tutorials and discussion boards and aim to encourage active learning and engagement (Lambrinidis, 2014).	<ul style="list-style-type: none"> • Students surveys and follow-up telephone interviews 	Evaluation revealed three main examples of impact: students felt more connected to their tutor and other students; they have greater opportunity to ask questions; and content is clarified more.
E12 (admissions) The University of Sydney	Low SES Regional/remote	An early offer initiative for low SES Year 12 students with a lower entry ATAR cut off. Support is provided through first year scholarships, Apple iPads and academic support (Ng et al., 2015).	<ul style="list-style-type: none"> • Student interviews 	Students from rural areas report beneficial effects as a result of financial support from E12 because it helps them to afford the essential costs of moving to Sydney and purchasing textbooks, computers and with covering other course related expenses.
Enabling Program La Trobe University	NESB Students with a disability Low SES Regional/remote ATSI	This enabling program partners with TAFE and has recently expanded. More support is offered such as optional extra tutorials, student and staff mentors and integrated support services have been introduced, for example, counsellors visit classes (Andrewartha & Harvey, 2014).	<ul style="list-style-type: none"> • Institutional data including enrolment numbers and student demographics, withdrawal rates, course weighted average marks, and subject marks. 	The program has produced strong overall evidence of success with high retention (65 per cent remaining enrolled and active throughout program) and strong academic performance.
Enabling Program University of South Australia	NESB Students with a disability Low SES Regional/remote ATSI	A general enabling program with a strong focus on social inclusion. One initiative that has been introduced is 'The Common Room' where students and university staff meet in a shared space and develop networks of support (Cocks & Stokes, 2013).	<ul style="list-style-type: none"> • Draws on early evidence of retention and performance data, ongoing data analysis 	The authors report greater engagement and connectedness of students with each other and their tutors. Effects also include a stronger sense of belonging for students and comfort with their learner identities.

Table 15: Access Initiatives and Evaluation Strategies Included in this Section

Initiatives	Target equity group	Brief description and reference (if published)	Evaluation strategy	Impact
Science for Nursing, enabling course The University of Newcastle	NESB Students with a disability Low SES Regional/remote ATSI	This initiative is the development and re-design of a science course to improve long-term outcomes for mature age students in an enabling pathways program. The curriculum was adapted to be more relevant to students entering a health studies context (Burgess & Relf, 2014).	<ul style="list-style-type: none"> Retention and performance data Student surveys and feedback 	The new curriculum achieved a strong effect on students' level of confidence with the more challenging aspects of course content in their later undergraduate experiences.
Engineering Academy Bridge Program A midwest university (USA)	Low SES Culturally diverse	A summer bridge program was redesigned to include supplementary maths and physics, student support and mentoring (St. John et al., 2014).	<ul style="list-style-type: none"> Institutional data including enrolments, performance, student feedback 	Program evaluation shows an upward trend in first year grades for program participants. Student feedback links academic successes in first year to the effects of the extra mathematics exposure in the bridging program.
Facebook initiative University of Southern Queensland	Low SES	A Facebook page was developed as a teaching resource in a tertiary preparation program for Year 12 school leavers. It aims to enhance academic and social outcomes (Ryan & Hopkins, 2013).	<ul style="list-style-type: none"> Post-program student evaluation surveys 	The initiative allowed students to act as supports for one another. Students accessed the page more frequently than the USQ online learning management system. The pathways program was a success with 18 of the 20 participating students continuing on to undergraduate study.
Foundation Studies, UniSA College University of South Australia	ATSI Low SES NESB Students with a disability Regional/remote Low ATAR Mature age First-in-family Refugee	This is a one-year, full-time, on campus program that aims to build academic literacy skills and confidence. The program focuses on compulsory core (general academic literacy) skills and includes introductory courses related to specific future undergraduate degrees. Students earn competitive entry to their desired undergraduate degree. It is Commonwealth-supported and students have full access to university facilities and support while enrolled.	<ul style="list-style-type: none"> Enrolment numbers Student experience surveys Post-program interviews Staff interviews Retention rates Progression rates to undergraduate degrees Future academic performance 	Program data show consistent growth in enrolments into the program and into university in general. Of all students in the program 83.7 per cent enrolled into further UniSA degree programs.
MAPS to Success The University of Western Australia	Mature age	This initiative supports students in a pathways program in which students take four undergraduate units. Diagnostic exercises are used and individual learning action plans are devised to support student learning (Christensen & Evamy, 2011).	<ul style="list-style-type: none"> Student feedback: online evaluation Student data on retention and performance 	Christensen and Evamy describe a general upward trend in retention recorded since the initiative was introduced. Student feedback showed the program had a positive impact on demystifying university culture.
Open Foundation Program The University of Newcastle	NESB Students with a disability Low SES Regional/remote ATSI	A general enabling program, Open Foundation Program provides students with a pathway to university and a preparation for tertiary study. It has flexible delivery and students can study either part-time (on campus or by distance) or full-time over one semester (Bennett et al., 2013).	<ul style="list-style-type: none"> Ongoing student satisfaction surveys and institutional data Recent (2013) extensive external program review 	Program data show consistent strong growth and impact. Since 1974 when only 80 students commenced, to 2013 when 2136 students enrolled, of the students who completed, approximately 90 per cent entered degree programs.
Success For All The University of Auckland, New Zealand	Māori and Pasifika students	The program targets health studies students in a foundation 'gap bridging' program between secondary school studies and university. Activities include cohort-bonding experiences and the inclusion of cultural activities, for example a two-day Wānanga camp (Curtis & Townsend, 2012).	<ul style="list-style-type: none"> Student interviews pre/post program, utilising Critical Incident Technique where students identified 798 'helpful or hindering' (p. 591) incidents around learning experiences. 	The program achieves greater student preparedness for undergraduate study. Other effects reported include stronger cohort-bonding and engagement with academic content.

Table 15: Access Initiatives and Evaluation Strategies Included in this Section

Initiatives	Target equity group	Brief description and reference (if published)	Evaluation strategy	Impact
UTS TAFE Pathways project University of Technology, Sydney	Mature age	A TAFE pathway program that aims to build TAFE students' interest in attending university. It provides academic support and aids transition for current TAFE students and UTS students who have entered via a TAFE pathway. Pathway information sessions and campus visits are provided (including role modelling experience from students). There are formal credit recognition agreements.	<ul style="list-style-type: none"> • Number of information sessions and attendees • Student experience surveys • TAFE staff surveys of perceived impact on students • Staff feedback • Health of relationship with TAFE partners • Number of credit recognition arrangements • Academic performance • Support staff access rates 	The program is reported to increase students' interest and motivation to undertake university study and provide greater awareness of TAFE pathways to university.
Week Zero The University of Newcastle	NESB Students with a disability Low SES Regional/remote ATSI	This is an online orientation program for commencing students in a distance enabling program. The program focuses on creating support networks, engaging students with course content and familiarising students with online learning tools. It includes discussion boards, video clips and blogs (Goode, 2013).	<ul style="list-style-type: none"> • Institutional data retention • Learning management system (Blackboard) analytics, post-program student survey 	Week Zero strategies increase student engagement with their courses online. Evaluation shows a significant increase in commencing students accessing Blackboard since the initiative was introduced (from 60 per cent in 2011 to 94 per cent in 2013).
Scaffolded assessment The University of Notre Dame Australia	Alternative entry pathways enabling program students	Scaffolded assessment was adopted into an academic writing course within an enabling program. It was introduced as a strategy for students to acquire skills in academic writing that would be sustained in students' undergraduate experiences (McNaught & Benson, 2015).	<ul style="list-style-type: none"> • Student academic performance data • Student feedback via the University's Unit Content Evaluations • Lecturer feedback 	McNaught and Benson report a significant increase in students' performance since the initiative was introduced in 2013. More students achieved the benchmark post-initiative.

4.2 Key Features of Effective Initiatives

Following our analysis of the evidence provided by survey/interview participants and the authors of impact studies, the following themes were identified as key features of initiatives that demonstrate effectiveness. This discussion of effective features also provides information about some of the programs that provided evidence of impact.

Activities within pathways and admissions initiatives achieve a number of outcomes. The first is to ameliorate the effect that educational disadvantage (through factors such as low SES and regional location) has on measures of academic performance at school. Without strategies to remedy this effect, educationally disadvantaged students will remain under-represented in higher education. In addition to providing entry qualifications, pathways and admissions initiatives also provide an important means of developing the broader non-academic skills important for succeeding in higher education.

4.2.1 Establishing More Flexible and Inclusive Admission Processes

In a study describing the impact of an effective alternative selection criteria initiative at The University of Manchester, Allison (2013) outlines the use of a more flexible admission process that resists the traditional exclusive focus on academic merit. In this admissions initiative for a four-year pharmacy course, students' demographic information is considered in addition to academic results. Student applicants are 'flagged' (Allison, 2013, p. 79) if they qualify for at least two specified indicators. A 'flagged' student may be given the chance to progress through the interview stage of the application process and be offered a place, whereas under the traditional selection process (based purely on academic performance) they would not have progressed (Allison, 2013). Students with the identified demographics of disadvantage achieve entry into the pharmacy program, and Allison (2013) reports that the majority of participating students went on to successfully complete the full four-year degree program (p. 81).

Another example of alternative admission is *E12*, which is an early offer initiative for Year 12 students wishing to gain entry into The University of Sydney. A lower entry ATAR cut-off for students from low SES schools is a part of the admission process. Interested students are able to self-nominate, but also require the support of their school principal. They answer a questionnaire and may attend an interview. If successful, a conditional early offer is made. Support is provided in the form of a first year scholarship, an Apple iPad, and academic learning development (Ng et al., 2015). In particular, students from rural areas report beneficial effects as a result of financial support from *E12* because it helps them to afford the essential costs of moving to Sydney and purchasing textbooks, computers and with covering other course related expenses (Ng et al., 2015, p. 41).

Flexible admission processes are important for supporting the access of Aboriginal and/or Torres Strait Islander students. Kinnane et al., (2014) report that 'a higher proportion of Indigenous applications were made directly to universities (2.5 per cent), as opposed to applications through Tertiary Admission Centres. DEEWR (2011c) suggested that more applicants entered from Indigenous admission schemes, or pre-tertiary programs' (p. 42). Recent concerns have been played out in the media about admissions initiatives, bonus point schemes and similar processes leading to decreasing academic standards. However, there is significant evidence that the majority of students with altered selection criteria perform well at university (Messinis & Sheehan, 2015, Gale, 2012, James et al., 2009). Despite this, greater transparency around how points are awarded in some states may be required, given some criticism about bonus point schemes that are overly complex.

4.2.2 Inclusive and Innovative Pedagogical Approaches and Curricula in Pathways Programs

Much of the evidence about access initiatives outlines inclusive pedagogical approaches. These approaches take into account the fact that relationships within classrooms are not neutral but are located within wider socio-historical relationships of power and inequality. Inclusive pedagogies described are reflexive and utilise dialogical methods to connect students to powerful forms of knowledge in higher education by drawing on students' experiences and knowledges (Burke & Crozier, 2012; Freire, 1972). Inclusive curricula approaches are based on the design of a curriculum that embraces the prior learning and experiences of all students and is explicit about its assumptions⁶. Access initiatives such as *Success For All* show an inclusive pedagogical approach. According to Curtis and Townsend (2012), the inclusion of Māori and Pasifika traditional health practices in the course content 'encouraged attendance, enhanced class cohesion and reinforced cultural pride' (p. 598). Other initiatives encourage more accessible relationships between students and their tutors. Lambrinidis' (2014) study on e-learning tools developed for an enabling program at Charles Darwin University shows that one of the most significant effects recorded was an increased connectedness between students and tutors. Many of the students who attend the institution are from remote isolated areas with '61 per cent working more than 30 hours per week' (Lambrinidis, 2014, p. 258). Appropriate inclusive teaching of the kind described by Lambrinidis is designed to engage students with complex life circumstances.

However, a 2015 study of approaches to inclusive pedagogy in Australian universities conducted by Hitch, Macfarlane and Nihill (2015) reviewed current policies and professional development activities. Despite the important work of the *First Year in Higher Education* (FYHE) and *Student Transitions, Achievement, Retention and Success* (STARS) conferences and associated journal, Hitch, Macfarlane and Nihill found an overall 'ad hoc' and 'fragmented' approach that characterises inclusive pedagogy as a specialist activity, rather than as a foundation for quality teaching in higher education in general (p. 142). The authors argue that 'collaboration between Australian universities could yield significant benefits in the understanding and practice of inclusive pedagogy through sharing perspectives, experiences and examples of good practice' (p. 143).

⁶ See the 'Inclusive teaching and learning guideline' <http://www.newcastle.edu.au/about-uon/governance-and-leadership/policy-library/guidelines> and the 'inclusive curricula checklist' <http://www.latrobe.edu.au/ltlt/resource-library/sources/inclusive-curricula-checklist>

4.2.3 Development of Academic Skills and Cultural Understanding

Online tools

Lambrinidis (2014) described the impact of e-learning tools that were introduced to a cohort where 62 per cent of students study via online courses and the majority are equity students. In the enabling program at Charles Darwin University, he describes how the e-tools included a combination of video clips, online tutorials and discussion boards/groups to encourage active learning, connection and engagement with course content for regional and remote students.

Online tools were also developed by The University of Newcastle's Open Foundation *Week Zero* initiative for students studying their enabling program online (Goode, 2013). Newcastle's online enabling program is offered to a diverse cohort of mature age students who 'face considerable identity and role adjustments as they rearrange their life to include study' (Goode, 2013, p. 2). *Week Zero* is a supported, gradual introduction to the online learning environment for students who may have had little opportunity to engage in online learning and become familiar with the technology involved. Program evaluation data showed how *Week Zero* strategies increased student engagement with online content. A significant increase was found in the numbers of students using the university's learning management system (Blackboard) since the initiative was introduced (from 60 per cent in 2011 to 94 per cent in 2013). Considerable positive impacts on student experience were also found, with one student stating: 'By only revealing parts of blackboard each day it has been great and not overwhelming' (Goode, 2013, p. 6).

In his analysis of the Charles Darwin University program, Lambrinidis (2014) describes how one of the biggest challenges is the low rate of students accessing online tutorials (only approximately 33 per cent of 134 students in this study participated in online tutorials). Reasons uncovered by Lambrinidis are time constraints and technical difficulties. The careful planning and pacing of programs/ courses/materials, as described by Goode (2013) above, may help ameliorate the impact of such challenges, so that the positive effects of participation in online tutorials such as an improvement in performance and student experience can be experienced by the majority of students. Lambrinidis also found evidence of a need for increased staff training and support in the online space as student feedback indicated a desire for more focused and planned online tutorials. Some of the feedback also suggested that more staff involvement was required on discussion boards.

Enabling/Foundation Programs

Enabling/foundation programs provide opportunities for students to develop effective learning strategies and build confidence in academic skills. Academic writing is frequently a focus of these programs. However, foundation and enabling programs have drawn some criticism for failing to account for discipline specificity in academic literacies and academic skills, as well as being unengaging because of their general nature. Developing academic skills is an important aspect of The University of Melbourne's Diploma in General Studies and the University of South Australia's College's Foundation Studies program. Both programs have attempted to overcome the risk of students becoming disengaged by overly generic approaches by providing a mix of general subjects and discipline-specific electives.

In terms of working to engage students in university disciplines and learning approaches, the Open Foundation program at The University of Newcastle has long engaged students through disciplines, rather than through generic academic literacies and skills courses (Bennett et al., 2013). Since 1974, the approach has been to offer learning activities based on students' interests and experiences, and to embed academic literacies and critical analysis into discipline-based courses, which include Literature and Film, Sociology, History, Linguistics and Science for Nursing and Midwifery. This approach is based on inclusive pedagogy and what Gale and Parker (2014) call 'Transition as Becoming' approaches, which make it possible for students to learn and 'contribute from who they are and what they know' (p. 746). While transitioning to study in the program, students may also study other science and mathematics courses. Students are not permitted to study two mathematics courses so that they develop important writing and academic skills in other disciplines. Approximately 19 350 students have gained the opportunity to access higher education as a result of completing the program. The longevity and consistency of impact is a particularly striking feature of this program, as discussed in the following subsection 'Impact' (4.4).

Another feature of effective pathways and bridging programs has been shown to be demystifying university culture because getting to know the university environment can be a very daunting experience for students who have experienced challenges in their education and particularly for those who are first-in-family and do not have the familial and close social connections to call on to help them through and explain how to approach university study (Bennett et al., 2012; Hodges et al., 2013). Pedagogical approaches adopted within these programs make more explicit the 'hidden' aspects of learning in order to help students develop an understanding of the cultural norms and pedagogical demands that are often taken-for-granted in higher education (Wilkins & Burke, 2013; Bourdieu, 1997; Bernstein, 1975). As an example, a *Maps to Success* student talks about what she insightfully describes as the focus on the 'invisible unit' of learning in her program:

I am especially grateful for the very first information evening when Dr Christensen explained about the "invisible" unit of getting used to the whole new culture. I often reflected on that when I felt I was getting overwhelmed and felt a bit better telling myself it was just the "invisible" unit (Christensen and Evamy, 2011, p. 44).

This is an important element explicitly reported about the University of Melbourne's Diploma in General Studies, the University of South Australia College's Foundation program and University of Technology, Sydney's TAFE Pathways project. Another example of addressing the often 'invisible' cultural assumptions that limit communication and engagement is illustrated in Curtis and Townsend's (2012) study about a foundation program for Māori students. When students spoke about their learning experiences in tutorials, they said they often felt reluctant to ask questions or seek clarification due to cultural understandings of respect in a classroom environment:

I've kind of grown up [to] be respectful. When you're told something you're just supposed to take it in. So ... I will just try and take it in, try and understand and not talk back or ask questions. Because you're supposed to understand, like sit there and understand and I sat there for a whole hour (Curtis et al., 2012, p. 595).

A teaching strategy was introduced because of this feedback. It was based on a more collaborative student team approach and positive effects were captured during later evaluation:

There's a lot of group discussion, like group work ... because it's one thing understanding it on your own but to discuss it with other people and see other view points and coming up with an argument to support your points ... it deepens that whole learning and ideal or whatever you're discussing and to me that was really good, like I can remember having discussions about this and that (Curtis et al., 2012, p. 591).

The literature and CIF Part 2 study participants outlined the critical aspect of developing students' new knowledge of university by mapping out the implicit but fundamental aspects that lead to success at university. Thus, effective enabling/foundation programs and courses increase students' essential 'navigational capacity' (Appadurai, 2004) and capability in the higher education context (Ball, Maguire & Macrae, 2000; Christensen & Evamy, 2011; Wyn, 2007).

Integrated support

Holistic, integrated support was also described as an effective feature of the enabling programs surveyed for this study. For example, The University of Western Australia's *Maps to Success* program is an alternative pathways course where students take four undergraduate units. In *Maps to Success*, diagnostic exercises are used and learning action plans devised. Pre-semester activities (around orientation time) involve full day workshops, student networking opportunities, study management techniques, study skills sessions and learning about features of university services like library services, IT systems and student support services. During semester, ongoing support is offered in the form of one-on-one consultations with students who are struggling and social activities are also organised (Christensen & Evamy, 2011).

A holistic approach is also explicitly described as a particularly effective feature of the US *Engineering Academy Bridge Program* run by the University of Michigan, which is a six-week summer program engaging students from low SES and culturally diverse backgrounds. The summer bridging program is linked to other structured support services, a residential program and financial incentives. The summer bridging program was redesigned to include supplementary maths and physics, student support and mentoring (St John et al., 2014). Program evaluation shows an upward trend in first year grades for program participants. Student feedback links academic successes in first year to the effects of the extra mathematics exposure in the bridging program.

Fostering engagement and belonging

Strategies to address and counter students' doubts about belonging and their academic ability are described as an important feature of effective access initiatives (Cocks & Stokes, 2013). In particular, St John et al. (2014) explain the positive impact of the *Engineering Academy Bridge Program*, which included opportunities for social connection, support and social bonding that continued into first year undergraduate studies. St John et al. found that former *Bridge* students continued working together and supporting each other on group assignments well beyond the initiative into first year undergraduate study. Strong undergraduate retention rates were reported by St John et al., with all 47 participants of the bridging program being retained from first to second semester of first year.

An online learning environment can be a challenging space in which to achieve important peer connections. However, creating engaging and connected online learning experiences was the aim and effect documented in Goode's (2013) analysis of the *Week Zero* initiative. Activities in the enabling orientation program were designed to encourage students to interact with one another. Goode explains that this approach 'can translate the sense of enthusiasm and anticipation felt by many students at the outset of their academic journeys into the formation of dynamic and supportive communities' (Goode, 2013, p. 3).

Acknowledging the need to address the high attrition rate of Indigenous students in La Trobe University's enabling program, Andrewartha and Harvey (2014) point out that it is very difficult to gain information about why students leave and more needs to be done to address this challenge. As a way to address this, the enabling program staff surveyed as part of the study wrote about the importance of having good relationships with enabling program participants in order to maximise their ability to receive feedback on the program after attrition. Without these relationships, ex-participants are far more difficult to contact and less willing to provide evaluation data.

