FAIR CONNECTION TO PROFESSIONAL CAREERS:
Understanding Social Difference and Disadvantage, Institutional Dynamics and Technological Opportunities

EQUITY FELLOWSHIP REPORT

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Key Findings

Higher education participation data indicates that people from equity groups are underrepresented, often significantly so, in the university degrees associated with high-status professions and this was particularly the case in elite universities. Universities should look to the success of specific enabling and alternative entry programs, such as those designed to increase the number of Indigenous doctors, as a key way to diversify high-status degrees.

Child poverty, marginalisation and the residualisation of public education have had significant impacts on student academic attainment and achievement. This impacts on the ability of students from equity groups to receive the academic attainment and achievement required to make them competitive for a place in a high-status degree. Entrenched inequity in Australian schooling requires urgent attention and must include a focus on alleviating the broader socioeconomic factors which contribute to child poverty as well as school-level learning and curriculum opportunities.

Career education is often at the curriculum margins and implemented in ad hoc ways, with career advisors having limited capacity to assist all students; this can result in career advisors in low socioeconomic status school communities prioritising those in crises, school refusers or who are ‘struggling’ with schooling. In the Longahart region, high school students experiencing disadvantage who had career aspirations to high-status professions had very limited capacity to undertake ‘taster’ work experience that would allow them to explore these careers. Low socioeconomic school communities tended to focus on vocational career pathways where students were required to find their own work experience placement. In the main, working-class students got working-class work experience, and this hampered their ability to authentically explore careers and develop a deep, academically-embedded understanding of what was required to gain a place at university in high-status degrees.

Analysis of the first-in-family to medical school data, which focused on Indigenous and non-Indigenous students’ experience of ‘extreme social mobility’, revealed that students often had protracted and circuitous pathways into medical education and that many received minimal encouragement or useful career education about a career in medicine. Some of these students experienced stigma related to their family or cultural background in medical school but all saw their ‘humble’ backgrounds as an invaluable professional resource that they could deploy in their career as a doctor. There is much to be learned from the experiences of non-traditional students in elite degrees and much more national and international research in this area is required.

New and emerging technologies, such as virtual and augmented reality, may provide a solution for creating deeper disciplinary and interdisciplinary learning and more authentic connection to post-school education and the world of work. The time to sandpit, prototype and trial such technologies is now.

The professions need to more closely examine their cultural biases and positions on social diversity and commit themselves to large-scale coordinated school-university-profession partnerships to improve access to high-status university degrees and meaningful careers.

An open and sustained tracking of participation rates by broad and specific Fields of Education related to high-status degrees is required to ensure that the issue of proportional representation of students from equity groups stays firmly on the agenda for universities and the professions, and to aid robust evaluation of programs.
1. About the Fellowship and this Report

This document reports on key findings from the 2016 Equity Fellowship project, *Fair Connection to Professional Careers: Understanding Social Difference and Disadvantage, Institutional Dynamics and Technological Opportunities*. In the Australian context, Gale (2012) points out that:

For equity to have real teeth, proportional representation also needs to apply across institution and course types. Short of this, it will be difficult to argue that the policy or at least its equity intent, has been successful (p. 246).

There is substantial evidence that, in spite of widening participation policies and programs, non-traditional students continue to remain underrepresented in elite institutions and high-status degrees nationally and internationally (Bradley et al., 2008; Milburn, 2009, 2012). The Fellowship project sought to develop a deep understanding of why proportional representation in high-status professions and their associated degrees is an enduring and seemingly intractable problem.

Specifically, the aim of the project was to explore the complex social and educational factors implicated in the underrepresentation of non-traditional students in high-status professions such as medicine, law, architecture and engineering, and their associated university degrees. The focus was primarily on students from low socioeconomic status (low SES) and first-in-family (FiF) backgrounds. Chapter 3 of this report provides an expanded descriptive statistical snapshot of participation rates for architecture, information technology and physiotherapy and includes other equity categories such as Indigenous and regional and remote. Professions were selected because of their high occupational prestige; they are all in the upper 20 per cent range of the *Australian Socioeconomic Index 2006 (AUSEI06)* (McMillan, Beavis & Jones, 2009). This AUSEI06 generates a prestige score from 0-100. The AUSEI06 places medical practitioners at 100/100; physiotherapists at 93.6/100; legal professionals at 90.7/100; architects and landscape architects at 84.1/100; ICT professionals at 81.3/100; and engineering professionals at 81/100.