4.3 Summary of Evaluation Methodology

The types of data collection tools described in the documentary evidence of impact include student experience and satisfaction surveys, lecturer (or other staff or stakeholder) interviews and feedback, along with the tracking of student retention, performance and other academic outcomes, both during foundation programs and during mainstream undergraduate studies. Output data, such as enrolment numbers and the number of TAFE credit recognition arrangements, are also cited although these are not indicative of impact without consideration of other data as well. Programs that involve partnerships with community organisations or TAFEs also mention the importance of ongoing evaluation of the health of these relationships as part of the overall evaluation of these programs. Considerable variation exists in the frequency and approach to data collection in evaluating these programs. Lambrinidis (2014), for example, collected data at five points during the program, capturing the complexity and changes in students' perceptions and needs as they progressed through the course. All five surveys described by Lambrinidis, which were conducted online and via telephone, focused on different aspects of the program to see which were effective and when they appeared to be most effective. Other studies (e.g. Relf & Burgess, 2014) conducted a single evaluation, after participants had completed the enabling course and a further semester of undergraduate studies, to allow them to reflect more fully on the effect of the program.

The University of Auckland's health science *Success for All* foundation program focused on providing a strong voice for Māori and Pasifika students during each stage of the program (Curtis & Townsend, 2012). The program comprised a three-phase approach of a needs analysis, interventions and evaluation. Research-based initiatives were developed, and student interviews conducted in phases one and two using the 'Critical Incident Technique'. Students identified 798 incidents—'helpful or hindering' for their learning experiences—which informed the development of initiatives and evaluation (Curtis & Townsend, 2012, p. 591).

A study on university preparatory programs within four Queensland VET institutes and three secondary colleges cited completion rates as evidence of impact. The study found that the programs were comparable to other types of tertiary preparation programs. However, the report notes that such tertiary preparation programs 'lack specific post-program destination data (such as the "Next Step Survey – Education Queensland" for Year 12s)' and longitudinal studies are resource-intensive for individual programs, which makes it 'difficult to determine program outcomes and transition rates' (DEEWR, 2012, p. 44).

4.4 Summary of Impact

4.4.1 Access

Enabling programs have a strong impact on student access to higher education. This is clearly demonstrated by one of the largest and oldest foundation programs offered in Australia through The University of Newcastle. The longevity of Newcastle's Open Foundation Program indicates its consistent strong growth and impact (Bennett et al., 2013; Stockdale, 2006). Since 1974 when only 80 students commenced, to 2013 when 2136 students enrolled, of the students who completed, approximately 90 per cent entered degree programs (Bennett et al., 2013). As part of the 2013 external program review, it was highlighted that:

The program has enabled entry to university for 5,885 students over the period 2007–2013 and a significant number of these students have achieved excellent results in their undergraduate study. For example, in 2011, 12.8 per cent of The University of Newcastle medal recipients had qualified for entry through completing Open Foundation (Bennett et al., 2013, p. 1).

External review of university Enabling programs provides an opportunity to identify trends and to evaluate impact through both quantitative and qualitative methods. Ongoing evaluation of the Open Foundation Program, for example, includes collecting information from Student Feedback on Courses (SFC) and Student Feedback on Programs (SFP) made available by university data systems, analysts and processes:

The SFC and SFP surveys ask students to respond to questions on course content or program content and materials, learning, teaching and outcomes. Feedback about the program from various survey instruments indicates excellent levels of student satisfaction, particularly in relation to student support. This was also confirmed by current and past students through focus groups (undertaken by PQR [Planning, Quality and Reporting]) and face-to-face interviews with the Panel during the review process (Bennett et al., 2013, p. 24).

4.4.2 Performance

The evidence base gained about enabling and foundation programs, as well as the smaller initiatives operating within them, reveal positive effects on students' academic capability and capacity for undergraduate study. For example, improved performance is described by McNaught and Benson (2015) as an effect of the *Scaffolded assessment* initiative. McNaught and Benson report a significant increase in students' performance since the initiative was introduced in 2013. A benchmark was used (the grade students need to achieve to qualify for successful completion of the course—65 per cent) to compare pre- and post-initiative results. More students achieved the benchmark post-initiative. As a result of more students completing the unit (that is, they met the benchmark), more were also able to meet the benchmarks of their other enabling units.

St John et al.'s (2014) study of an engineering bridge program in Michigan aimed at students from low SES and culturally diverse backgrounds reports high retention rates, which students attribute to the effects of the extra mathematics exposure within the summer bridging program. A student comment highlights the impact of the initiative on remediating past gaps in maths education: 'my [high] school, like, did not teach me math. So I would have been way behind here' (p. 1058). Effects on retention are also noted about *Maps to Success* (Christensen & Evamy, 2011). Christensen and Evamy describe a general upward trend in retention recorded since the initiative was introduced.

4.4.3 Preparedness

In their analysis of an enabling science course (EPHEALTH), Relf and Burgess (2014) explain that students 'felt more prepared' for undergraduate study as a result of a review of curriculum in the enabling course. Relf and Burgess explain that the revised course achieved a strong effect on students' level of confidence with the more challenging aspects of course content in their later undergraduate experiences. For example, one student reported that the enabling course:

...has been an enormous advantage going into my degree. I had never studied chemistry or biology before EPHEALTH and I was able to achieve a HD for HUBS [Human Bioscience] in my first semester of my degree (Relf and Burgess, 2014, p. 8).

Similarly, in *Success for All*, achieving greater preparedness was also a theme. In the initial analysis of the program, students said they were provided with too much support and were concerned they may not be learning to cope. Students commented that they were concerned they may struggle in their undergraduate years as a result (Curtis & Townsend, 2012). This feedback prompted a transition approach in the program. Student consultations were restructured so they occurred during specific prescribed office hours and staff discontinued the practice of initiating support sessions with individual students. This shifted the responsibility of accessing support onto the students and it encouraged them to seek solutions independently (Curtis & Townsend, 2012). This demonstrates the complexity of support and what students consider to be appropriate and beneficial. As the following student comment reveals, students responded positively to the changes:

...last semester they [the teachers] were really, really helpful so they're trying to not do that so much this semester, which is good to try and get us more independent, and being able to do stuff by ourselves because that's how it'll be next year (Curtis & Townsend, 2012, p. 596).

4.4.4 Increasing Connectedness

Other positive impacts on overall student experience were identified. For example, Lambrinidis' (2014) study of an enabling program reveals how students felt connected to each other and their tutor. In particular, increased connections were reported as a result of the e-learning tools and discussion boards: 'I really felt we were discussing the subject and felt as though I knew these people' (Lambrinidis, 2014, p. 265). The study highlights the importance of social connectedness for learning engagement. Data showed that the e-tools were perceived by students as 'a useful resource to support their learning overall (Survey 1 = 96.5 per cent; Survey 2 = 93.9 per cent; Survey 3 = 90.2 per cent)' (p. 264).

4.4.5 Cohort-Bonding and Increasing a Sense of Belonging

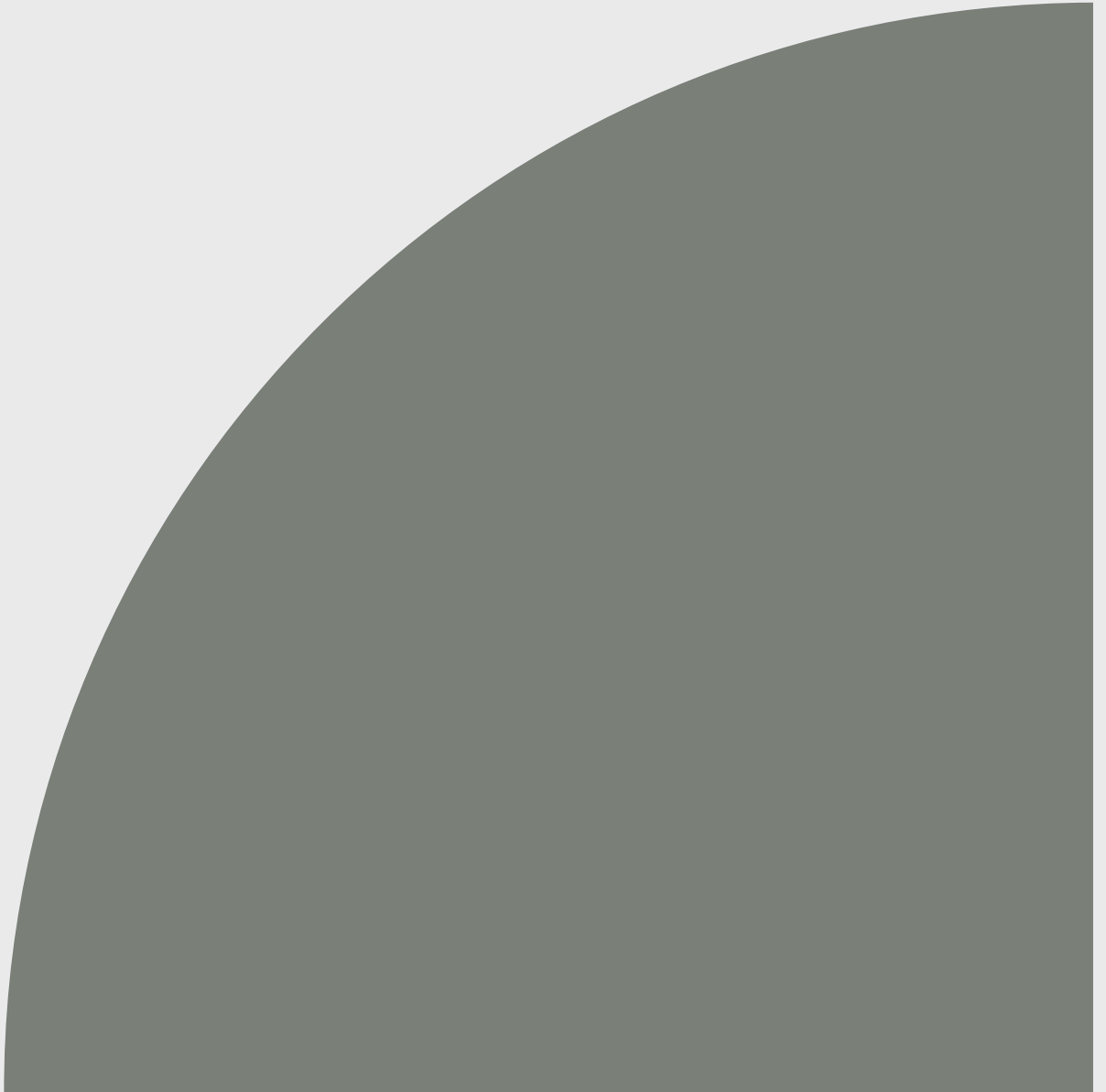
Inclusion of cultural activities in *Success for All* (Curtis & Townsend, 2012) increased a reported sense of engagement and belonging. The inclusion of Māori and Pasifika content (i.e. traditional health practices) 'encouraged attendance, enhanced class cohesion and reinforced cultural pride' (Curtis & Townsend, 2012, p. 598). The inclusion of cultural activities (a two day cultural Wānanga camp) was a motivating and cohort-bonding experience. A student commented: 'you got to know sort of everyone and like after that when we went back to course it was like completely mates with everyone... I think coming up to exams...

Another initiative within the *Success for All* bridging program involved a dedicated space for students in order to foster a sense of belonging and empowerment. Students responded positively: 'having our own space [the CertHSc room] sort of like made us feel that we were worth it... it gave a lot of us access to things that we wouldn't have, like printing' (Curtis & Townsend, 2012, p. 595).

The use of cohort-bonding activities is an effective feature of some initiatives captured in our study. For example, impact is documented by Ryan and Hopkins (2013) in their description of the *Tertiary Preparation Program* (Intensive) (TPPI) pathways course. Ryan and Hopkins (2013) explain how there was high usage of a closed group social media Facebook page in the program. In fact, students accessed the page more frequently than the University of Southern Queensland's online learning management system. The use of social media was reported as enabling social, academic, and ongoing group interaction. Even after completion of the pathways program, and into first year undergraduate level studies, former TPPI students still visited the Facebook page to communicate with each other. Facebook allowed students to act as support for one another (Ryan & Hopkins, 2013). Eighteen of the 20 participating students continued on to undergraduate study.

As discussed, fostering social connections and a sense of belonging through the provision of shared spaces is an important feature of effective enabling programs. For example, Cocks and Stokes (2013) describe the 'common room' where students and university staff had the option to meet in a shared space (the 'common room') and develop networks. Cocks and Stokes (2013) report that not only did students gain a stronger sense of belonging, they also became more comfortable with their 'learner identities' (p. 27). Staff also organised and attended social activities with students and teaching staff being 'approachable' was identified as an important aspect of enabling a sense of belonging among students.

Participation: Transition and Engagement



Key Points

- There are few impact studies on specific equity initiatives beyond the first year of study.
- Equity initiatives are most actively developed and undertaken in health sciences, particularly in nursing. Other programs prominent in the literature include psychology, STEM courses and business/commerce.
- Participation initiatives concentrate on orienting students to the higher education environment, offering various forms of academic learning development, as well as working to foster a sense of belonging for new students.
- Transition initiatives are often not specifically identified as equity initiatives, but target courses and programs with high numbers of equity students.
- Equity initiatives captured in this section recast traditional higher education 'support' models from a remedial, externalised service approach to more embedded, early forms of engagement and learning development.
- Studies of effective initiatives demonstrate strong collaboration in the design and implementation of initiatives between institutions and communities, and between university faculties/centres.
- Many of the transition programs are situated in institutions located in low SES or diverse cohort regions.
- The equity group that is targeted most is students from low SES backgrounds, but there is a large degree of overlap showing how these initiatives are also capturing Aboriginal and/or Torres Strait Islander students, first-in-family and regional and remote students.

5.1 Introduction

The 'key features', 'evaluation methodology' and 'impact' summaries in this section of the report are based on initiatives that have satisfied the inclusion criteria for demonstrating effectiveness. Participation initiatives about transition to first year study that demonstrate effectiveness concentrate on early academic and social engagement and foster a sense of belonging. They transform traditional approaches to support from an 'only if and when you need it' model for students struggling with assessments, to early contact and normalised forms of learning development. Overall, evaluations show the substantial impact that these initiatives have on students' experience, performance and retention.

Initiatives at the participation stage focus first on student transition into university in first year and then, to a much lesser extent, on engagement and progression during later years of study. The following section provides a review of first year transition initiatives. Progression in later years is outlined in section 6 of this report.

Analyses of orientation programs included in this section describe the process of familiarising first year students with the university environment (O'Shea & Vincent 2012; Silburn et al., 2010). In addition to orientation programs, many first year transition activities captured in this review of impact are offered as full semester/year programs with multiple purposes. They include discipline-specific and more general forms of university induction that include some social components (Brooks, et al., 2013; Hendricks et al., 2014; Lawrence, 2013; Lodge, 2012; McIntyre et al., 2012; Miller, 2014; Ramirez, 2012; Williamson & Goldsmith, 2014). Other transition initiatives concentrate on supporting students in dealing with broader issues outside of their study (Carson, 2010; Wilson, 2012).

Transition initiatives are often not specifically identified as equity initiatives, but aim to capture a diversity of students by targeting courses, units and programs with large numbers of equity students. Nursing and the health sciences are areas that feature most in the literature captured about effective equity initiatives as they often have large and diverse cohorts that include equity groups (Beatty et al., 2014; Hendricks et al., 2014; Lawrence, 2013; Tower et al., 2015). For example, the *Academic Literacy Education Course* in the School of Nursing and Midwifery at Edith Cowan University targets undergraduate students in their first semester of the first year of the Bachelor of Science (Nursing), where 69 per cent of students enter from non-traditional pathways programs (Hendricks et al., 2014).

The majority of the transition programs are situated in institutions located in low SES or diverse cohort regions. For instance, *The Principal Tutor* program is offered at Griffith University, which has a cohort largely comprised of mature-age, low SES and Aboriginal and/or Torres Strait Islander students (Lodge, 2012). Similarly, O'Shea and Vincent (2011) describe *Uni-Start* as 'located in a region recognised as being economically and socially disadvantaged', where 60 per cent of participants were identified as low SES via health care card possession (p. 155). *Building Pathways to Academic Success* (McIntyre et al., 2012) is an initiative at Springfield Campus at the University of Southern Queensland in which 57 per cent of students are low-SES and 50 per cent mature age and first-in-family. *The First Year Advisor Network* is a general transition initiative at Murdoch University that has a significant percentage of equity students (17 per cent low SES, 57 per cent mature-age) and is the most diverse Western Australian university (Kemp et al., 2013). The program was developed in response to reports of increasing student attrition, academic difficulties and social isolation.

Table 16: Transition Initiatives and Evaluation Strategies Included in this Section

Initiatives	Target equity group	Brief description and reference (if published)	Evaluation strategy	Impact
2014 Orientation The University of Sydney	Regional Mature age Alternative pathways	The 2014 University of Sydney orientation program introduced some new initiatives in recognition of diverse student cohorts such as specific information sessions for mature age and regional students (Munro, 2014).	<ul style="list-style-type: none"> Post program surveys 	Feedback from new and returning students indicates that 2014 was the most engaging orientation the University of Sydney has held. The strongest impact was recorded on student levels of comfort and feeling welcomed.
Academic Literacy Education Course Edith Cowan University	Alternative pathways	This initiative embeds academic literacy support through ten modules focusing on skills such as analysing questions, essay preparation, planning and structure. It targets nursing and midwifery students (Hendricks et al., 2014).	<ul style="list-style-type: none"> Academic performance measured through pre- and post-course academic literacies tests 	Impact is reported on student performance showing a significant difference in results with improvements in academic literacy skills since the initiative was introduced.
Academic Personal Best Program Swinburne University of Technology	General cohort	The program aims to positively affect student identity and engagement through a peer supported model. Ten weeks of workshops are delivered drawing on the idea of 'personal best' which is derived from a sports based approach to goal setting (Tinker et al., 2012).	<ul style="list-style-type: none"> Pre- and post-program student questionnaires 	Program evaluation measured for increased student engagement with course and reported a positive effect.
Academic Recovery initiative Griffith University	First-in-family	An initiative that focuses on early assessment. Students develop problem solving skills and strategies around assessment by participating in a staged process that involves reflective learning. Students complete workbooks and reflect on their assessment experience before meeting with a tutor (Lizzio & Wilson, 2013).	<ul style="list-style-type: none"> Two evaluation studies—two separate cohorts An evaluation with rating scales Open-ended questions 	Increased academic success and improved self-efficacy are important effects of the initiative. More students who participated in the initiative passed the course overall.
African-American retention program A large metropolitan university, USA	Culturally diverse	A mentoring and engagement initiative aiming to increase academic self-efficacy and improve retention of African-American male students (Brooks et al., 2013).	<ul style="list-style-type: none"> Pre- and post-tests were analysed quantitatively through establishing mean scores, qualitative data was gathered through specific questions on personal perceptions that participating students were required to complete as part of their final assessment task in the program 	Some of the effects reported in the study include a significant increase in academic acculturation, stronger student relationships with their mentors and improved social integration.
Building Pathways to Academic Success University of Southern Queensland	Low SES First-in-family Mature age	A one-week program of workshops and seminars conducted for commencing students (McIntyre et al., 2012).	<ul style="list-style-type: none"> Institutional data on student academic performance, GPAs, Data collected on 965 students 	Evaluation results showed an increase in performance with participation in the initiative providing very strong academic benefits with greater pass rates and higher GPAs.
College Assisted Migrant Program (CAMP) The California State University	NESB	A department of education USA initiative that targets migrant children whose educational experiences and progress are affected by extreme poverty, interrupted schooling and an ESL background. It includes academic support and social engagement activities, (Ramirez, 2012).	<ul style="list-style-type: none"> Longitudinal impact study—seven-year study Institutional data, retention, persistence, GPAs 	Findings revealed positive effects on persistence and academic results.

Table 16: Transition Initiatives and Evaluation Strategies Included in this Section

Initiatives	Target equity group	Brief description and reference (if published)	Evaluation strategy	Impact
DVD project Curtin University of Technology and Murdoch University	NESB Refugees	An awareness raising DVD resource for staff working with refugee students (a companion resource to Strategies for Success). It focuses on pedagogical needs of students (Silburn et al., 2010).	<ul style="list-style-type: none"> • Staff feedback, evaluations 	Evaluation of the initiative shows that the DVD provides academics with insights into the pedagogical and sociocultural needs of students from refugee backgrounds.
Empowering online pedagogy University of Southern Queensland	Low SES ATSI Regional/remote Mature age	An online pedagogy was developed for the Department of Nursing and Midwifery at USQ. It includes embedded and scaffolded practices, forum discussions and e-tivities with video-lectures (Lawrence, 2013).	<ul style="list-style-type: none"> • Longitudinal ongoing evaluation, student and staff feedback, • Two formal student evaluations 	Impact of the initiative is reported as improvements to overall student experience with greater course accessibility and flexibility.
First Year Advisor Network Murdoch University	General cohort Low SES Mature age	An institute wide program with multiple initiatives facilitated by first year advisors who are professional non-academic staff. It is a three tiered approach working across individual, school and whole cohort contexts and is embedded in every school (Box et al., 2012; Kemp et al., 2013; Laming et al., 2013).	<ul style="list-style-type: none"> • Retention data • Student and staff evaluations 	A positive impact on retention and improved student experience was reported.
PASSwrite University of Western Sydney and University of Technology, Sydney	Low SES NESB Mature age Alternative pathways First-in-family	A peer-led, academic literacies program was adapted from PASS (Peer Assisted Study Sessions). PASSwrite approaches academic literacy as contextual. In small groups students practise academic literacy skills concentrating on their own field of study (Williamson & Goldsmith, 2013).	<ul style="list-style-type: none"> • Academic results for core subjects, student and facilitator evaluations 	The program had a positive impact on academic performance. PASSwrite students who attended three or more sessions per semester performed better academically than the whole unit cohort in average marks.
Peer Mentoring Royal Melbourne Institute of Technology	General cohort	The mentoring program targets first year students in psychology programs. Students are mentored by third year students (Chester et al., 2013).	<ul style="list-style-type: none"> • Academic performance data, • Mentor and mentee evaluations 	Improvements in student academic performance and learning strategies are two effects reported by Chester et al. (2013)
Strategies For Success Curtin University of Technology and Murdoch University	NESB Refugees	A two-day program for commencing refugee students. Modules and presentations are delivered to small groups on university culture and learning strategies (Silburn et al., 2010).	<ul style="list-style-type: none"> • Student evaluations—surveys with open ended questions 	Evaluation revealed that the program had a positive impact on student experience, and enabling students' understanding of university culture and how to succeed.

Table 16: Transition Initiatives and Evaluation Strategies Included in this Section

Initiatives	Target equity group	Brief description and reference (if published)	Evaluation strategy	Impact
Student Connect The University of Melbourne	ATSI Low SES Students with a disability NESB Regional/remote	This program aims to provide a sense of connectedness and opportunities for advising all students. All first year students receive phone calls from peer advisors to discuss transition issues and establish appointments with advisors. Advisors provide a range of expertise in transition, course planning, career and developmental advice.	<ul style="list-style-type: none"> • Student experience surveys • Participation numbers • Staff surveys • Retention rates • Academic performance 	Participants reported increased sense of connectedness and value within the university community. Satisfaction and retention in first year has shown some increase.
Student Development University of New South Wales	Low SES	In this initiative a range of transition and co-curricular activities are offered to enhance student experience. Development and engagement programs (for academic, professional and generic skills) are provided and connect with UNSW community.	<ul style="list-style-type: none"> • Student experience surveys • Stakeholder surveys of perceived impacts • Enrolment/participation numbers 	Participants reported positive impacts in terms of confidence, perceived leadership skills, and employment opportunities, as well as perceived benefits for communities.
Study skills program for medical students University of Louisville, USA	Low SES NESB Regional/remote	A program designed to enable students' transition to a demanding academic schedule in medical school. It aims to develop productive and effective study skills (Miller, 2014).	<ul style="list-style-type: none"> • Study conducted over two years of the program (2012/2013) • Pre- and post-survey, open ended questions • Academic performance data 	After participating in the program, students planned to use more productive study strategies with a more feasible study workload. All student participants passed their first year medical physiology course and with higher averages than overall course averages.
Transition in, transition out Royal Melbourne Institute of Technology	First-in-family	A peer mentoring approach to support students in transition into and out of university. Students meet weekly to address core aspects of student success. Third year mentors receive course credit for training as mentors.	<ul style="list-style-type: none"> • Student experience/impact surveys • Mentor retention rates. • Academic performance 	Positive effects were recorded on perceived value for improving students' quality of work and enhancing engagement with institution.
The Academic Socialisation Program Edith Cowan University	General cohort	This initiative is an example of a discipline-specific embedded approach to teaching academic literacies and language support to students in a health science course (Beatty et al., 2014).	<ul style="list-style-type: none"> • End-of-semester feedback collected via the Edith Cowan University Unit and Teaching Evaluation Instrument 	Program evaluation reported good effects on general cohort academic performance but less success in encouraging students who scored lower marks to seek extra academic support.
The Principal Tutor Griffith University	Low SES ATSI Mature age	'The Principal Tutor' role is responsible for teaching tutorials and following up on assessments. These small significant actions encourage greater connectivity between students and the psychology department (Lodge, 2012).	<ul style="list-style-type: none"> • Evaluation conducted over two years with two cohorts • Institutional retention data • Online student surveys 	Evaluation shows a clear increase in retention since the initiative was introduced in 2008–2009 with more first year students enrolling into their second year core psychology subject.
The Student Success Program Queensland University of Technology	General cohort	An institute wide, general transition initiative that monitors students to identify those 'at-risk' of attrition. Students are contacted and offered support, advice and referrals to other services (Nelson et al., 2012).	<ul style="list-style-type: none"> • Phone interviews • Institutional data—progression, enrolments 	The program has benefits which extend beyond first year: 76.9 per cent of 'at risk' students contacted in the 2008 Student Success Program (SSP) initiative progressed successfully to 2009, compared to 43.7 per cent of 'at risk' students not contacted in the 2008 SSP.
Uni-Key Peer Mentoring program Griffith University	ATSI Low SES Students with a disability NESB Regional/remote WINTA Mature age First-in-family, Refugee Pasifika	This is a peer mentoring program between high GPA later-year students and first year students from equity backgrounds. It aims to develop expectations, ability to negotiate university bureaucracy (including finding help), sense of belonging and social support, and foundation academic skills.	<ul style="list-style-type: none"> • Student experience surveys for mentors and mentees • Participation numbers • Retention rates 	Mentors and mentees reported satisfaction with the mentoring process and outcomes. Retention for participants was improved.

5.2 Key Features of Effective Initiatives

Following our analysis of the evidence provided by survey/interview participants and the authors of impact studies, the following themes were identified as key features of initiatives that demonstrate effectiveness. This discussion of effective features also provides information about some of the programs that provided evidence of impact.

5.2.1 Developing Cultural Understandings of University

Some of the evidence from impact studies and survey participants about effective transition initiatives captured in this study concerns pre-course commencement programs. These programs are designed for specific group(s) and are much more holistic and tailored than general bridging programs (although there is overlap between the two). Orientation programs typically consist of activities designed to familiarise students with university structures, processes, culture and approaches to teaching and learning. Often they are peer-led, as described by O'Shea and Vincent in their study of the *Uni-Start* program (O'Shea & Vincent 2011). *Uni-Start* is a general program open to all students, but it captures a high percentage of equity students. Student-led sessions are delivered over two days, with new students guided through orientation activities designed to create familiarity with university study. These activities include social activities designed to increase campus knowledge (for example, trivia type games and scavenger hunts) and student facilitators use authentic resources of their own (for instance, essay plans and notes) as learning and teaching materials.

Strategies for Success is a two-day program for commencing refugee students offered by Murdoch University and Curtin University of Technology. Nine modules of small group and presentation style activities are presented that cover university culture and learning strategies. Students are able to compare educational and learning experiences from their home countries and become more familiar with the expectations of higher education in the Australian context (Silburn et al., 2010).

5.2.2 Early Intervention

A prevalent model described as effective in transition is that of 'early intervention', which takes the form of 'active outreach' (Barnes et al., 2015; Box et al., 2012; Kemp et al., 2013; Lizzio & Wilson, 2013; Nelson et al., 2012; Tower et al., 2015). Indeed, the literature captured here shows that the first two to six weeks of study are the most important, during which time students are at higher risk of withdrawing if they are not engaged and connected to their learning (Barnes et al., 2015). Some forms of effective early intervention support described include academic tutors (Tower et al., 2015), advisors (Lizzio & Wilson, 2013), and some involve student support services who liaise with schools and refer students to learning development if appropriate.

Many of the transition initiatives with a model of 'early intervention' monitor students early in first semester for academic 'risk markers' (for example, missing first assessments or poor attendance). Activities like direct telephoning are undertaken to offer support, advice and referrals to students. For example, *Academic Recovery* is an 'early intervention' program focused on early assessment (Lizzio & Wilson, 2013), which runs in a first year introductory psychology course at Griffith University. Students who have not achieved a pass result in their first assessment are contacted by their tutor by email or telephone and invited to participate in the *Academic Recovery* initiative. Students then proceed through different stages, firstly completing workbooks and reflecting on their assessment experience, and then meeting with a tutor to engage in a consultative process. This process encourages students to take steps to develop their approaches to study and assessment.

Many 'early intervention' impact studies describe initiatives aimed at general cohorts that also capture significant numbers of students from equity groups. For example, The University of Sydney early intervention program, *Track and Connect*, uses academic, engagement and demographic data to identify 'risk' markers in order to create a contact list of students deemed at risk of withdrawing (Barnes et al., 2012). The institution uses demographic markers because their attrition analysis shows that equity students (low SES, first-in-family, alternative pathways, rural and/or remote students) are most 'at risk' of withdrawing in first year (Barnes et al., 2012).

The *Student Success Program* (Nelson et al., 2012) at the Queensland University of Technology is another institution-wide, general transition initiative that monitors students in order to identify those 'at-risk' of attrition (rural and low SES groups are identified in the article as often being 'at-risk').

'At-risk' students are contacted and offered support. The program also utilises 'student success advisors' (experienced students), who are recruited and trained.

Murdoch University's *First Year Advisor Network* (Box et al., 2012; Kemp et al., 2011; Laming et al., 2013) follows an integrated first year transition model and is described as a three-tiered approach that works across individual, school and whole cohort contexts and is embedded in every school (Box et al., 2012; Kemp et al., 2013). The initiative utilises professional (non-academic) staff, instead of students, as general advisors who often refer students to specific areas of support. Reasons given for this approach are advantages in the availability of professional staff who do not face the same kinds of employment and study timetable conflicts that often arise with academic staff or students who teach other courses, research or are completing their own study (Box, et al., 2012).

5.2.3 Ongoing Support

Another feature of effective transition initiatives is acknowledgement of the need for enduring academic and cultural development required to adjust to university study through transition programs that offer an ongoing full semester or full year approach. *PASSwrite*, (Williamson & Goldsmith, 2014) is an example of a peer-led academic literacies program adapted from the well-known and widely applied PASS model (Peer Assisted Study Sessions). In *PASSwrite*, small groups of students practise academic literary skills while concentrating on their own field of study in order to make the program relevant and engaging for students. Williamson and Goldsmith (2014) explain that it is important that:

...writing (as part of the development of literacy) is seen as a socio-cultural act, necessarily embedded in the social practices and social contexts in which it is used (Street, 2003). Becoming a skilled writer involves responding to the demands of particular cultural and linguistic settings; this acquisition of skills therefore needs to occur within a specific disciplinary context. The Good Practice Principles (DEEWR, 2009) recognised the disciplinarity of academic literacy (hence the increasingly accepted term 'academic literacies') and emphasised the need for "oral and written communication skills to be made more visible, accessible and, importantly, integrated within specific disciplinary contexts" (p. 2). This notion of visibility is also important as within different disciplines, contradictions arise, ranging from variations in the expectations of different tutors to different understandings of what a specific genre may require, particularly as these understandings are frequently not made explicit (Lea & Street, 1998). Students need support to negotiate what is expected of them within their discipline and to manage the often contradictory expectations (p. 9).

Similarly, the *Principal Tutor* (Lodge, 2011) is an initiative offered over the first semester in two core psychology subjects at Griffith University. The central feature was the creation of a role called 'The Principal Tutor' performed by a staff member responsible for teaching tutorials and following up on assessments. Additionally, the role involved using flexible tutorial times to discuss issues such as course structure and profession-relevant topics. Importantly, discussions were encouraged about career options and relating curriculum to the profession so that students could gain a better understanding of the relevancy of course content theories. These small but significant changes promoted greater connectivity between students and the department (Lodge, 2011).

5.2.4 Collaboration

Impact studies about transition initiatives document high levels of collaboration in the way they are implemented. The success of these programs is attributed in large part to their collaborative and cooperative approaches. For instance, a collaborative approach between Murdoch University and Curtin University of Technology was adopted in developing *Strategies for Success* (Silburn et al., 2010). The process 'involved sharing strategies, ideas and resources as appropriate for the differing contexts' (Silburn et al., 2010, p. 10). In addition, the program modules were delivered by a migrant facilitator who was able to demonstrate empathy for participants and a greater understanding of some of their backgrounds. At every stage of the implementation process, student feedback and suggestions for improvement were sought.

Cross-faculty collaboration within institutions is also increasingly common in developing online pedagogies. One program switch from on-campus to online teaching for a diverse cohort involved a curriculum development initiative based on a process that was called 'Carpe Diem' (Salmon, 2011 as cited by Lawrence, 2013). This multi-disciplinary team approach to curriculum design saw involvement by:

...the Nursing Department; the Faculty of Sciences (mathematics and computing skills); the Faculty of Arts (academic literacy and communication skills); the Learning and Teaching Support (pedagogical reinforcement and learning and teaching guidance); The Australian Digital Futures Institute (online pedagogical advice); and the library (information literacies) (Lawrence, 2013, p. 50).

Lawrence (2013) explains that all through the program design phases, team members and 'reality checkers' (peers and critical friends) provided feedback that:

...was helpful in ensuring the activities, posts and links to assessment were student-centred, engaging and appropriate to the anticipated level and abilities of the students. The reality checkers continued to assist the design process as their feedback was sought on the various iterations of course design, including feedback on the LMS [learning management system] components, for example the use of web pages, forum posts and stimulus activities (Lawrence, 2013, p. 54).

5.2.5 Peer Facilitated Practice and Mentoring

Peer-facilitated practice is also identified as an important feature of success. Peer-led initiatives require the recruitment and training of students. Student facilitators are remunerated monetarily or through vouchers and some are rewarded or motivated by intrinsic 'personal and public impacts' (O'Shea, 2011, p. 157). Some programs draw on students as important to learning in multiple ways. For example, in *PASSwrite*, student facilitators deliver workshops and help create learning and teaching resources (Williamson & Goldsmith, 2014).

Mentoring is described as the key to the success of a first year African-American retention program that targets African-American students at an American metropolitan university (Brooks et al., 2013). In this initiative, first year African-American students are paired with more experienced peers. Quantitative data collected show students developed strong relationships with their mentors (Brooks et al., 2013). Student feedback indicates a greater degree of clarity about what was required of students and greater definition of 'who we really want to be' (Brooks et al., 2013, p. 217), which is attributed in the study to the effects of mentoring. The authors refer to research that explains how African-American students are not recognised, nor supported, in 'predominantly white institutions' as having particular needs and factors which affect success (2013, p. 208). In the context of Brooks et al.'s study, mentoring was understood to have encouraged self-esteem and aided in 'academic acculturation' (2013, p. 208).

5.2.6 Technology

The advantages of online delivery are identified by Hendricks et al. (2014) in their study of the *Academic Literacy Education Course* for nursing students delivered online through Blackboard (a learning management system). The benefits of the delivery were identified as the 'self-paced aspect' and flexibility, which meant that students could access resources anytime, anywhere.

Lawrence writes about an empowering online pedagogical approach (2013) in a University of Southern Queensland initiative for nurses. This initiative emphasises the importance of integrating inclusive pedagogy into online teaching. The online pedagogy is underpinned by a commitment to a 'flexible e-learning environment' (Lawrence, 2013, p. 54). Features include embedded and scaffolded practices, multi-media resources, forum discussions and 'e-tivities' (p. 53), all based on research-informed learning about how to engage learners online. Video-lectures were used instead of textbooks, and students interacted through online 'forum groups' (p. 54) with each other and their tutors. Evaluation of the program included positive effects on flexibility and accessibility:

Initially I was confused but now I have felt that online learning is actually beneficial. It provides team learning and there are no geographic barriers for the students. We are able to access the course from anywhere and every student can post their opinions. I am really very happy to experience online learning (forum post) (Lawrence, 2013, p. 57).

But there were also challenges for students regarding e-learning:

For me using forums was something I had never done before so I avoided the notion from the beginning but mainly it was a culmination of things. Personally, I was working full time, looking for a house, travelling sometimes 2 hrs a day for work and uni and the online subjects were the ones that suffered for me as they were easier to 'forget' about (Lawrence, 2013, p. 57).

Evaluation of the program showed other areas of concern, mainly the non-engagement of some students and non-assessment completion, as is reported as a difficulty for online education across all populations and locations. In other studies, there is recognition that access to good quality technology can be problematic for equity groups (Horn et al., 2013). However, initiatives located at other stages of the student life-cycle outlined in this report provide information about approaches and strategies that have proven effective in engaging students from equity groups in online programs (see, for example, Goode, 2013; Horn et al., 2013; Lambrinidis, 2014).

5.2.7 Transition Pedagogy

The development of 'transition pedagogy' is described as an important feature of effective programs because it provides both a philosophy and an approach that makes more explicit the hidden forms of 'assumed knowledge' that operate in higher education. For example, the approach reveals how students should not be presumed to be independent or adult learners on entry because their previous experiences of learning—about how to learn and perform—are vastly different to the ones they are presented with on entry to the university environment. As Kift and Nelson (2005) explain, transition pedagogy works as a guiding philosophy for first year curriculum design and support that carefully scaffolds the first year learning experience for heterogeneous cohorts.

Transition initiatives structured according to Kift's (2010) transition pedagogy of a unified broader first year approach include *The Student Success Program* at Queensland University of Technology which had a positive impact on persistence, achievement and progress (Nelson, 2012) and Murdoch University's *First Year Advisors Network* with success in improving retention and overall student experience. *First Year Advisors Network* is a three tiered approach, working across individual, school and whole cohort contexts; it is institute wide and embedded in every school (Box et al., 2012; Kemp et al., 2013).

Transition pedagogy varies, and Gale (2012) and Gale and Parker (2014) define a transition approach as one that is often limited to first year 'induction'-style programs. They argue that learning and engagement should be mutual, and that attempts to simply assimilate students into the established culture of the university, if 'students' assets [are not taken] seriously', is not an engaged and inclusive approach to higher education. In their analysis of approaches to transition to higher education, Gale and Parker describe three models: induction (fitting-in to a closed system); development (transformation over time to another educated identity); and becoming (mutual flexibility and engagement) (Gale & Parker, 2014). The latter works on wider forms of change towards a system that values and includes a diversity of ways of knowing and doing. For example, *Strategies For Success* is an inclusive approach that engages students by building on strengths such as group support and different cultural experiences (Silburn et al., 2010). They describe a positive impact on increasing student academic confidence and preparedness.

5.3 Summary of Evaluation Methodology

Transition initiative outcomes are evaluated using a mixed methods approach that combines qualitative and quantitative data. Collection tools are similar to those used in the access initiatives that include participant evaluations, surveys and interviews.

Transition program evaluations also access additional quantitative data on student performance. For example, student academic results in core subjects are drawn on for evaluating the *PASSwrite* evaluation study (Williamson & Goldsmith, 2014). Performance grades in a medical physiology course following a study skills summer program for medical students (Miller, 2014) and pre- and post-test results in an academic literacies initiative (Hendricks et al., 2013), are other examples of student performance data used in evaluation studies.

Some of the transition initiatives are well established and it has been possible for researchers to evaluate them across a number of years and to compare cohorts. This is evident in evaluation reported on the study skills program for medical students (Miller, 2014) and the *Academic Recovery* initiative at Griffith University (Lizzio & Wilson, 2013). An international longitudinal study of the *College Assisted Migrant Program* (CAMP) in California State University is described by Ramirez (2012). This includes a seven-year study with data collected from 2002–2009 on 336 CAMP students (Ramirez, 2012). Findings revealed positive effects on persistence and academic results, and concluded that disadvantage was not a barrier to achievement post-program.

A component of evaluation in some examples includes 'drilling down' into finer-grained detailed aspects that show variation in terms of impact. For example, for the *Academic Recovery* initiative, data showed that some student participants benefited more than others in the same initiative (Lizzio & Wilson, 2013). Insights into why variation occurred were gained using evidence from student and tutor feedback.

5.4 Impact

As documented in the body of evidence captured in our study, there is strong evidence that key features described of first year transition initiatives have a positive impact on the retention, performance and experience of equity students.

5.4.1 Retention/Completion

An increase in student retention is one reported effect of first year transition initiatives (Barnes et al., 2015; Box et al., 2012; Kemp et al., 2013; Lodge, 2012; Nelson et al., 2012; Tower et al., 2015). For example, the *Student Success Program* (SSP) at QUT (in which 'at risk' students are contacted and offered support) tested whether the initiative had lasting effects. A combination of quantitative and qualitative data was collected and the results suggested that the SSP has benefits which extend beyond first year: 76.9 per cent of 'at risk' students contacted in the 2008 SSP initiative progressed successfully to 2009 compared to 43.7 per cent of 'at risk' students not contacted in the 2008 SSP (Nelson et al., 2012).

Lodge's study on *The Principal Tutor* (2011) showed a clear increase in retention since the initiative was introduced in 2008–2009 with more first year students enrolling into their second year core psychology subject. In fact, retention was also increased post-initiative in the following year.

5.4.2 Academic Performance

There are many examples that illustrate the impact of transition initiatives on student performance (Barnes et al., 2015; Hendricks et al., 2014; Lizzio & Wilson, 2013; McIntyre et al., 2012; Miller, 2014; Williamson & Goldsmith, 2014). Performance can be measured using blunt pass/fail data or may include a more nuanced look at effects.

Evaluation undertaken on *Building Pathways to Academic Success* (McIntyre et al., 2012) conducted over three years (2007–09) on three separate cohorts was based on students' grade point average (GPA) data. Data was collected on 965 students, 788 who did not participate in the initiative and 177 who did. Results showed an increase in performance with participation in the initiative providing very strong academic benefits: 'for those students who did participate in the ... program the probability of failing their first semester of study decreased from 39% to 12%' (McIntyre et al., 2012, p. 115). Participants also came away with significantly higher GPAs.