The Fellowship project approached the problem of underrepresentation from multiple perspectives including:

1. Provision of key scholarly research on the topic. This report provides a brief review of mainly sociological research (Chapter 2) and statistical snapshot of 2015 participation rates in Australian higher education by Field of Education (FoE) associated with high-status degrees (Chapter 3).
2. An in-depth qualitative case study of aspiration to post-secondary education and careers, including high-status professions, for young people living in regional Australia (Chapter 4).
3. A set of analyses drawing on the experiences of university students from first-in-family (low SES and Indigenous) backgrounds enrolled in medical school, medicine being the most prestigious of all professions. These analyses were published as peer-reviewed journal articles and a scholarly book chapter, with findings presented at national conferences (see Appendix 1, publications 1, 5, 6, 14, 15).
4. A thematic mapping of key issues related to increasing access to high-status professions and their related degrees garnered during a national consultation of experts in equity, education and the professions (Chapter 5).
5. A primer on the potential of emerging digital technologies such as immersive virtual and augmented reality for more equitable career education was produced as a companion to this report. The primer, entitled *Immersed in the Future: A Road Map of Existing and Emerging Technology for Career Exploration*, outlined how technologies can be used to provide authentic
learning, ‘taster’ work experience, and socially diverse role models for young people experiencing disadvantage. The *Immersed In the Future* report can be found at http://dice.newcastle.edu.au/DRS_3_2016.pdf. In addition, a number of peer reviewed papers on technologies for learning and equity were produced (see Appendix 1, publications 3, 4, 9, 10, 11, 12).

Taken together, these perspectives provide a nuanced picture of the structural, systemic, sociocultural and personal factors that can act as barriers and enablers to high-status professions, and the potential new technology to address some of the enduring issues in school career education. As the report unfolds, it will become evident that no single approach can provide a solution to addressing the lack of proportional representation. Rather, solutions will need to come from long-term, committed intellectual and practical partnerships between government and policymakers, communities, school and higher education sectors, and importantly the professions themselves, particularly if the lasting effects of poverty and marginalisation are to be mitigated and the reproduction of educational inequality addressed. Only then will genuine opportunities for social mobility that extend into professions of the highest prestige be produced.
2. Research on Fair Connection to High Status Professions

2.1 Introduction

Over several decades there has been a global “massification” of higher education (Altbach, 2013). This phenomenon has seen an increase in students from non-traditional backgrounds attending university (Schuetze & Slowey, 2002; Shah, Bennett & Southgate, 2015). However, non-traditional students, particularly those from low SES backgrounds and certain ethnic and cultural groups, the mature-aged, and people from regional and remote locations, remain underrepresented in higher education, especially within elite universities and high-status degrees (Bradley et al., 2008; Gale & Parker, 2013; Reay et al., 2009). While acknowledging that social mobility can have “hidden costs” (Cole & Amari, 2003; Friedman, 2014; Southgate et al., 2017), there are substantial social, economic and health benefits to individuals, their families, the nation and the professions themselves, when high-status occupations increase their social diversity (Causa & Johansson, 2010; Milburn, 2012).

There are many reasons for increasing social diversity in the professions. These include arguments derived from social justice frameworks which are premised on the right of citizens from less privileged backgrounds to have fair access to educational and occupational opportunities that recognise their potential and worth (Gale & Tranter, 2011). There is also a more economic (human capital) position that emphasises the social and economic benefits of the “social mobility dividend” to individuals and the nation — “there has been a growing recognition that a society in which birth not worth dictates people’s outcomes is not only unfair: it is also unviable” (Milburn, 2012, pp. 1-2). These sentiments are echoed in the ‘lost talent’ literature which views people who have had limited opportunities or who have chosen not to pursue tertiary study but who have demonstrated capacity as a valuable untapped resource for industry and the nation (Sikora & Saha, 2011). There are also more utilitarian arguments often associated with social accountability agendas within the professions. These include a ‘best fit’ approach which contends that (regardless of sociocultural background) the professions must choose candidates who are suited to the occupation (British Medical Association, 2009), and that the professions should reflect the communities they serve (Garlick & Brown, 2008). In medicine, this position is linked to the broadening of the health workforce in response to particular workforce shortages or in targeting underserved populations (Jones, Humphreys and Prideaux, 2009).

Compared to other nations, Australia has relatively high social mobility (Causa & Johansson, 2010). Despite this, students from non-traditional backgrounds, even those with substantial academic ability, are far less likely to be enrolled in Australian high-status degrees (Bradley et al. 2008; Southgate, Kelly & Symonds, 2015). This pattern remains despite the implementation of widening participation policies, the provision of school-based career education, access to ever-expanding online information on university study and careers, and the considerable investment universities have made in school-based outreach programs and other interventions such as ‘taster’ days, summer schools and e-mentoring.

Factors influencing social mobility and stratification in the professions are complex and can be traced to: familial and community dynamics that inform career horizons, aspirations and norms; inequitable practices, processes and ‘deficit’ assumptions that are evident in school and tertiary education systems; and to the conscious and unconscious bias firmly embedded in high-status professions. Literature related to each of these areas will be explored throughout this chapter.
Poverty, Schooling and Educational Outcomes

Poverty, socioeconomic disadvantage and sociocultural marginalisation affect educational outcomes in Australia. It has been estimated that 17.4 per cent (731,300) Australian children under the age of 15 currently live in poverty and that child poverty has increased by two per cent over the period 2003-04 to 2013-14 (ACOSS & SPRC, 2016). In sole parent families, four in 10 children currently live in poverty (ACOSS & SPRC, 2016). Aboriginal and Torres Strait Islander people are more likely to experience poverty than other Australians and living in poverty is strongly correlated with the education level of the family (Phillips et al., 2013). For those without a Year 12 school qualification, poverty rates are at least double the national average (Phillips et al., 2013). Research indicates that educational achievement and attainment, wellbeing, and the employment prospects of school students are strongly linked with the socioeconomic status of the family and that children living in poverty can experience cumulative disadvantage that can prevent them from meeting developmental and educational milestones (Lamb, et al., 2015; Phillips et al., 2013). As McLachlan, Gilfillan & Gordon (2013) assert:

A child’s earliest years fundamentally shape their life chances. Gaps in capabilities between children from socioeconomically disadvantaged families and their more advantaged peers appear early in life. Starting school ‘behind the eight ball’ can begin a cycle of disadvantage that sets a trajectory for poorer outcomes later in life (p. 2).