5.4.3 Improved Self-efficacy

Improved performance is reported to be the result of building confidence and competence. This effect is noted in a study about *Academic Recovery* (Lizzio & Wilson, 2013). Data collected showed positive assessments of activities and the impact of the program: 'Students rated the intervention (1 'not at all' to 7 'very') as producing high levels of both academic-related learning (mean = 5.7, S.D. = 0.68) and personal development (mean = 5.02, S.D. = 0.62). Students reported greater insight into the reasons for their underperformance on assessment (mean = 5.56, S.D.

= 0.59), and increased efficacy and optimism for future performance' (Lizzio & Wilson, 2013, p. 117). Increased academic success was also an effect recorded—more students who participated passed the course overall.

Improving performance through effective study skills was an outcome described by Miller (2014) of a study skills program for medical students, which is a summer school initiative designed to enable students' transition to the demanding academic schedule of medical school. The program was developed in response to high attrition rates of under-represented students (ethnic, rural, low SES and NESB backgrounds). Observations of student study habits revealed that 'students may be willing to dedicate a large amount of time to studying for medical school, but their study plans may be infeasible given the rigorous didactic schedule. Students must be able to master a large amount of material in a condensed amount of time' (Miller, 2014, p. 229). Analysis showed that students planned to increase their number of study hours to an unrealistic level in order to cope with the demands of medical school. Thus, 'time-on-task' was identified as a problem. After participation in the program, students planned to use more productive study strategies with a more feasible study workload. All initiative participation students passed their first year medical physiology course and with higher averages than overall course averages (Miller, 2014).

Building self-efficacy was an important aim and outcome of *Strategies For Success* (Silburn et al., 2010), which is an initiative for commencing refugee students. Students identified a number of aspects from the program that helped them form a sense of student identity, as well as what they need to do to succeed:

- Manage time;
- Build self-esteem, 'confidence in academic writing, learn to share with others and learn to compare different cultures';
- Prepare... 'before starting to write or read anything; ...be selective and make reading reasonable and gainful' (Silburn et al., 2010, p. 48).

5.4.4 Student Experience

Transition initiatives showed beneficial effects in addressing equity students' apprehensions and concerns regarding their entry into university. In *Uni-Start*, which is a peer-led orientation activity, new students (60 per cent being equity students) were guided through orientation activities. The effects identified through evaluation were that the peer-led approach had a positive impact on student experience and engagement. Students reported greater confidence in asking questions and less anxiety about study and with being in the university environment (O'Shea & Vincent, 2011).

5.4.5 Dealing with Issues Outside of Study

Transition initiatives support students in dealing with broader issues outside their study. In the *Equity Scholarship Program* at Swinburne University of Technology, the impact of the scholarships revealed a marked decrease in first year students considering deferring or withdrawing from their studies: '57.7% of respondents had considered deferring or discontinuing their course for financial reasons. This number dropped to 3.8% after receiving a scholarship' (Carson, 2010, p. 49). The scholarship provided relief from financial stress and enabled students to fulfil practical needs such as upgrading to a better computer. Data collected from a STEM scholarship program at Louisiana University in the United States of America also shows that scholarship assistance is an important factor in low-income student persistence (Wilson, 2012).

Given the fact that many of the initiatives are new, developing, or are described as 'pilot' programs, there is awareness of the need to be cautious, especially regarding generalisation about results. For example, in Hendricks et al.'s (2014) study of the *Academic Literacy Education Course* at Edith Cowan University, acknowledgment of success is tempered by the observation that it is a single site pilot study and 'generalisability of results is limited' (p. 26). In new and emerging programs there is an identified need to do follow-up evaluations and longitudinal studies. Regarding the study skills program for medical students, Miller (2014) highlights the need for research on whether the study strategies modelled and practiced in the initiative were retained throughout the rest of the students' education experiences and whether it impacted on longer term retention rates. McIntyre et al. (2012) and Barnes et al. (2015) also cite the importance of collecting longitudinal data.

Lack of, and gaps in, the availability of data are identified as part of the challenges of evaluation. Evaluation using qualitative methods helps to identify the specific details and individual characteristics involved in initiatives. For example, writing about the *College Assisted Migrant Program* initiative, which shows positive effects on student performance, Rameriz (2012) suggests conducting follow-up focus groups to identify the specific support mechanisms and activities that help raise academic achievements. However, this is not always a straightforward process, and Williamson and Goldsmith (2014) argue that capturing the effects of *PASSwrite*, for example, was hampered by 'inconsistency of attendance patterns' that made 'the measurement of any language and literacy-based progression at the individual level very difficult' (Williamson & Goldsmith, 2014, p. 13).

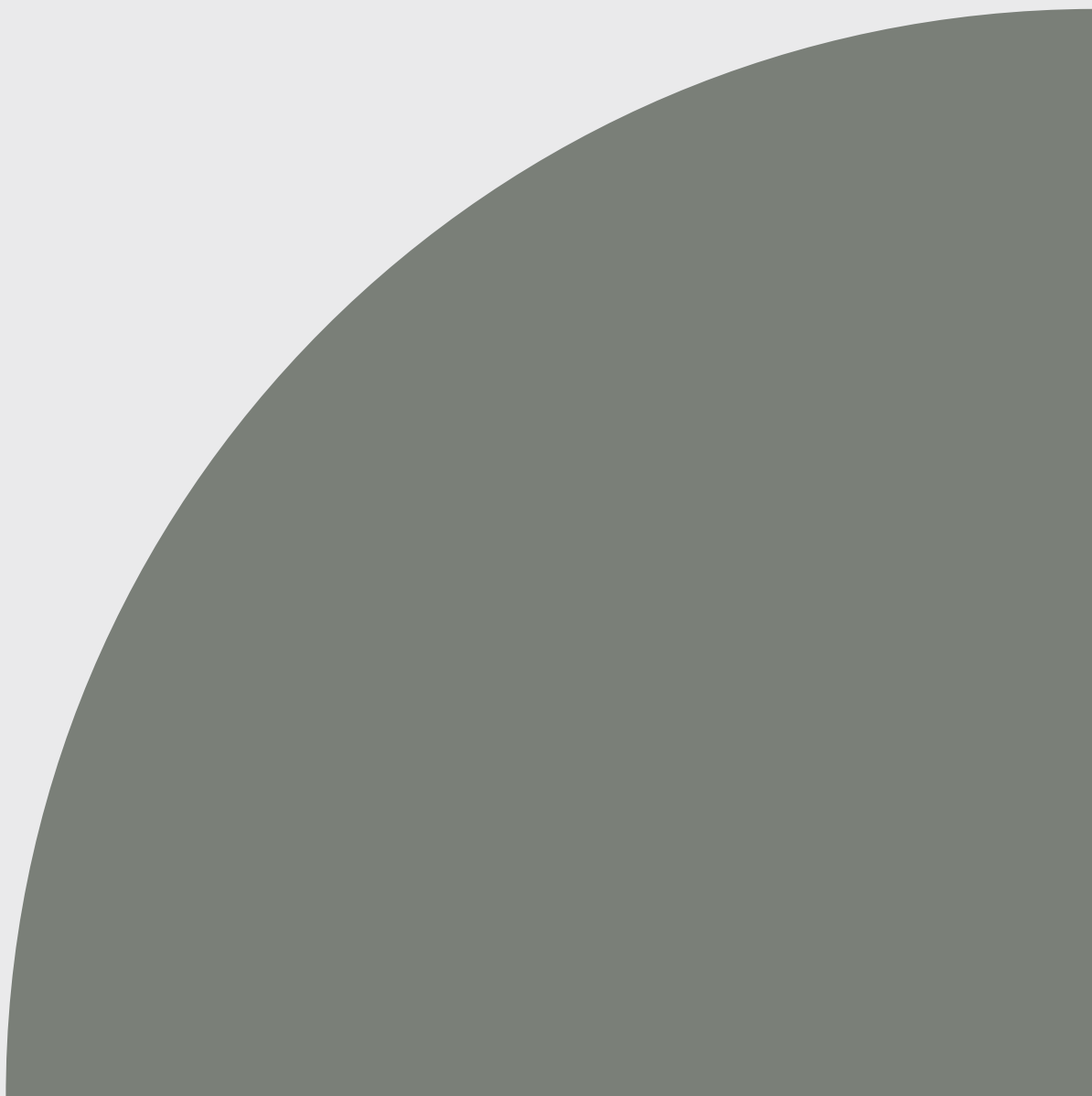
5.4.6 Staff/Student Awareness of Programs and Inconsistent Attendance

Cultivating the awareness of academic staff and students about initiatives was identified as an area of challenge for *PASSwrite*. Students in other disciplines to the ones targeted in the program enrolled, and staff may have been confused about the differences between the more widely known *PASS* program and *PASSwrite*. The study revealed inconsistent attendance of students, which may have been due to students being more used to 'just-in-time' drop-in culture of support, whereas *PASSwrite* was designed to be an ongoing 'developmental' approach (Williamson & Goldsmith, 2014).

5.4.7 Need for Ongoing Support

The desire for ongoing support was expressed during program and initiative evaluations. Student feedback included in Silburn et al.'s (2010) study of *Strategies for Success* indicated a demand for ongoing support throughout first year. Students commented that they would find programs more effective if they were delivered as early in the year as possible, were integrated into the curriculum and included cross-cultural training for staff and academics about specific background issues affecting the learning of students from refugee backgrounds. Similarly, in the study of the *Academic Literacy Education Course*, Hendricks et al. (2014) argue that targeting undergraduate students in the first semester of a Bachelor of Science (Nursing) program should be extended beyond first semester, which would be particularly beneficial when some of the 'higher order areas of academic literacy' such as 'unpacking questions' arise (Hendricks et al., 2014, p. 25).

Participation: Engagement and Progression during Studies



Key Points

- There are fewer published impact studies about equity initiatives beyond first year.
- Rather than targeting students from equity groups specifically, many initiatives provide support to all students. Although general in nature, these initiatives may disproportionately benefit students from equity backgrounds.
- The main feature of both first and later year participation initiatives is the provision of alternative models of support.
- There is a focus on changing conventions in order to introduce improvements for engaging specific equity groups. In particular, the embedding of Indigenous culture in initiatives for Aboriginal and/or Torres Strait Islander students is a strong feature of publications demonstrating effectiveness.
- Technology to better facilitate both on-campus and online learning environments are important aspects of both first and later year initiatives, when used in considered, curriculum specific ways.

6.1 Introduction

The 'key features', 'evaluation methodology' and 'impact' summaries in this section of the report are based on initiatives that have satisfied the inclusion criteria for demonstrating effectiveness. As discussed in the previous section, first year transition activities and impact studies dominate participation in higher education. There is a focus on first year because this is where most attrition is concentrated and sector data are focused. Where initiatives do continue through to later years, there is significant overlap with the approaches of first year transition. In particular, according to the evidence, effective initiatives for equity students beyond first year focus on:

- extra-curricular learning and academic support programs, outside or in addition to normal classes (Adams et al., 2012; Felton-Busch, 2013; Mills et al., 2014; Pym & Kapp 2013; Richardson et al., 2014; Wilson et al., 2011);
- curriculum and course design (Doggrell & Polkinghorne, 2015; Horn et al., 2013; Kerr et al., 2014); and
- non-academic student services provision, which is an element of an holistic approach that includes, for example, counselling, child care facilities, and financial assistance via scholarships (Wilson, et al. 2012). However, few impact studies of non-academic support were evident in the literature.

Table 17: Participation Initiatives and Evaluation Strategies Included in this Section

Initiatives	Target equity group	Brief description and reference (if published)	Evaluation strategy	Impact
Academic Development Program Commerce Faculty, University of Cape Town, South Africa	NESB Regional/remote First-in-family	The program focuses on academic and psychological support by providing academic skills development and workshops throughout the degree. It also includes access to student development officers, monitoring and social connectedness activities (Pym & Kapp, 2013).	<ul style="list-style-type: none"> Institutional data, completions, student evaluations 	Impact on student success is reflected in increased graduation rates for participants (approximately 68 per cent) ‘and is far above the national average of 31 per cent in five years for the business/management sector in higher education’ (Pym & Kapp, 2013, p. 281). An increased sense of belonging is another recorded effect. Student evaluations show positive effects and a greater ‘sense of worth and motivation’.
Accelerated nurses initiative Queensland University of Technology	Low SES	Extra support is offered to accelerated students who receive recognition of prior learning and enter at second year. Activities include review lectures, a community website, an O week workshop, extra tutor and extra tutorials (Doggrell & Polkinghorne, 2015).	<ul style="list-style-type: none"> Institutional data, retention, academic performance 	Attrition rates decreased by approximately two-thirds after the initiative was introduced in 2010. The initiative appears to have reduced attrition so much that the previously ‘high risk’ accelerated students’ attrition rates became more or less in line with students not perceived to be ‘at risk’.
Āwhina Victoria University of Wellington, New Zealand	Māori/Pasifika First-in-family	A program for Māori and Pasifika tertiary science graduates and postgraduates. The program provides ongoing mentoring, scholarships and resources and focuses on academic, as well as non-academic student services provision (Wilson et al., 2011; Richardson et al., 2014).	<ul style="list-style-type: none"> Institutional data, completions, academic performance Bi-annual student surveys 	The program has improved completions for Māori–Pacific science, engineering, architecture and design (SEAD) undergraduate and postgraduate students.
eBooks Charles Darwin University, Batchelor Institute of Indigenous Tertiary Education, Macquarie University	ATSI Students with a disability	Accessible eBooks were designed for Aboriginal and/or Torres Strait Islander students with sensory or learning disabilities. Course content and learning resources were uniquely formatted and uploaded to easy-to-use hand held devices (Kerr et al., 2014).	<ul style="list-style-type: none"> Student evaluations, feedback, surveys, unit convenor survey responses 	Feedback collected during program evaluation revealed a positive impact on student learning experiences, with improved access and engagement with course content.
Embedded library services Health Sciences, Deakin University	Low SES	An initiative focusing on best practice in library services and supporting low SES students in the online space. It achieved more visible and accessible library services through embedding library services within a unit via the learning management system (Horn et al., 2013).	<ul style="list-style-type: none"> Accounts of practice, observations (from surveys and interviews) from participants including students, teachers, liaison librarian, library engagement team 	The initiative increased students’ confidence in accessing library services and resources. The librarian reported being able to provide more effective support and the teacher gained more knowledge about library research methods, as well as increased student/teacher/librarian discussions around information literacy.
Listening, learning and leading Curtin University of Technology	ATSI students with a disability NESB Regional/remote	This is a library program providing customised literacy support at point of need and active learning activities. It offers personalised support and skills development to improve access to library resources and services.	<ul style="list-style-type: none"> Student experience surveys Perceived impact surveys. 	The main impact of the program is fostering students’ access to higher education regardless of their background, location or circumstance, with 65 per cent of students indicating that the library activity had positively impacted their desire to attend university. The program won the 2015 State Library Board of WA Award for Excellence

Table 17: Participation Initiatives and Evaluation Strategies Included in this Section

Initiatives	Target equity group	Brief description and reference (if published)	Evaluation strategy	Impact
Mathematics learning centre Central Queensland University	Regional/remote Mature age General cohort	This is a mathematics support centre with flexible approaches to providing support for diverse students. It offers preparatory courses for alternative pathways students and general undergraduate students on campus or by distance. The centre provides workshops, drop ins, one-on-one support, independent learning, study groups, embedding in undergraduate courses and the use of Tablet PC for distance students (Adams et al., 2012).	<ul style="list-style-type: none"> Students surveys 	Evaluation results indicated a positive impact on performance. Students reported that their performance in mathematics improved: 98 per cent surveyed said 'some improvement' and 48 per cent of those went further and recorded a 'vast improvement' (Adams et al., 2012, p. 29).
Mentoring circles Bachelor of Nursing, Thursday Island Campus, James Cook University	ATSI Regional/remote	This initiative operates by grouping a skilled, experienced mentor with less-experienced students. The program focuses on strengthening academic, personal and study skills (Mills et al., 2014; Felton-Busch et al., 2013).	<ul style="list-style-type: none"> A data-set from 68 artefacts consisting of 'facilitator notes from the mentoring circle meetings, outcomes of activities, worksheets, posters, graphic designs for a student shirt, interview transcripts, and minutes from the research team meetings. Artefacts were numbered and imported into NVivo,' (Mills et al., 2014, p. 1140). 	The main impact of the program is a shift in the way students approached their studies. Participants 'began to manage their studies in a different way. Instead of perceiving study to be a struggle to overcome or a burden to bear, mentoring circles helped students to better negotiate their surroundings and frame the experience as a challenge to meet or a worthwhile goal to achieve' (Mills et al., 2014, p. 1140).
Residential Services student engagement program La Trobe University	Regional/remote	The program offers student engagement opportunities for students from rural or remote backgrounds. The main aim is to provide an enriched overall student experience not just focusing on academic success (Burge, 2012).	<ul style="list-style-type: none"> Institutional data on retention and academic support, student surveys 	Data collected shows that students participating in the residential services programs are more likely to stay enrolled and complete their degrees as well as improve their grades.
STEM scholarship program Louisiana State University USA	Low SES	A scholarship program that offers financial support for under-represented students (Wilson et al., 2012).	<ul style="list-style-type: none"> Institutional data on retention 	Data collected reveals that the scholarship program was an important factor in low- income student persistence.
Strategies for Success Swinburne University of Technology	ATSI Low SES students with a disability NESB Regional/remote WINTA Low ATAR Mature age First-in-family Refugees	A five-day program for all new and 'at risk' students conducted two weeks before each semester. The program provides information about how to achieve academic success, including motivation, time management, life/study/work balance, and academic literacy.	<ul style="list-style-type: none"> Subsequent academic performance 	Data collected in the program shows improved academic results for students who attend the program, compared to students who opt out.

6.2 Key Features of Effective Initiatives

Following our analysis of the evidence provided by survey/interview participants and the authors of impact studies, the following themes were identified as key features of initiatives that demonstrate effectiveness. This discussion of effective features also provides information about some of the programs that provided evidence of impact.

6.2.1 Alternative Models to Traditional Student Support Services

According to the evidence, the main strength of first and later year participation initiatives is the provision of alternative models of support. Many of the impact studies cite a lack of engagement amongst equity students with conventional forms of support.

Accordingly, the rationale for the e-books project at Charles Darwin University, Batchelor Institute of Indigenous Tertiary Education and Warawara at Macquarie University was based on concerns that Aboriginal and/or Torres Strait Islander students appeared to have with accessing disability services. Kerr et al. (2014) explain:

In preliminary studies, the project team established that Indigenous students generally did not wish to engage with the bureaucracy surrounding provision of support or perceived discrimination by the adoption of a deficit label of disability (Kerr et al., 2014, p. 18).

The report cites research identifying differences in the ways that Aboriginal and/or Torres Strait Islander communities view disability and why they may be reluctant to access services. These reasons include the dominant role of family in care and decision-making, historical experiences with bureaucracy and the desire to shun labels (Kerr et al., 2014). Kerr et al. (2014) found that after engaging with the initiative, students reported a positive impact on their learning experiences, with improved access and engagement with course content.

The use of Indigenous culture and references in targeted groups is a strong and effective aspect identified in these studies of programs for Aboriginal and/or Torres Strait Islander students. For example, *Mentoring Circles* was designed and implemented using a 'decolonizing methodology' (Mills et al., 2014). As part of this methodology, Aboriginal and/or Torres Strait Islander cultural protocols, values and behaviour were built into activities (group support, for example) of the mentoring program, enabling participants to 'guide the direction of the study according to their present and arising needs' (Felton-Busch, 2013, p. 136). As a result, the authors found that students were sharing and identifying common issues and 'maintaining supportive friendships and networks to aid study and form a group identity' (Felton-Busch, 2013, p. 136).

Indigenous culture was also drawn on in the New Zealand *Āwhina* initiative, which is described as having developed from the Māori concept of Whānau (extended family) (Wilson et al., 2011). Drawing on Indigenous cultural practices to underpin the design of initiatives reinforces how important it is that higher education integrates inclusive approaches, which take the focus away 'from integrating indigenous and minority students into the culture of the university to looking at the institution itself and how it is implicated in which [particular] students succeed' (Wilson et al., 2011, p. 703). The *Āwhina* evaluation includes a discussion of findings from studies indicating that Māori students perform better if they maintain their Māori identity and practices. This involves a preference for 'informal peer support', rather than institutional support models (Wilson et al., 2011, p. 703) because of a perception of university 'culture, curriculum and practices as monocultural, alienating and non-welcoming' (p. 702).

Similarly, in the program *Strategies for Success* described by Silburn et al. (2010) the majority of student feedback indicated that the initiative was more beneficial for students from refugee backgrounds than the general support offered through the university's learning centres. The program provided a 'safe' place and context in which students could participate comfortably without inhibitions:

Students will be freer if they all have things in common, so that they can say what they like without worrying. It's a way of bringing us together so that we share our views (Silburn et al., 2010, p. 49).

This sharing is important, as research indicates that many students from refugee backgrounds find the university environment a culturally-alienating place (Joyce et al., 2010), although little is yet known about best practice regarding transition to study and learning styles for these students in the Australian higher education context (Silburn et al., 2010).

Other studies indicate general levels of disengagement with traditional university learning support for pragmatic reasons. Hendricks et al. (2014) point out that the main reasons why a proportion of students do not access learning development are time constraints (making attendance to extra workshops difficult) and the need for students to receive feedback from assessment tasks before their academic needs can be identified, which leads to time lags.

Proactive approach

To moderate disengagement with institutional support models, some equity participation initiatives in first and later years that document positive impact take a more proactive approach by reaching out to students, rather than waiting for students to access support. Many of the transition support initiatives demonstrating effectiveness use an 'active outreach' model of directly contacting students (Nelson et al., 2012; Tower et al., 2015; Lizzio & Wilson, 2013; Kemp et al., 2013). For example, in their study on the *Academic Recovery* initiative, Lizzio and Wilson (2013) argue that active outreach is effective because it can extend to under-represented students who do not normally access support and it can be more relevant to students if support is offered proactively and just in time 'in response to an academic crisis' (p. 111). In Nelson et al.'s (2012) study, many students responded positively:

- I appreciated the interest.
- It was good to get the call.
- It was nice to know people were interested.
- The contact had a positive effect on my studies. I don't know how I would have gone if I hadn't been contacted (Nelson et al., 2012, p. 90).

Kemp et al. (2013) reported academic staff apprehension about active outreach in the *First Year Advisor Network* initiative, citing academic staff concerns that direct contact may be 'unwanted' (p. 78) by students. However, according to feedback and student evaluations this was generally not the case, with similar sentiments expressed as that in the example quoted above.

6.2.2 Curriculum and Course Design

Specific engagement and progression initiatives beyond first year described in the impact studies captured in this review are often integrated into the curriculum. For example, the accelerated nurses' initiative in the Bachelor of Nursing at the Queensland University of Technology was developed for students at the low SES campus, which was reported to have high attrition rates. It was found that the 'accelerated students' who receive recognition of prior learning and enter at the same level as second year continuing students, experienced problems adjusting to university (Doggrell & Polkinghorne, 2015). In response, review lectures, the establishment of a community website, an O week workshop, extra tutor and extra tutorials were introduced. As discussed below, attrition rates decreased dramatically after the initiative was introduced (Doggrell & Polkinghorne, 2015).

Also operating within a program, *accessible e-books* is described as a pilot program based on a collaboration between the Australian Centre for Indigenous Knowledges and Education (ACIKE) at Charles Darwin University, the Batchelor Institute of Indigenous Tertiary Education and Warawara at Macquarie University (Kerr et al., 2014). In this initiative, e-books were designed for Aboriginal and/or Torres Strait Islander students with sensory or learning disabilities. Course content and learning resources were uniquely formatted and uploaded to easy-to-use, hand held, devices. Kerr et al. (2014) explain that the e-books program incorporated factors critical to the success of Aboriginal and/or Torres Strait Islander students to enable accessible, flexible delivery modes and support for students' financial, personal and academic needs. Students who participated in the project were supplied with devices at no financial cost, which they reported as key to the engagement in learning (Kerr et al., 2014). Feedback collected during program evaluation revealed a positive impact on student learning experiences, with improved access and engagement with course content.

Embedded Support

In first and later years, rather than rely on students knowing what kind of support they need and how to access it, support is often embedded within courses or units of study in order to reach students. Embedding is advantageous for students from equity groups who are often facing particularly complex life circumstances, juggling multiple responsibilities and have limited time for accessing extra support. In view of this, the research team working on *Mentoring Circles* recommend incorporating the initiative into a subject (rather than offering it as an extra-curricular activity) as a way to meet the challenge of time restrictions that inhibit students' ability to fully participate in the program (Mills, et al., 2014). The impact of the program shows a shift in the way students approached their studies. Participants 'began to manage their studies in a different way. Instead of perceiving study to be a struggle to overcome or a burden to bear, mentoring circles helped students to better negotiate their surroundings and frame the experience as a challenge to meet or a worthwhile goal to achieve' (Mills et al., 2014, p. 1140).

The *Academic Literacy Education Course* (ALEC) (Hendricks, 2014) was embedded into a Bachelor of Science (Nursing) program using curriculum design to increase the depth and effectiveness of academic skills development. It was also integrated as an assessable part of the course and students could not pass their unit of study if they did not pass ALEC. Program evaluation reports a significant improvement in students' academic literacy practices (Hendricks, 2014).

Embedding information literacy in a unit was the aim of a library services initiative in Health Sciences at Deakin University (Horn et al., 2013). This involved embedding the service within the unit via the learning management system and was concerned with better supporting low SES students in the online space. There was recognition that the 'online form of the library can be less visible, difficult to access and confusing to navigate' (Horn et al., 2013, p. 248). The advantages of embedding library support included providing the librarian with an 'insider' status by positioning them as part of the teaching team and increasing the librarian's opportunity to offer discipline specific support (Horn et al., 2013). The embedded approach increased students' confidence in accessing library services and resources. Embedding library services support in this way situates information literacy as an integral component of course curriculum and knowledge. Furthermore, embedding includes and develops everyone and avoids stigmatising particular groups (Hendricks et al., 2014).

6.2.3 Specialist Programs

Participation initiatives included in this section also describe the impact of specialised support. This is achieved through providing a specialised service, in which case unit capacity and expertise can be developed in a specific area, or through more holistic programs that specifically target particular groups (typically, ethnic groups).

Many extra-curricular initiatives operate as distinct and separate support models to academic learning centres. For example, the *Residential Services* program at La Trobe University offers high intensity support and engagement opportunities for students from rural or remote backgrounds. The main aim is to provide an enriched overall student experience that does not focus on academic success alone (Burge, 2012). Through an 'interlocking suite of programmes' (Burge, 2012, p. 8) the strategy has two elements: student personal and professional development, and beyond the classroom living and learning environment. Activities include academic mentoring and support, international travel and experience opportunities (300 students have taken part since 2006) and student leadership positions for second and third year students. Data collected shows that students participating in the residential services programs are more likely to stay enrolled and complete their degrees as well as improve their grades (Burge, 2012).

Another discrete support service is the *Mathematics Learning Centre* (MLC) at Central Queensland University. Describing the MLC Adams et al. (2012) explain that there is an increasing need for more maths support, owing to diversified student cohorts and gaps in high school mathematics units. Students access

the MLC by self-referral or are referred by their tutors or lecturers. There is an onsite dedicated MLC room but students can also access support via telephone or email. The main aim is to foster independent learning practices. This initiative also crosses into curriculum/course design through collaborations between MLC and faculty staff who work closely to embed MLC resources into courses. Evaluation of program data indicated a positive impact on student performance in mathematics (Adams et al., 2012).

A holistic program targeting a specific group is discussed in a study about the *Academic Development Program* from the University of Cape Town (Pym & Kapp, 2013). This initiative targets young black South African students from disadvantaged backgrounds. The program attempts to encourage and harness students' strengths to assist them to gain access to university as part of a competitive selection process. It aims to develop a sense of belonging for an under-represented cohort in an 'elite' higher education environment. Pym and Kapp describe how the University of Cape Town is an 'historically white institution, and is regarded as one of the most elite universities in South Africa'. The Commerce Faculty, in which the program is situated, is very 'prestigious in terms of academic results and its international professional credibility. It has one of the highest entry grade requirements in the university' (2013, p. 275). A 'twofold' approach focuses on both academic and psychological support. The *Academic Development Program* provides academic skills development and workshops throughout the degree, access to student development officers and monitoring and social connectedness activities. The program is deliberately designed not to be another 'quick fix support skills course', but rather a longer-term combination of academic support structures and services concerned with connecting to students on a cultural level (Pym & Kapp, 2013, p. 272). Impact on student success is reflected in increased graduation rates for participants (approximately 68 per cent) and 'is far above the national average of 31% in five years for the business/management sector in higher education' (Pym & Kapp, 2013, p. 281).

The *Āwhina* program is another example of a holistic approach to supporting a specific group. With ongoing mentoring, scholarships and *Āwhina* resources, this program focuses on academic, as well as non-academic, student services provision. Activities foster the *Āwhina* sense of community with family, friends and on-campus participants such as academic staff, students, mentors and mentees taking part in celebrations of degree completions, scholarships and summer research awards (Wilson et al., 2011). The program has improved completions for Māori-Pacific science, engineering, architecture and design (SEAD) undergraduate and postgraduate students (Richardson et al., 2014).

Technology

Online spaces are shown to contribute to greater access to learning resources and more flexible academic schedules. They may therefore be an asset in equity practice if online content is managed well. According to Kerr et al. (2014), e-books is an innovative technology that has not been used in this way before in Indigenous education in Australia:

... designed-for-purpose software on standalone devices is a first for education in this specific area and it gives direction to further exploration of ways of using these and other emerging educational technologies for the benefit of Indigenous education in Australia (2014, p. 6).

There is recognition that access to good quality technology can be problematic for equity groups (Horn et al., 2013). Therefore, some equity initiatives attempt to reduce the financial burden for specific groups by providing free technology, as is the case of the e-books initiative described previously, where devices were supplied to all students at no cost (Kerr et al., 2014).

6.3 Summary of Evaluation Methodology

As with evaluation at other stages of the student life-cycle, engagement and progression initiatives that went beyond the first year of study most frequently demonstrated impact through a mixed methods approach to evaluation, combining qualitative and quantitative methods. Types of data collected include results from surveys, structured interviews, observations, student records, as well as the interesting example of artefacts recorded in the *Mentoring Circles* study (Mills et al., 2014). In this project, 68 artefacts were collected and constituted the data-set which included 'facilitator notes from the mentoring circle meetings, outcomes of activities, worksheets, posters, graphic designs for a student shirt, interview transcripts, and minutes from the research team meetings. Artefacts were numbered and imported into NVivo, a computer software program for qualitative data analysis' (Mills et al., 2014, p. 1140). Each artefact was 'open-coded', a process by which the data are analysed for intended meanings. The unique approach taken to data collection in this study reflects some of the complex aims and goals of the initiative. One purpose of the evaluation was to measure effects on social and emotional intelligence, which includes self-analysis skills; therefore, inclusion of the broad and diverse data-set enabled the composite effects of the program to be better captured. Academic performance, surveys of perceived impact, and success and retention rates are also frequently measured for these types of programs.

A good example of evaluation methodology is contained in Horn et al.'s (2013) article on embedded library services. Types of data collected were accounts of the practice, observations (from surveys and interviews) and lessons learned and/or intended changes in future practices (Horn et al., 2013). Participants included students, teachers, a liaison librarian and the library engagement team. Two student surveys were administered with an overall total of 40 students surveyed (152 and 139 enrolment totals for the course at the beginning and end of the trimester). Staff interviews were semi-structured and conducted with the teacher and librarian. They were interviewed twice, at the beginning and at the end of the trimester. The questions asked participants to 'reflect on the progress, nature, benefits and challenges of the embedded practice' (Horn et al., 2013, p. 241). Based on survey questions regarding non-traditional pathways and postcode data, it was established that 85 per cent of respondents were low SES and followed non-traditional pathways into university. Data was analysed and four themes were identified as 'not practice as usual', 'conversations about information literacy', 'research driven practice', 'online visibility and accessibility of the library' (p. 244). Improvements that could be made to the evaluation process next time are also highlighted in the article. A lack of baseline data makes it difficult to assess the full extent of effects of the initiative. In addition, no data was collected about student performance or overall results, nor was any data collected that indicated the amount and type of library services utilised by students (Horn et al., 2013).

6.4 Summary of Impact

The effects recorded through evaluation are similar to the transition initiatives. Primary impact areas are retention, performance and overall student experience.

6.4.1 Increased Retention and Completion

A number of studies reflect increased retention and completions as effects. For example, the *Āwhina* effect (Richardson et al., 2014) shows improvements in completions for *Māori*–Pacific science, engineering, architecture and design (SEAD) undergraduate and postgraduate students from 1999–2010: ‘for the 3 years 1999–2001, there were 84 *Māori*–Pacific science degree completions, of which 26 were at postgraduate level. In the 3 years 2007–2009 there were 234 science degree completions of which 60 have been at post graduate level!’ (Wilson et al., 2011, p. 700).

A dramatic effect on retention is also demonstrated by the accelerated nurses’ initiative (Doggrell & Polkinghorne, 2015). Attrition rates decreased by approximately two-thirds after the initiative was introduced in 2010. The initiative appears to have reduced attrition so much that the previously ‘high risk’ accelerated students’ attrition rates became more or less in line with students not perceived to be ‘at risk’.

6.4.2 Academic Performance

There is less data collected around effects on student academic performance. One study of the *Residential Services* initiative indicates that students involved in the NET activity (mentoring and ongoing support for ‘at risk’ students and students who are failing subjects) improved their marks. Data show a greater increase in weighted average marks (marks above 52 per cent) of residential students in the NET program compared to non-residential students who were not provided with support (Burge, 2012).

In the evaluation of the *Mathematics Learning Centre*, the results indicated a positive impact on performance. Students reported that their performance in mathematics improved: 98 per cent surveyed said ‘some improvement’ and 48 per cent of those went further and recorded a ‘vast improvement’ (Adams et al., 2012, p. 29).

6.4.3 Improved Student Experience

Greater Confidence in Academic Environments

Positive gains on overall student experience were recorded in the evaluation of the embedded library services initiative (Horn et al., 2013). Students reported greater ‘comfort in using library resources and services, awareness of library resources, and satisfaction with the support and resources provided’ (p. 247). Some unintended positive effects were also recorded in this evaluation. The librarian reported being able to provide more effective support and the teacher gained more knowledge about library research methods, as well as increased student/teacher/librarian discussions around information literacy (Horn et al., 2013).

A shift in student perspectives from viewing study as struggle, to study as problem-solving through supportive networks was the main effect of *Mentoring Circles* (Mills et al., 2014). The initiative ‘helped students to better negotiate their surroundings and frame the experience as a challenge to meet or a worthwhile goal to achieve’ (2014, p. 1140).

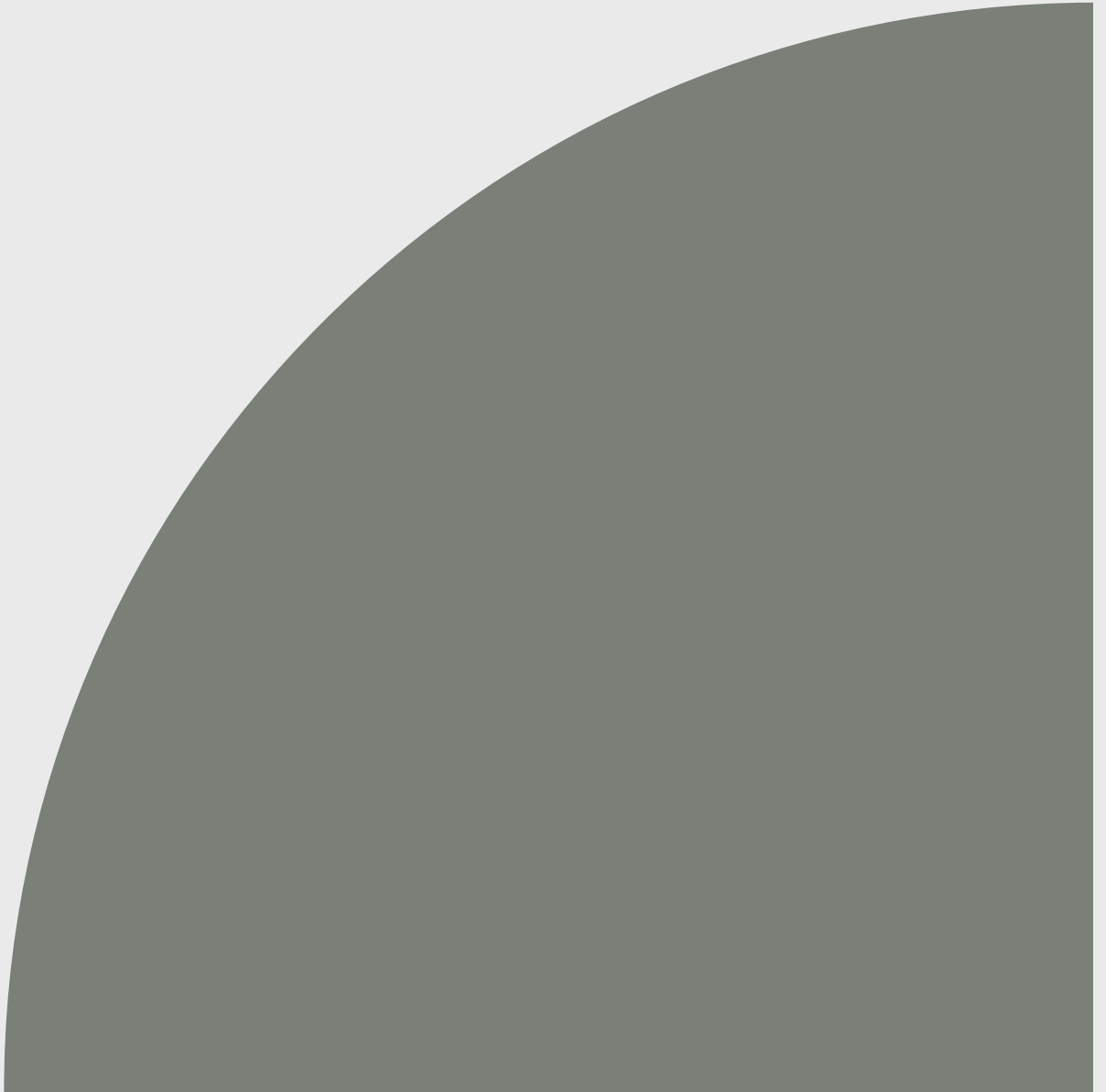
Practical effects increasing the ease and accessibility of course content was an effect noted for ebooks. The initiative provided a way for indigenous students with disabilities to receive support without needing to access more traditional bureaucratic student support services. All students used the assistive technology, with the majority of students reporting that they found the assistive technology very helpful and they would like other courses to be available on the iPad (Kerr et al., 2014).

Increasing a Sense of Belonging

The ‘*Āwhina* effect’ has been well documented in bi-annual student surveys since 1999. Students report positive effects such as being more confident about approaching academic staff, positive perceptions of staff cultural awareness as having improved (that is, staff show more awareness of *Māori*–Pacific culture and how this impacts on study), increasing satisfaction with courses and grades, and, in the 2005 survey, some students noted that *Āwhina* was the reason they chose to study at the university (Wilson et al., 2011).

An increased sense of belonging is a recorded effect of the *Academic Development Program* (Pym & Kapp, 2013). Student evaluations show positive effects and a greater ‘sense of worth and motivation’ (p. 281). Learning and psychological support made a difference to student experience, as one student noted: ‘being in the academic development programme has been the turning point in my life... I feel like a part of a family here’ (p. 281).

Completion: Attainment and Transition Out



Key Points

- There are few studies on equity initiatives that focus on post-graduation outcomes.
- Employability initiatives are evident at participation stages of the student life-cycle.
- Common strategies of work-based learning include mentoring and work placements, professional development of students (to build capability or awareness) and careers support.
- The impact of work-based learning initiatives is increased industry knowledge and raised awareness of the realities of the work environment.
- There is some evidence that early work placements (in first year) have a positive effect on student retention and engagement.
- Some initiatives demonstrate a long-term approach (spanning different stages of the continuum) with long-term benefits, including access to resources that students can utilise after course completion.
- Career development and mentoring programs are scalable and adaptable to different contexts.

7.1 Introduction

The 'key features', 'evaluation methodology' and 'impact' summaries in this section of the report are based on initiatives that have satisfied the inclusion criteria for demonstrating effectiveness. There is very little published in Australia about rigorously evaluated equity programs that focus on graduate employment and outcomes. A dearth of research about the provision and effect of equity initiatives at the transition to graduate employment and postgraduate study stage is also marked in the UK, with a report by the Higher Education Funding Council for England (HEFCE) stating in 2015 that:

Much of the activity that the report has uncovered relates to attainment outcomes at the undergraduate level, with very little reported in terms of progression to postgraduate study and employment. Yet analysis by HEFCE and others has clearly highlighted the different patterns of participation at the postgraduate level and the unexplained differences in employment outcomes for different groups (HEFCE report, p. 18).

The initiatives outlined in this review are primarily concerned with the professional development of students and careers support. There is some evidence of early work placements and workplace-orientated activities during transition into university that positively affect retention and engagement, as well as prepare students for successful transition out of university (Trede & McEwen, 2014). Australian examples match UK models revealing 'interventions that are designed to improve employability of graduates through addressing social capital issues, and ... examples of institutions working with employers to provide employer-student mentoring, shadowing, internships and mini-internships' (HEFCE, 2015, p. 24).

There is a body of literature about work-based learning (WBL), which is also referred to as work-integrated learning (WIL). WBL is often about curriculum and pedagogy and frames the student experience as a combination of work-based and academic learning. Most of the literature included in this sample concerns general cohorts (albeit diverse cohorts), rather than equity groups.

Three Australian WBL initiatives were identified from the literature as targeting specific equity groups. Two are mentoring programs: one program, a Macquarie University media mentoring program, targets media students of Aboriginal and/or Torres Strait Islander backgrounds and students from culturally and linguistically diverse backgrounds (Reed et al., 2015). Another initiative, the *Lucy Mentoring Programme*, targets female business and law students and students from non-English speaking backgrounds (Smith-Ruig, 2014). The third is a Griffith University Graduate Certificate work placement program that targets skilled migrants and refugees (Lenette & Ingamells, 2013).

From the evidence and information gained from our study, no information was provided about university based initiatives that monitor students beyond their study and into their employment.

Table 18: Attainment Initiatives and Evaluation Strategies Included in this Section

Initiatives	Target equity group	Brief description and reference (if published)	Evaluation strategy	Impact
Career Development Program Queensland University of Technology	General cohort	An institute wide program with modules embedded into courses or units. It focuses on career preparation, work placement preparation, career management, graduate careers and workplace resilience (Thomson, 2010).	<ul style="list-style-type: none"> Methodology not included in article but details on impact include greater preparedness of students in career choices and positive responses from industry people 	Evaluation shows impact on greater preparedness of students in career choices and options, usefulness of modules to academic staff, and positive responses from industry, particularly regarding improvements in students' preparation for work placements.
Career Leaders program Griffith University	ATSI Low SES Students with a disability NESB First-in-family Refugee	A six week program that aims to develop employability and leadership skills. It supports students from equity backgrounds to promote the importance of career development to their peers, and to develop their own career skills and action plan.	<ul style="list-style-type: none"> Student evaluation/impact surveys Weekly participant feedback Enrolment data Course completion rates Re-enrolment rates as mentors Career outcomes 	The main effect reported is the rise in student confidence in relation to job readiness. Comparison data indicated individual career and development improvement of up to 35 per cent, with over 50 per cent of students improving by 15 per cent or more.
Early work placements Charles Sturt University	General cohort First-in-family Mature age	An institute wide work placement initiative offered early on in first year. It aims to develop students' professional identities (Trede & McEwen, 2014).	<ul style="list-style-type: none"> Quantitative/qualitative methodology Demographic information Questionnaires Follow-up interviews 	Program evaluation reported evidence that early work placements had a positive impact on student retention. In addition, it encouraged and developed professional identities similar to participation initiatives designed to develop students' academic identities.
Graduate certificate in Community and Youth work Griffith University	NESB Migrants Refugees	This program focuses on building employability confidence through work based learning. It focuses on skills, knowledge and practical experiences including work placements and industry visits (Lenette & Ingamells, 2013).	<ul style="list-style-type: none"> Staff and student interviews 	The study recorded good graduate outcomes, with seven out of ten graduates gaining work in a human-service role, three enrolling in a Masters program, one enrolling in a full-time Bachelors degree, and one gaining work as a direct result of the field placement.
Internships in creative and performing arts James Cook University	General cohort Regional/remote First-in-family	A compulsory industry internship activity for final year creative industries students (Daniel & Daniel, 2013).	<ul style="list-style-type: none"> A mix a quantitative and qualitative data—surveys collected reflections and responses from students and employers 	Program effects include a deeper understanding of the conditions and nature of the work, and increased wider industry knowledge and experience.

Table 18: Attainment Initiatives and Evaluation Strategies Included in this Section

Initiatives	Target equity group	Brief description and reference (if published)	Evaluation strategy	Impact
Lucy mentoring programme University of New South Wales, University of New England, The University of Newcastle, University of Technology, Sydney	WINTA NESB	This is an industry based mentoring program targeting female business and law students. Students have 35 contact hours with mentors in relevant employment fields (Smith-Ruig, 2014).	<ul style="list-style-type: none"> • Draws on data from student questionnaires and follow-up phone calls 	The main impact was improved industry knowledge and understanding of the reality of the work environment. Career planning and development, coaching advice, and building support and knowledge during the mentoring experience are reported to have led to increased confidence and awareness of career options for students with some (one-third of the sample) gaining employment through participating in the program (Smith-Ruig, 2014).
Media mentoring program Macquarie University, SBS, Ethnic Communities Council of New South Wales	ATSI NESB	An industry mentorship program targeting media students aiming to support students' study and career development experiences including transitioning in and out of higher education (Reed et al., 2015).	<ul style="list-style-type: none"> • Formal research evaluation undertaken • Data collection tools included focus groups, interviews, observations and surveys 	Students in the program reported a 'better understanding of what a career in media involved' (Reed et al., 2015, p. 389). Four main areas of impact are outlined: 'increased capacity, increased confidence and sense of belonging, increased motivation and increased social capital' (p. 386).
Newstep Career Journey The University of Newcastle	Low SES	This initiative includes extra-curricular support and aims to increase understanding of how skills developed in studies are workplace-relevant and can support career goals. One objective is to help students develop and implement their own career plans.	<ul style="list-style-type: none"> • Student experience surveys • Staff surveys • Online resource usage 	The pilot program was promoted to the 2014 Newstep cohort and received positive feedback from students and staff at its initiation with 36 students voluntarily registering.
Professional Development Program Griffith University	General cohort (diverse campus)	The program is offered in a business degree program. It includes the development of generic skills in interpersonal, self-management, oral communication, teams, career and vocational areas (Freudenberg et al., 2011).	<ul style="list-style-type: none"> • Formal evaluation, longitudinal survey methodology, surveyed two cohorts 	The program increased generic skills for both cohorts. The effects seen were not just improvements in skills, but students also <i>valued</i> the skills more than the control group. A reason provided for this was the relevancy of the program to students and 'industry engagement in the <i>PD</i> program, which allows the students to more clearly appreciate the link between their academic studies and their future careers, underscoring the value of a genuine WIL experience' (Freudenberg et al., 2011, p. 90).

7.2 Key Features of Effective Initiatives

Following our analysis of the evidence provided by survey/interview participants and the authors of impact studies, the following themes were identified as key features of initiatives that demonstrate effectiveness. This discussion of effective features also provides information about some of the programs that provided evidence of impact.

7.2.1 Mentoring and Work Placements

According to the evidence gathered from the literature and empirical data for this study, effective mentoring programs inspire and develop equity students' understanding and knowledge of career options in their chosen fields and increase their employability.

One example, Macquarie University's media mentoring program, is an industry mentorship program for media students from different cultural backgrounds conducted in partnership with Macquarie University, SBS and the Ethnic Communities Council of New South Wales (Reed et al., 2015). Its purpose is to support students' study and career development experiences across the various participation stages of the student life-cycle and to facilitate access into the labour market (Reed et al., 2015, p. 386).

Work placements are a component of Griffith University's Graduate Certificate in Community and Youth Work (Lenette & Ingamells, 2013) where skilled migrants and refugees undertake 'an enhanced pathway to employment in health and human services' (p. 66). The program develops awareness of employment opportunities, work experience and familiarity with the Australian workplace through placements and industry visits.

Internships

Internships are increasingly common in undergraduate course curricula (Daniel & Daniel, 2013). For example, a James Cook University internship program in creative and performing arts is not offered as a specific equity initiative but the campus is in a remote area of Australia with a high proportion of first-in-family students (Daniel & Daniel, 2013). In this institution, internships are compulsory for final year creative and performing arts students. Writing about the program, Daniel and Daniel (2013) cite the benefits of internships for students entering precarious employment environments, such as the creative industries, in which non-linear career paths are a norm and finding ongoing employment can be a challenge. Benefits cited include increasing industry knowledge, networking and future job prospects and 'insider' hands-on experience.

Early Work Placements

An institution-wide study of Charles Sturt University's early work placements initiative revealed that it engages a diverse cohort. Demographic data showed that eight out of ten interviewees were either first-in-family or mature age students (Trede & McEwen, 2014). As part of this initiative, work-based learning is offered early in undergraduate study. Program evaluation reported evidence that early work placements had a positive impact on student retention. In addition, it encouraged and developed professional identities similar to participation initiatives designed to develop students' academic identities (Trede & McEwen, 2014).

Professional Development Program

An ongoing 'orientation' program called the *Professional Development Program* is delivered to business degree students at Griffith University at the beginning of each trimester. It includes a focus on WIL (Freudenberg et al., 2011). The purpose is to enable students to develop generic workplace skills that increase employability (such as interpersonal and oral communication skills and career and vocational knowledge). Describing the program, Freudenberg et al. (2011) cite literature that shows strong links between increased generic skills and improved employment prospects. The *Professional Development Program* has a 'co-curricular' approach and the program is taken alongside (and is complementary to) the academic curriculum. It is targeted towards the general cohort, but Griffith University has a higher proportion of equity students in comparison to the national average (Lodge, 2012).

7.2.2 Contextual Learning

The importance of relationships in creating effective outcomes is reinforced in the graduate employment and work-based learning literature. In the *Career Development Program*, the 'Careers and Employment team' collaborate with academic staff to ensure relevant and context specific resources are developed that can be embedded into curriculum (Thomson, 2010, p. 6). Writing about the program, Thomson (2010) notes that embedding enhances student engagement with academic programs because students can see the relevance of coursework to their chosen careers and workplaces.

Similarly, the *Lucy Mentoring Programme* highlights 'contextual learning' (Smith-Ruig, 2014, p. 778) as an important aspect of WIL because it includes 'the realities of a workplace and a professional career; [this is] experience that is difficult to incorporate into classroom teaching' (Smith-Ruig, 2014, p. 778). Lucy mentors are drawn from the 'public or corporate sector, consulting firms and self-employed mentors' (p. 771).

In Trede and McEwen's (2014) study of early work placements at Charles Sturt University, the importance of a contextualised learning experience is acknowledged in one student statement: 'In the placement you can ask more about the reasoning in detail which you cannot do in the classroom. Getting that real world practitioner opinion on some of those things is quite valuable' (p. 26).

Macquarie University's media mentoring program (Reed et al., 2015) also shows how collaboration with industry partners builds strong programs; in this case, the university partners with SBS and the Ethnic Community Council of NSW. Feedback from industry and community stakeholders on program evaluation findings 'has helped reinforce the partners' stake in the programme, justify their investment and provide assistance in selling the programme internally, particularly to future mentors' (Reed et al., 2015, p. 387).

It should be noted that securing a positive internship or work placement can be an inequitable experience for students from equity groups. A study from the UK called the 'Paired Peers Project' (Bathmaker et al., 2013) highlights the differences in cultural capital between working class and middle class students and how they engage with work placements. Bathmaker et al.'s (2013) study found:

[a] propensity for 'playing the game' was clearly visible with internships, with numerous examples of class differences in the capacity to mobilise social and economic capital to considerable advantage. In the case of some middle-class students the strategies employed in this mobilisation clearly demonstrated an active recognition of their advantages and how they might be exploited (p. 739).

Bathmaker et al. (2013) go on to explain:

In contrast, working-class students in our study were disadvantaged through not being ready for the game in the same way as their middle-class peers, with a limited pre-disposition towards accumulation of additional capitals. Moreover, some had a pre-disposition towards trying to play a meritocratic game fairly, putting extra effort into securing a higher class of degree rather than securing an internship for instance (p. 739).

Findings like Bathmaker et al.'s (2013) reinforce the importance of supported work placement opportunities in university programs that target students from equity groups in order to minimise 'an uneven playing field' in the post graduate work environment where 'a degree is no longer enough in the competition for graduate jobs' (Bathmaker et al., 2013, pp. 725, 739). A key part of this is commitment from employers who need to change their methods of selection that are often based on top performers and elite programs, in order to gain the benefits of a more diverse workforce (Allen et al., 2012; Browne, 2010; Thomas & Jones, 2007).

7.2.3 Institution-wide Approaches

The *Career Development Program* at the Queensland University of Technology (Thomson, 2010) takes an institution-wide embedded approach to careers. Consisting of modules that are embedded into different courses/units/academic programs, the program is designed to 'attract, retain and graduate students who reflect a confident, informed and self-managed approach to "real world" learning and successful employment' (Thomson, 2010, p. 6). Modules are also designed to connect with university initiatives dealing with 'Transitions In, Work-integrated Learning and Transitions Out' (p. 6). The module topics include university and career preparation, work placement preparation, career management, graduate careers and workplace resilience. Evaluation shows impact on greater preparedness of students in career choices and options, usefulness of modules to academic staff, and positive responses from industry, particularly regarding the improvements in students' preparation for work placements (Thomson, 2010).

7.2.4 Early Intervention

The *Association of Graduate Recruiters/Graduate Careers Advisory Services* report from the UK states that 'institutions should ensure that activities and messages are clearly aimed at all students from year one so that they do not reach their final year without having taken any action, considered their future, or engaged in any useful activities' (Pennington et al., 2013, p. 6).

Evidence of early intervention approaches with long-term benefits is evident in some career initiatives. For example, the *Career Development Program* (CDP) (Thomson, 2010) is designed to support students across their entire university participation experience and the benefits of the program continue beyond course completion—graduates are still able to access CDP resources once they have left the university and have entered the workforce, in order to keep their knowledge current.

Long-term benefits are not just about employability, as reflected in student feedback from Trede and McEwen's (2014) study of early work placements:

On initially reading the subject outline, I was like it's all to do with employability skills and looking at your future career goals, but I think I got more out of it personally on how I see that evolving—looking at placement a bit differently. It gets you thinking about all the other possibilities of where to take the degree when I'm finished (Nadia) (p. 27).

7.2.5 Flexible, Adaptable, Inclusive

Flexibility is a feature of delivery of the *Career Development Program* (Thomson, 2010). The program is delivered face-to-face as well as online, so that students can access it when they feel they could benefit most from the modules. The availability of online resources enables an inclusive 'ease of access' approach (Thomson, 2010, p. 10). The modules include elements that are designed to be inclusive of students with a disability through the provision of audio and transcripts in the online materials leading to greater preparedness of students in career choices and options.

Programs show signs of being adaptable and appropriate to different contexts. Thomson (2010) cites 14 higher education institutions (in Australia and overseas) that have trialled the *Career Development Program* or are in the process of adapting it into programs. Smith-Ruig (2014) also reports that the *Lucy Mentoring Programme* is being applied to different contexts, with five universities now offering the program.

7.3 Summary of Evaluation Methodology

The body of evidence drawn on for this section describes mixed methods, which vary considerably in type and in terms of the level of detail provided about evaluation. Surveys of participant experiences and perceptions of impact are common in the literature. Some programs also track career outcomes (or other post-completion activities) for students, and some programs that involve mentoring report impact in terms of the number of students re-enrolling as mentors after completing the program.

One of the more detailed studies is a qualitative study about the *Lucy Mentoring Programme* provided by Smith-Ruig (2014). Smith-Ruig explains that the program was evaluated to gain insights about the types of mentoring activities that had developed, as well as evidence of impact and benefits. Data collection tools used included open-ended questionnaires and follow-up phone calls. The sample sizes were relatively small, with 21 mentees completing the questionnaire and three participating in follow up interviews. Eleven participants were from NESB.

A study conducted about the *Professional Development Program* (Freudenberg et al., 2011) cited formal evaluation using a longitudinal survey methodology in which two cohorts and a control group were surveyed to measure the impact of the program on first year students. Survey questions were designed to determine students' generic skills. In this case, sample sizes were larger, with 170 students participating from the first cohort and 203 from the second.

The work placement program in the Graduate Certificate in Community and Youth Work at Griffith University was evaluated in 2010 and 2011 using interviews and analysis of various forms of data such as 'staff reflections, program materials, descriptive content and evaluation material collected' (Lenette & Ingamells, 2013, p. 66). However, the study was not focused on the evaluation methodology and information about this aspect is relatively limited.

More detailed rigorous evaluation studies about impact are required, particularly about widespread practices such as mentoring. Again, the following statement made in the HEFCE report about equity interventions previously cited (2015) reveals that there is a similar situation in the UK:

The most commonly cited intervention to be adopted to improve employment outcomes was mentoring. However, the researchers were unable to locate any robust evidence of the efficacy of this approach in improving employment outcomes, and this is an area which clearly needs further research (p. 24).

7.4 Summary of Impact

7.4.1 Benefits for All Stakeholders

Thomson (2010) describes the *Career Development Program* at Queensland University of Technology, highlighting the effects communicated by students, academics and industry stakeholders, including the provision of better information regarding career choices and options, usefulness of modules and positive responses from industry stakeholders, particularly regarding improvements in students' preparation for work placements.

Lenette and Ingamells' (2013) study about the Graduate Certificate work placement program recorded good graduate outcomes, with seven out of ten graduates gaining work in a human-service role, three enrolling in a master's program, one enrolling in a full-time bachelor degree, and one gaining work as a direct result of the field placement (Lenette & Ingamells, 2013).

7.4.2 Industry Knowledge and Awareness Raising of the Reality of the Work Environment

The main benefits of the *Lucy Mentoring Programme* were improved industry knowledge and understanding of the reality of the work environment (Smith-Ruig, 2014). Career planning and development, coaching advice, and building support and knowledge during the mentoring experience are reported to have led to increased confidence, awareness and knowledge about career options for students with some (one-third of the sample) gaining employment through participating in the program (Smith-Ruig, 2014).

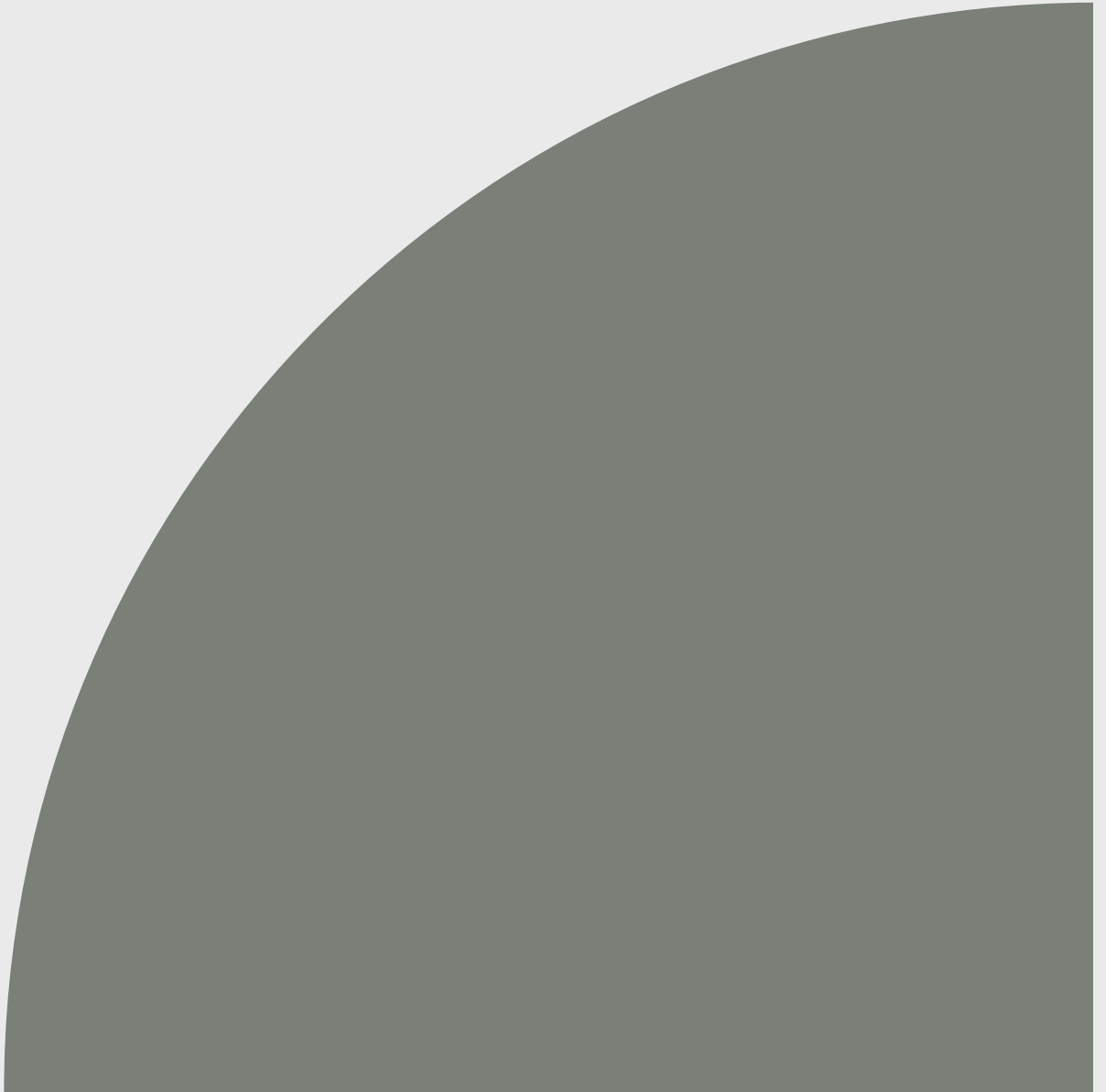
Students in the media mentoring program (Reed et al., 2015) reported a 'better understanding of what a career in media involved' (p. 389). Reed et al. (2015) outline four main areas of impact: 'increased capacity, increased confidence and sense of belonging, increased motivation and increased social capital' (p. 386).

7.4.3 Positive Impact on Engagement and Retention

Freudenberg et al.'s study of the *Professional Development Program* (2011) showed an increase in perceived generic skills for both cohorts. The effects seen were not just improvements in skills, but students also *valued* the skills more than the control group. A reason provided for this was the relevancy of the program to students and 'industry engagement in the PD program, which allows the students to more clearly appreciate the link between their academic studies and their future careers, underscoring the value of a genuine WIL experience' (Freudenberg et al., 2011, p. 90).

A positive impact on retention was recorded in the early work placement study from Charles Sturt University (Trede & McEwen, 2014). It was found that work placements had a positive effect on retention and students who had failed some subjects identified work placements as the reason for persisting with study.

Conclusions and Implications



This report has identified key themes about effective equity initiatives from this 2015 review of the literature and empirical evidence. It provides two important resources: a quick reference 'Equity Initiatives Framework' (EIF) and the 'Featured Initiatives' supplement to assist practitioners, managers and policy makers in ensuring that equity initiatives across Australia's higher education system continue to provide effective practice.

Equity performance data demonstrate a significant increase in the participation of students from low socio economic status backgrounds following the introduction of the Demand Driven Funding System. The introduction of HEPPP funding at this time led to an increase in the number of equity initiatives. With continuing growth in student numbers and budgetary pressures, there will be an increased need for effective, scalable and transferable programs. Although the importance of sensitivity to context is a recurring important theme throughout the study, many of our respondents expressed the view that their programs were likely to transfer well to other institutions or equity groups.

Some initiatives are being adopted and adapted across universities and the nation. For example, as *Uni-Start* began to show strong evidence of success within the business and law faculty, it was 'rolled out across an Australian university with each department developing a particular *Uni-Start* program with the assistance of student mentors' (O'Shea & Vincent, 2011, p. 158). Similarly, the outreach initiative *UniCamps* (Thomas, 2014) that was first developed in a school in Mimili, South Australia was then introduced to a number of other remote schools. Other authors of impact studies argue that specific programs may be effective at other institutions. For instance, Laming (2013) argues that the *First Year Advisor Network*, 'would be widely applicable to other tertiary institutions with an interest in improving student engagement, retention, and the overall first year experience' (p. 9). Lodge's (2012) study about *The Principal Tutor* (Lodge, 2012) also describes how it is has scalable potential for larger institutions.

8.1 Key Findings

Many different types of programs demonstrate effectiveness within the various stages of the student life-cycle. There is no one specific, most effective program per stage, although there are common, underlying factors that contribute to impact. Throughout the following sections of the report, these key features and strengths are identified. An important recurring theme from this study is the interdependence of features that make an initiative effective. Singling out unitary aspects as if they work alone is not possible, as the evidence shows that a more holistic approach and multifaceted work is required within any one program.

8.1.1 Important features of Effective Equity Initiatives

As part of this research, the following important features of effective equity initiatives in higher education emerged.

- Effective initiatives shift the focus from fitting students into an unchanging higher education system, to developing inclusive higher education programs.
- Inclusive pedagogies, curricula and support are important. This is particularly evident in the effective initiatives that draw on Indigenous knowledges and practices.
- Demystifying university culture and cultivating a sense of belonging for both current and prospective students are important for building and sustaining student engagement and success.⁷
- Initiatives that are responsive, accessible and relatively easy to navigate for all stakeholders are more likely to be sustainable and effective.
- Evaluation of impact is important. From the impact studies and research participants, we found that effective evaluation in the field:
 - › is stakeholder-centred, context-specific and iterative;
 - › is undertaken most frequently through mixed methods approaches that utilise quantitative and qualitative data;
 - › reports multiple effects and outcomes, including: increased access, retention and performance; improved student experiences, connectedness and engagement; informing aspirations for higher education and awareness of pathways;
 - › is informed by those with experience in program provision and evaluation. Collaborations that join program providers' specialist knowledge with evaluation and research expertise promote rigorous forms of evaluation and high quality provision.

Surveys of perceptions dominate many approaches to evaluation, particularly at the pre-access and access stages, and although this is a potentially valid measure of confidence and aspirations for higher education, participant perceptions can only provide a part of the consideration of impact. They are important alongside other effects such as improvements in academic performance or academic enrichment. Sustained effects are also not gleaned from immediate surveys on participant perceptions.

⁷ As discussed in the introduction to this report, student 'success' is a relative concept. Success at university is formally described as having passed a unit of study, but is informally described in terms of grades or degree completion. However other definitions may apply, which are context dependant.

8.1.2 Key Findings

Overall, sector data show that students from equity backgrounds are not substantially less likely to successfully complete their studies than other students. Indigenous students continue to be the exception to this. An increasing number of initiatives demonstrate effectiveness, but sustained effort is required to support the development of work in this area.

The following key findings are based on the 76 programs identified that demonstrated evidence of effectiveness in promoting good outcomes for students from equity groups as defined by stakeholders. Fifty eight programs were captured in the literature review and eighteen from the survey. It is likely that effective programs that have not yet been rigorously evaluated share many of the same features. In order to be most effective, the inter-dependent features and points identified in the key findings are likely to have greater impact if nested within a cohesive institutional equity strategy and national policy framework.

- Direct experiences with universities for school students and other groups make an effective contribution to widening participation.
- Mentors and role models can have a significant impact on access and success across all stages of the student life-cycle. Developing student engagement through mentoring takes time, appropriate training and incentives for mentors (forms of recognition and appropriate remuneration).
- Embedding support in the curriculum is more effective and has broader reach than extra-curricular support programs. Many of the studies cite non-engagement with traditional student support services of students from equity groups. Support should be responsive and tailored according to context.
- Well-designed technologies and online resources increase engagement and support for many students. These resources can provide greater reach and flexibility, although there are challenges in accessing good quality technologies and in sustaining engagement in online programs. Technologies are best aligned with robust pedagogies and effective teaching methods.
- Impact studies that provide details about effective initiatives for Aboriginal and/or Torres Strait Islander students contain important principles and approaches that may be useful for influencing the design and evaluation of other initiatives.
- Much of the evidence of impact draws on robust theory and research about equity, evaluation and quality program provision.

- Strong collaboration between institutions and communities, and within university environments, is a clear feature of effective programs. A major strength of the Queensland Tertiary Widening Participation Consortium has been state-wide reach and an ability to take a coordinated approach to the collection of data.
- Most studies focus on secondary school outreach programs, pathways programs and first year transition initiatives. Fewer publications evaluate the impact of specific initiatives in early outreach in primary schools and community outreach for adult education. Initiatives during later years of participation, including those relating to completion, transition to employment and postgraduate study, are also less prominent in the literature.
- Regional universities/campuses with high numbers of students from equity backgrounds are well represented in the literature about effective program provision.
- The equity group most targeted is people from low socio-economic status backgrounds, but there is a high degree of overlap in equity group participation, and many of these initiatives also capture people who identify as Aboriginal and/or Torres Strait Islander, people who are first-in-family to attend university, people from non-English-Speaking Backgrounds, and people from regional and remote areas.
- Less represented in the literature are students with a disability and women in non-traditional areas of work and study.
- The most impact demonstrated by programs in specific areas of work and study is found in the health sciences, particularly nursing.

In this review, only two initiatives were found about women in non-traditional areas (WINTA). This result is not surprising given the lack of emphasis given to this group in Mission-based Compacts⁸ and similar policies. However, the findings suggest that opportunities and support for women still require attention, particularly given the ongoing under-representation of women in Science, Technology, Engineering, and Mathematics (STEM) (Broadley, 2015).

⁸ Compacts are an agreement between the Commonwealth and individual universities as required by the *Higher Education Support Act 2003*. The purpose of compacts is to provide a strategic framework for the relationship between the Commonwealth and each Australian university. It sets out how each university's mission aligns with the Commonwealth's goals for higher education, research, innovation, skills, development, engagement and Aboriginal and/or Torres Strait Islander access and outcomes. For further details: <https://www.education.gov.au/mission-based-compacts>

An important finding is that regional universities/campuses are well represented in the literature about effective programs, although as recent sector data suggest, the gap between cities and regions may be getting wider, with regional students' participation in higher education declining. This suggests that the work conducted in the regions may require further support and focus in order to mitigate the wider socio-economic forces at play and resultant challenges for these students and communities.

Much of the literature about the impact of equity programs also highlights the importance of ongoing consideration of the language used about equity and equity students—even within mainstream equity language—as it is often articulated in deficit terms and experienced as stigmatising (Gale, 2010; HEFCE, 2015; McKay & Devlin, 2015; McManus, 2006; Smit, 2012). For example, language like 'low SES', 'dis/advantaged' and 'at risk', may come to suggest that low SES, first-in-family, alternative pathways, rural and/or remote students are different ('other'), 'problematic' and 'risky' (McKay & Devlin, 2015; McManus, 2006). Addressing this is important for achieving a more equitable higher education system.

8.2 Implications

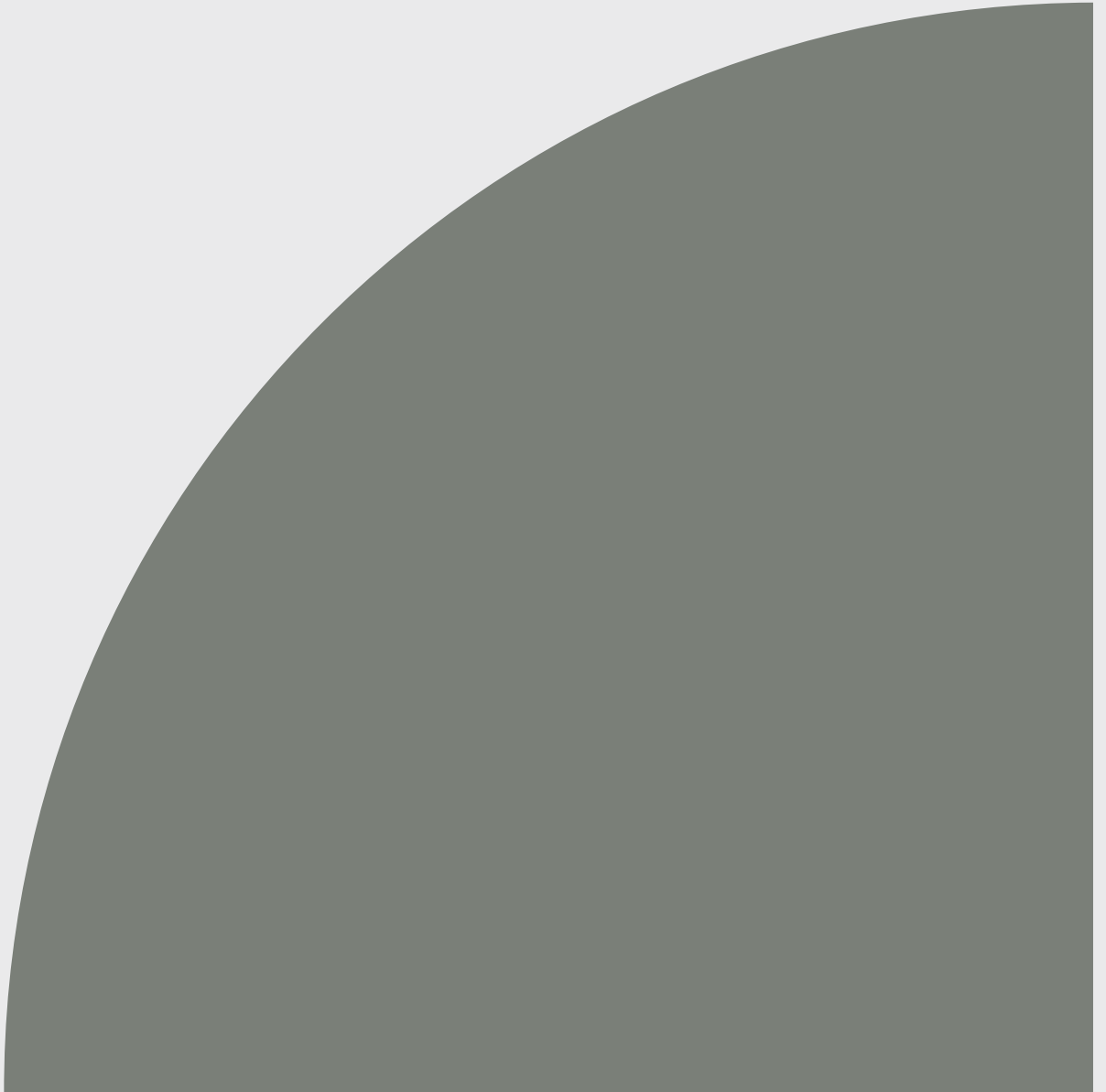
Evident from the wide range of findings across Australian higher education is the need for evaluation to be supported. Although there has been some recent growth, as documented in this report, the evidence base for equity programs remains largely underdeveloped because few programs have well-developed approaches to evaluation. Suggested enhancements for supporting programs that are effective in improving opportunities and outcomes for under-represented groups are listed below:

- Frameworks suitable for equity programs are adaptable and encourage evaluation practice that is context-specific, stakeholder-centred, research-informed and iterative. The *Equity Initiatives Framework* (EIF) may be used as a reference guide for planning, monitoring and evaluating equity programs and for building a stronger evidence base about effective strategies.
- Consideration could be given to establishing a national approach that supports institutions to better develop the evaluation of equity initiatives. As part of this, development of executive guidelines around funding and compliance would minimise the risk that institutional economic and strategic needs come to adversely impact equity outcomes. Building an evidence base around effective equity initiatives could also be aided by policy and institutional resource allocation processes that maintain investment in equity initiatives over an appropriate time and which minimise periods where funding is uncertain.
- Specifying requirements for evaluation and program outcome dissemination in funding agreements would encourage development of effective evaluation across the sector. Once resourcing for evaluation is established, incentives for programs that engage in effective evaluation could be considered.
- Enhanced tracking of students across school, vocational education and university education systems may be useful, but would require collaboration between state and Commonwealth Departments of Education and Training and related agencies and institutions. Similarly, promoting improved measures for shared access and usage of institutional data may be beneficial. It is important that data are contextualised and benchmarked against that of other similar programs. Where privacy, institutional or technical barriers prevent data integration, consideration should be given to the use of confidential data linkage services to support planning and evaluation.
- Institutions should be encouraged to invest in developing evaluation capacity and specific expertise within equity programs.
- The concentration at the access and participation end and a significant lack of initiatives at the latter end of the student life-cycle are in large part due to national policy drivers and local institutional efforts to attract students. Specific support for programs improving the transition to graduate employment and postgraduate study for students from equity groups may therefore be required. Similar support for programs enabling completion of qualifications may also be required, as this aspect continues to lag for some groups, despite relatively high success and retention rates.
- Although there have been some improvements for Aboriginal and/or Torres Strait Islander groups, the participation, success, retention and completion ratios of this group require attention as they are still significantly lower than those of other students.

- Tailored continuous professional development (CPD) based on research about program effectiveness is likely to improve provision and outcomes. Resources that could be used to develop capacity in evaluation include evaluation guides by Naylor (2015) and Hatt (2007). There is scope to develop an interactive web-based toolkit as a shared resource for institutions and program providers to help plan and evaluate equity initiatives in higher education. This site could provide hyperlinks with a drill-down capacity to provide details on planning and evaluation including examples of proven interventions and exemplary evaluation practice.⁹
- The establishment of a web-based national clearinghouse of evidence-based work about the impact of equity initiatives in higher education should be considered. Such an information and knowledge-sharing approach could work to acquire and publish information about evaluation and program impact; connect people with a wide range of expertise in equity program evaluation; and provide comprehensive and policy-relevant analysis of research relating to equity initiatives. This could be overseen by a steering committee composed of national and international experts who would provide overarching strategy and ongoing direction in its development. The proposed clearinghouse would be focused on program impact and evaluation, with a clear focal point being critical for the effectiveness of the clearinghouse itself. This is important in ensuring its impact and reach.

⁹ For examples of interactive evaluation toolkits in other fields of education and government, please see: http://www.communityschools.org/resources/community_schools_evaluation_toolkit.aspx; http://www.dpc.nsw.gov.au/programs_and_services/policy_makers_toolkit/evaluation_toolkit

Literature Review Methodology



Initial screening of literature was conducted by title and abstract and matched to the broad inclusion and exclusion criteria specified below.

Inclusion criteria were that the publication must:

1. be specifically aimed at one or more of the target populations and at least one part of the student continuum;
2. show evidence of effectiveness based on formal quantitative or qualitative forms of measurement;
3. be published after 2008; and
4. include some element of peer review and adhere to professional standards of academic research (such as journal articles, books, conference papers or institutional 'grey' literature) (see Oketch, et al., 2014, p. 76).

Publications were **excluded** if they:

1. did not capture the target population and student continuum;
2. did not include quantitative or qualitative forms of measurement of impact;
3. were published before 2008; and
4. did not include peer review or adhere to professional standards of academic research (see Oketch, et al., 2014, p. 76).

The literature search was conducted through the following **databases**: Education Research Complete (Ebsco), Proquest, ERIC, Informit, VOCED: Tertiary Education Research Database.

Websites searched were:

NCSEHE	National Centre for Student Equity in Higher Education – Curtin University
FYHE	First Year in Higher Education
OLT	Office for Learning and Teaching
ACER	Australian Centre of Education Research
HERDSA	The Higher Education Research and Development Society of Australasia University websites.

Key search terms for the project were:

- Higher education, university
- Initiative, intervention
- Access, participation, retention, success, transition
- Disadvantage, equity, widen participation
- Low socio-economic, low SES, low income
- Indigenous, Aboriginal, Torres Strait Islander, first nation
- Refugee, multicultural, non-English
- Rural, regional, remote
- Female, women, girl, non-traditional
- Disability, special needs

An example of a database search is included here.

Database: Education Research Complete (EBSCO)

Search Limit: published between Jan 2009–May 2015

1. Search terms: ("higher education" OR universit*) AND (disadvantage* or "low socio-economic" or low - SES or "low- income" or equity) AND (initiative or intervention*)
Results: 180 records
2. Search terms: ("higher education" or universit*) AND support AND (disadvantage* or low socio economic)
Results: 1056 records
3. Search terms: ("higher education") AND (indigenous or aborigin* or "first nation*") AND (equity or initiative* or intervention*)
Results: 47 records
4. Search Terms: ("higher education") AND support AND (indigenous or aborigin* or "first nation*" or "Torres Strait Islander*")
Results: 83 records
5. Search terms: ("higher education" OR universit*) AND refugee* AND (access OR participation or success)
Results: 24 records
6. Search Terms: ("higher education") AND support AND (refugee* or multicultur* or "non-English")
Results: 142
7. Search terms: ("widen* participation") AND (higher education or universit*) AND (rural or regional or disadvantage* or "low socio-economic" or low-SES or "low- income" or equity)
Results: 84 records
8. Search Terms: ("higher education") AND support AND (rural or regional or remote)
Results: 567
9. Search terms: ("higher education") AND (women or girl*) AND (non tradition* or non-tradition*)
Results: 14
- 10.10. Search terms: ("higher education") AND support AND (disabilit* or "special needs")
Results: 416
- 11.11. Search Terms: retention AND ("higher education" or universit*) AND (disadvantage* or "low socio-economic" or low - SES or "low- income" or equity)
Results: 452

Results obtained:

Database	Number imported
Academic search complete	31
Cinhal	3
Education Research Complete	55
ERIC	34
Higher Education Research & Development	11
Informit APAFT/FAMILY/HUMANITIES & SOCIAL SCIENCES/MAIS	13
Informit Indigenous Collection	6
Master File Premier	1
Proquest	35
Science Direct	1
SocINDEX	4
VOCED	2

Website searches:

Website	Number imported
NCSEHE	5
OLT	11
FYHE, NAEAA (conference papers)	4
Other (e.g. university research repositories, university grey literature)	10

Articles identified

In total, 226 titles were identified through these mechanisms. Of these:

142 titles included after screening on title and abstract, and 84 excluded;

63 titles included after screening, and 79 excluded

The total number of titles included for synthesis in the report was 63, relating to 58 initiatives.

Literature Review Template

The Literature Review Template is for the research assistant to methodically record and store information about the initiatives. When the template is complete, please file by stage on the continuum and within each stage organise by equity group (e.g. 1. Pre-entry/ Outreach to schools and communities—low SES etc.).

1. Please provide the name of the Program/Initiative, institution, area and contact details

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2. Reference

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3. What are the aims of the program? Choose as many of the following as are appropriate, and provide further details if necessary.

Informing aspirations and developing expectations for higher education	<input type="checkbox"/>
Developing academic capacity and/or providing academic support	<input type="checkbox"/>
Establishing inclusive processes	<input type="checkbox"/>
Supporting students in dealing with broader issues outside their study	<input type="checkbox"/>
Improving or measuring graduate outcomes	<input type="checkbox"/>
Increasing awareness or understanding of educational pathways	<input type="checkbox"/>
Other aims (specify):	<input type="checkbox"/>

4. Please select from the following (from the CIF, 2013) to describe the timing and type of initiative

Student life-cycle	Stage	Initiatives	National priority rating (from CIF1)	
Access	Pre-entry/Outreach to schools and communities	Outreach in primary schools	not rated	<input type="checkbox"/>
		Early Outreach in secondary schools (Year 10 or earlier)	medium	<input type="checkbox"/>
		Later-year Outreach in schools (Year 11 and 12)	high	<input type="checkbox"/>
		Outreach to VET or communities (adults, including parents of students)	medium	<input type="checkbox"/>
		School curriculum, enhancement and support	very high	<input type="checkbox"/>
		Pre-entry university experience programs	medium	<input type="checkbox"/>
	Pathways/Admissions/ recruitment, selection and marketing	Pathways (a qualification that provides entry into university upon successful completion; often from Enabling, VET or private providers)	very high	<input type="checkbox"/>
		Foundation programs (a program that provides extra academic development to build skills; may be a separate qualification or part of a larger degree)	high	<input type="checkbox"/>
		Marketing	lower	<input type="checkbox"/>
		Alternative selection criteria and tools in entry requirements	very high	<input type="checkbox"/>
		Scholarships provision	high	<input type="checkbox"/>
Participation	Transition	First year transition/orientation programs	very high	<input type="checkbox"/>
	During studies/retention, progress and success	Curriculum/course design	medium	<input type="checkbox"/>
		Extra-curricular learning and support programs (outside or in addition to normal classes)	medium	<input type="checkbox"/>
		Non-academic student services provision (childcare, financial aid, student counselling and health)	high	<input type="checkbox"/>
		Professional development for staff or students (to build capacity or awareness)	not rated	<input type="checkbox"/>
Progress and Attainment	Successful completion and graduate employment	Careers and employment support (pre- or post-course completion)	not rated	<input type="checkbox"/>
		Monitoring of student outcomes (pre- or post-course completion)	not rated	<input type="checkbox"/>
Other			not rated	<input type="checkbox"/>

- 5. Please select a maximum of five keywords to describe the approach of your initiative. You may choose from the following suggestions and/or provide your own in the text field provided below.**

Access	<input type="checkbox"/>
Aspirations	<input type="checkbox"/>
Transition	<input type="checkbox"/>
Retention	<input type="checkbox"/>
Orientation	<input type="checkbox"/>
Support	<input type="checkbox"/>
Curriculum design	<input type="checkbox"/>
Assessment	<input type="checkbox"/>
Progression	<input type="checkbox"/>
Pedagogy	<input type="checkbox"/>
Learning resources	<input type="checkbox"/>
Academic literacies	<input type="checkbox"/>
Diagnostic testing	<input type="checkbox"/>
Mentoring	<input type="checkbox"/>
Student experience	<input type="checkbox"/>
Belonging	<input type="checkbox"/>
Engagement	<input type="checkbox"/>
Monitoring	<input type="checkbox"/>
Employability	<input type="checkbox"/>
Online	<input type="checkbox"/>
Awareness of Pathways	<input type="checkbox"/>

Other keywords.

- 6. Please describe the initiative (including what makes the initiative distinctive). Dots points are welcome.**

7. Has the initiative made a difference for the following groups, and what type of evidence supports this? Choose as many from the following as relevant.

	Survey	Interview	Feedback	Benchmarking (refers to other research/studies/initiatives)	Improvements (e.g. waiting times)	Retention	Completion	Performance	Participation	Applications/ Admissions/ enrolments	Other. Please specify: _____
People who identify as Aboriginal and/or Torres Strait Islander											
People who are from low SES backgrounds											
People with a disability											
People from non-English speaking backgrounds											
People from regional and remote areas											
Women in non-traditional discipline areas											
Other. Please specify: _____											

Please provide the details of the above evidence and measures (can provide a citation).

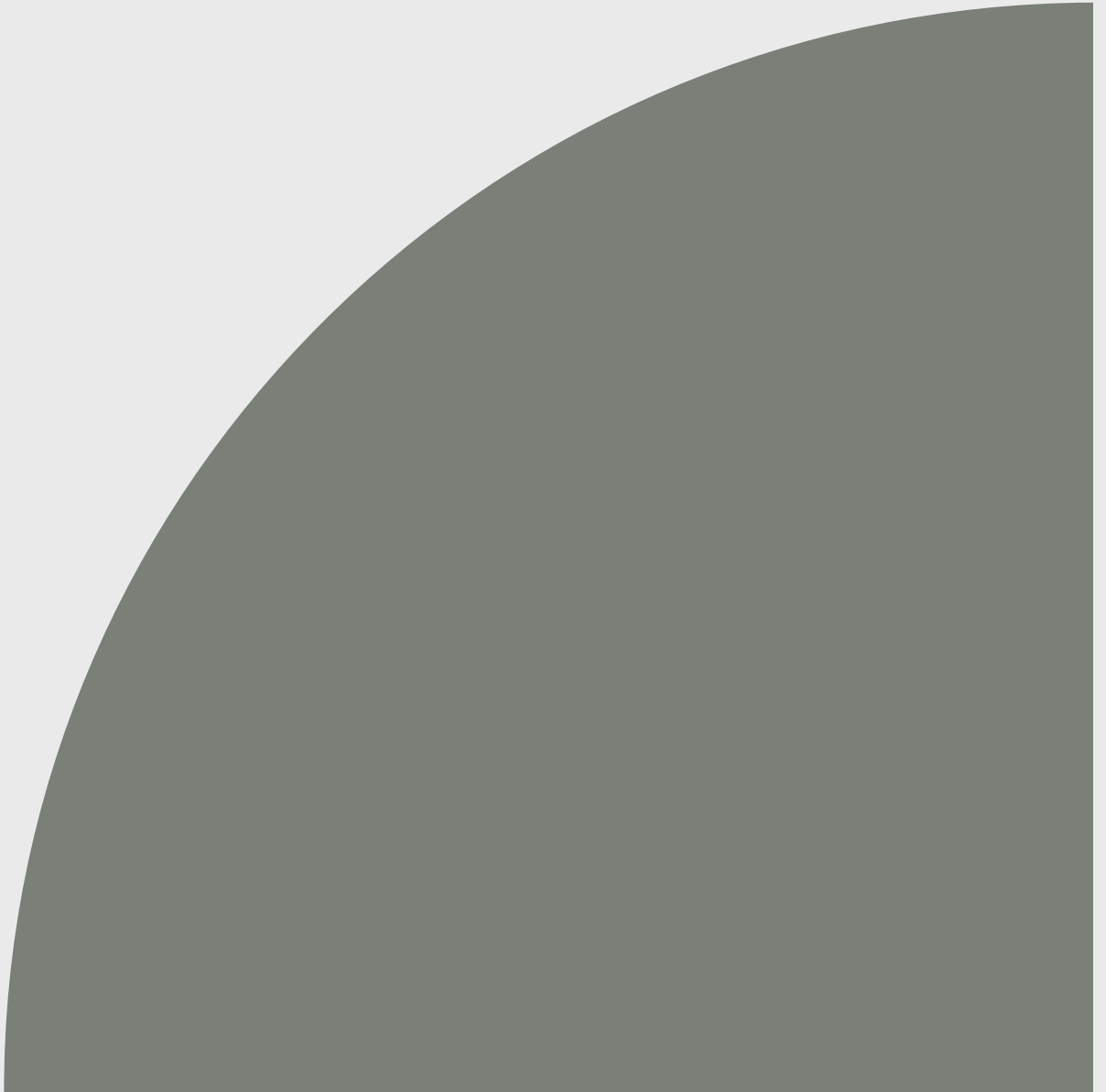
8. Please describe the impact of the initiative and the key factor that makes it effective (include an expansion on the evidence provided in the question above).

9. Please briefly describe any challenges experienced with the initiative or with demonstrating its impact. Include any evidence of less effective aspects.

10. Does this initiative connect with other initiatives?

11. Please provide a detailed description for others to implement initiative—i.e. how the initiative could be implemented, who the target groups are, and any other target groups it could be used for, and could it be scaled up.

Case Study Phone Interview Questions



If a survey or the literature review provides information about an initiative that is promising, but there is not enough detail provided, please target the institution with a request for a phone interview. Use the following questions to 'fill in the blanks' about the aspects of initiatives requiring further information (paying particular attention to evidence of effectiveness).

When the phone interview is complete, and a 'case study' is produced from the combined survey and phone interview information to be recorded on this template, file this template by stage on the continuum and within each stage organise by equity group (e.g. 1. Pre-entry/Outreach to schools and communities—low SES etc.).

1. Name of Program/Initiative, institution, area, contact details.

2. What are the aims of the program? Choose as many of the following as are appropriate, and provide further details if necessary.	
Informing aspirations and developing expectations for higher education	<input type="checkbox"/>
Developing academic capacity and/or providing academic support	<input type="checkbox"/>
Establishing inclusive processes	<input type="checkbox"/>
Supporting students in dealing with broader issues outside their study	<input type="checkbox"/>
Improving or measuring graduate outcomes	<input type="checkbox"/>
Increasing awareness or understanding of educational pathways	<input type="checkbox"/>
Other aims (specify):	<input type="checkbox"/>

3. What is the timing and initiative type?				
Student life-cycle	Stage	Initiatives	National priority rating (from CIF1)	
Access	Pre-entry/Outreach to schools and communities	Outreach in primary schools	not rated	<input type="checkbox"/>
		Early Outreach in secondary schools (Year 10 or earlier)	medium	<input type="checkbox"/>
		Later-year Outreach in schools (Year 11 and 12)	high	<input type="checkbox"/>
		Outreach to VET or communities (adults, including parents of students)	medium	<input type="checkbox"/>
		School curriculum, enhancement and support	very high	<input type="checkbox"/>
		Pre-entry university experience programs	medium	<input type="checkbox"/>
	Pathways/Admissions/ recruitment, selection and marketing	Pathways (a qualification that provides entry into university upon successful completion; often from Enabling, VET or private providers)	very high	<input type="checkbox"/>
		Foundation programs (a program that provides extra academic development to build skills; may be a separate qualification or part of a larger degree)	high	<input type="checkbox"/>
		Marketing	lower	<input type="checkbox"/>
		Alternative selection criteria and tools in entry requirements	very high	<input type="checkbox"/>
		Scholarships provision	high	<input type="checkbox"/>
Participation	Transition	First year transition/orientation programs	very high	<input type="checkbox"/>
	During studies/retention, progress and success	Curriculum/course design	medium	<input type="checkbox"/>
		Extra-curricular learning and support programs (outside or in addition to normal classes)	medium	<input type="checkbox"/>
		Non-academic student services provision (childcare, financial aid, student counselling and health)	high	<input type="checkbox"/>
		Professional development for staff or students (to build capacity or awareness)	not rated	<input type="checkbox"/>
Progress and Attainment	Successful completion and graduate employment	Careers and employment support (pre- or post-course completion)	not rated	<input type="checkbox"/>
		Monitoring of student outcomes (pre- or post-course completion)	not rated	<input type="checkbox"/>
Other			not rated	<input type="checkbox"/>

4. What keywords best describe the approach of your initiative. Some examples are:

Access	<input type="checkbox"/>
Aspirations	<input type="checkbox"/>
Transition	<input type="checkbox"/>
Retention	<input type="checkbox"/>
Orientation	<input type="checkbox"/>
Support	<input type="checkbox"/>
Curriculum design	<input type="checkbox"/>
Assessment	<input type="checkbox"/>
Progression	<input type="checkbox"/>
Pedagogy	<input type="checkbox"/>
Learning resources	<input type="checkbox"/>
Academic literacies	<input type="checkbox"/>
Diagnostic testing	<input type="checkbox"/>
Mentoring	<input type="checkbox"/>
Student experience	<input type="checkbox"/>
Belonging	<input type="checkbox"/>
Engagement	<input type="checkbox"/>
Monitoring	<input type="checkbox"/>
Employability	<input type="checkbox"/>
Online	<input type="checkbox"/>
Awareness of Pathways	<input type="checkbox"/>

Other keywords.

5. Please describe the initiative (including what makes the initiative distinctive). Dots points are welcome.

6. Has the initiative made a difference for the following groups, and what type of evidence supports this? Interviewees may need prompting on types and may choose as many as are relevant.

	Survey	Interview	Feedback	Benchmarking (refers to other research/studies/initiatives)	Improvements (e.g. waiting times)	Retention	Completion	Performance	Participation	Applications/ Admissions/ enrolments	Other. Please specify: _____
People who identify as Aboriginal and/or Torres Strait Islander											
People who are from low SES backgrounds											
People with a disability											
People from non-English speaking backgrounds											
People from regional and remote areas											
Women in non-traditional discipline areas											
Other. Please specify: _____											
Please provide any further details of the above evidence and measures based on the discussion.											

7. Please describe the impact of the initiative and the key factor that makes it effective (include an expansion on the evidence provided in the question above).

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8. Did you experience any challenges with the initiative or with demonstrating its impact?

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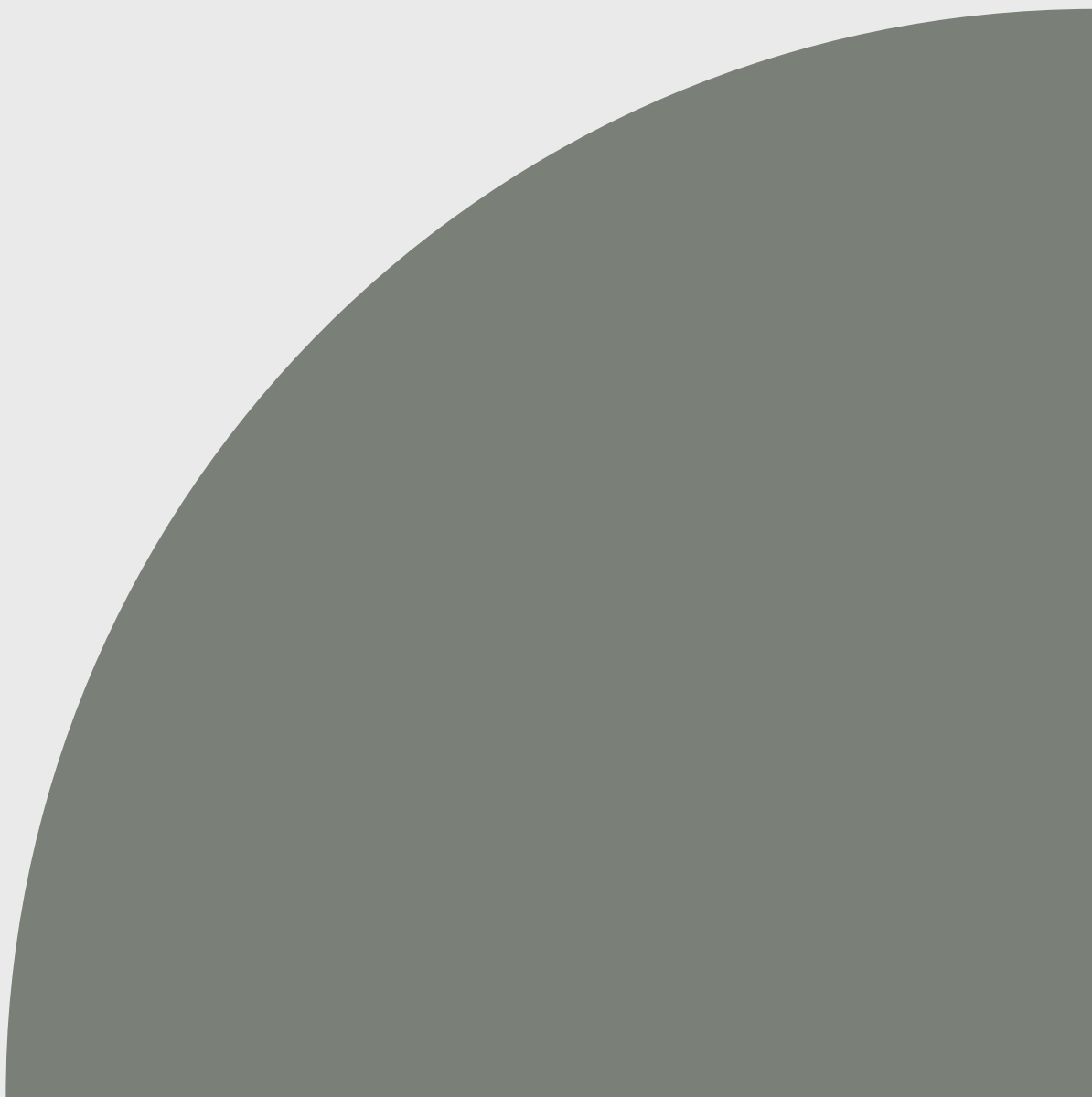
9. Does this initiative connect with other initiatives?

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10. Have you any advice or ideas to help others to implement this equity initiative in the future? (Researcher: please provide a detailed description for others to implement initiative).

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Survey



1. What is the name of the program and the division/unit?

2. What is the name of your institution?

3. What are the aims of the program? Choose as many of the following as are appropriate, and provide further details below if necessary.

- Informing aspirations and developing expectations for higher education
- Developing academic capacity and/or providing academic support
- Establishing inclusive processes
- Supporting students in dealing with broader issues outside their study
- Improving or measuring graduate outcomes
- Increasing awareness or understanding of educational pathways
- Other (please specify)

4. What type of program is it? Choose as many of the following as are appropriate.

- Outreach in primary schools
- Early outreach in secondary schools (Year 10 or earlier)
- Later-year outreach in schools (Year 11 and 12)
- Outreach to VET or communities (adults, including parents of students)
- School curriculum enhancement and support
- Pre-entry university experience programs
- Pathways (a qualification that provides entry into university upon successful completion; often from Enabling, VET or private providers)
- Foundation programs (a program that provides extra academic development to build skills; may be a separate qualification or part of a larger degree)
- Marketing
- Alternative selection criteria and tools in entry requirements
- Scholarships provision
- First year transition/orientation programs
- Curriculum/course design
- Extra-curricular learning and support programs (outside or in addition to normal classes)

- Careers and employment support (pre- or post-course completion)
- Non-academic student services provision (child care, financial aid, student counselling and health)
- Professional development for staff or students (to build capacity or awareness)
- Other (please specify)

5. Which groups are *specifically* targeted by the program? Choose as many as appropriate.

- Aboriginal and/or Torres Strait Islander students
- Low SES
- Students with a disability
- Non-English speaking background
- Students from regional and remote backgrounds
- Women in non-traditional areas
- Low ATAR students
- Mature aged students
- First-in-family
- Refugees
- Pasifika students
- Other (please specify)

6. Please select a maximum of five (5) keywords to describe the type of initiative. You may choose from the following suggestions and/or provide your own in the text field provided below:

- Access
 - Aspirations
 - Transition
 - Retention
 - Orientation
 - Support
 - Curriculum design
 - Assessment
 - Progression
 - Pedagogy
 - Learning resources
 - Other keywords:
- Academic literacies
 - Diagnostic testing
 - Mentoring
 - Student experience
 - Belonging
 - Engagement
 - Monitoring
 - Employability
 - Online
 - Awareness of pathways

7. Please briefly describe the initiative. Dot points are welcome. If applicable, we are particularly interested in what makes your initiative distinctive.

8. Please describe the impact of your program and the details of the evidence/data that this evaluation is based on (e.g. surveys, interviews, feedback, benchmarking (comparisons to other initiatives through research/studies), improvements (e.g. service waiting times), performance/retention/completion data, participation, applications, admissions and enrolments data, other).

9. What challenges were experienced in evaluating the initiative?

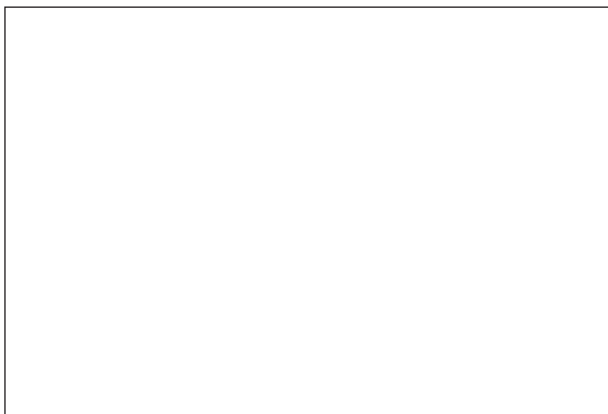
10. Does this initiative connect with other initiatives at your institution? Please describe.

For the following questions, please imagine that a colleague has asked your advice on implementing a similar program in another context.

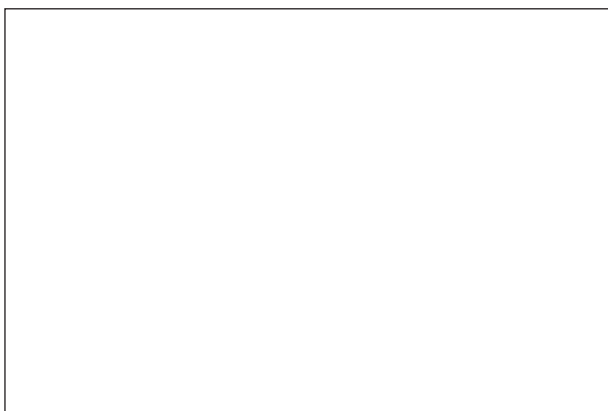
11. What is the key factor of the initiative that makes it effective?



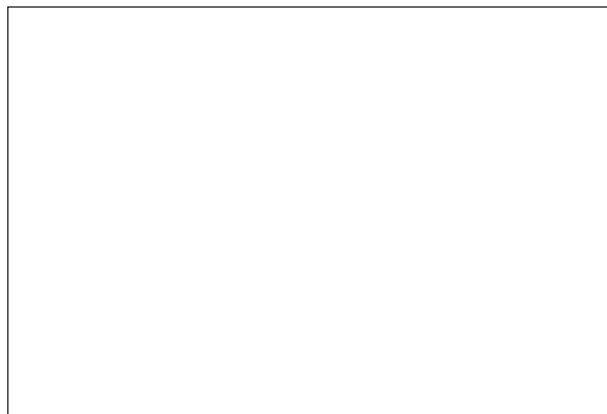
12. How transferrable is the initiative? Would it be successful in other contexts? Would it be successful if scaled up?




13. What challenges were experienced in providing the initiative?



14. What have you learnt from implementing this initiative that would be useful for other colleagues to know?



15. As part of this project we will be conducting a small number of telephone interviews about specific initiatives. If you grant the researchers permission to contact you for an interview at a later date, please provide your name and email address below.



16. Do you wish to provide information about another initiative or program?

- Yes
- No

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