Research on poverty and educational outcomes in Australia stretches back many decades (for example, Broom, 1970; Connell & Connell, 1993; Considine & Zappalà, 2002; Fitzgerald, 1976). Australia’s schooling system has been described as “high quality, low equity” (McGaw, 2006, p. 16). Within the last decade, there has been increased marketisation of Australian schooling driven by policies that emphasise school choice (Windle, 2009). This has resulted in the residualising of government schools, a phenomenon associated with the “flight” of the middle-classes to private education (Campbell, 2005; Lamb, 2007). An examination of the distribution of students across school sectors by Index of Community Socio-Educational Advantage (ICSEA) quartiles, indicates how socially segregated schooling in Australia has become. ICSEA is a composite measure of factors known to influence educational advantage (and disadvantage) such as parental occupation and education, a school’s geographical location and the proportion of Indigenous students a school caters for (ACARA, n.d).

The vast majority of students who are facing some form of disadvantage or marginalisation attend government schools (Kenway, 2013). For example, 36 per cent of students from the lowest (most disadvantaged) ICSEA quartile attend government schools, while only 13 per cent of these students attend independent or private schools (Connors & McMorrow, 2015, p. 4). Conversely, 47 per cent of those in the highest (most advantaged) ICSEA quartile attend independent private schools, while only 22 per cent attend government schools (Connors & McMorrow, 2015, p. 4). Kenway (2013) points out that:

Clearly, government schools take many more than their fair share of students on the bottom rung and independent schools take many fewer than their fair share. Similar points can be made about Aboriginal students, students ‘with funded’ disabilities and students from remote and very remote areas (p. 290).

The term ‘residualisation’ refers to an interplay of factors such as: government schools having high concentrations of students experiencing socioeconomic disadvantage and/or marginalisation; a loss of student numbers that flows on to a decline in resources in schools that most need them; and a significant “vocationalising” of the curriculum (Perry and Southwell, 2014). Parents who can only afford government education tend to enrol their child at the local school. The socioeconomic profile of the area where a family lives can influence the type of curriculum a child has access to. An emphasis on vocational curricula in schools can effectively limit a student’s access to the academic subjects required to produce a high levels of school achievement (Perry and Southwell, 2014; Teese & Polesel, 2003; Tranter, 2012), and this is a key barrier to accessing university and high-status degrees at an
undergraduate level. Thus, the aggregated socioeconomic composition of Australian schools has a significant influence on students’ academic performance (Perry & McConney, 2010). In other words, individuals from low SES backgrounds benefit academically if they attend schools populated by students of higher SES. As McGraw’s (2006) explanation of variation in results from the Program for International Student Assessment (PISA) standardised testing suggests:

[M]uch of the [PISA achievement] account derives from the social background of other students in the school [in that] there is a benefit for advantaged students in keeping company with similarly advantaged students but a compounded disadvantage for disadvantaged students keeping company with others like themselves (p. 27).

Australian school achievement and attainment data by equity group makes for sobering reading. Drawing on PISA results, Perry and Lubienski (2014) sum up the achievement gap for high school students from low SES backgrounds:

[T]he average level of achievement of a kid from a low socioeconomic status [SES] background in a low SES school is roughly three years behind a high SES kid in a high SES school. For any given student, attending a low SES school versus a high SES school amounts to more than a year’s difference in academic performance. Clearly, where one goes to school in Australia matters … a lot (para. 6).

There are persistent and significant gaps of between three to four years in literacy and numeracy achievement between high SES students and those from equity groups such as low SES, Indigenous and remote students (Cobbold, 2017). The most recent PISA data indicates that very large proportions of students experiencing disadvantage are below international minimum academic standards (Thomson, DeBortoli & Underwood, 2016). For example, approximately one third of low SES students were below the reading, mathematics and science standards, and almost half of all Indigenous students were below the mathematics standard with about 40 per cent below the reading and science standard (Cobbold, 2017, p. 5).

Lamb et al. (2015) provide a sophisticated analysis of multiple developmental and academic indicators and the likelihood of children and young people from equity groups meeting key milestones. For example, Year 7 Indigenous students are 2.32 times more likely not to meet the ‘succeeding in the middle years milestone’ than non-Indigenous learners (61.6 per cent vs. 26.6 per cent). Another key milestone, Year 12 attainment, illustrates how students whose parents did not complete Year 12 are 3.72 times more likely not to meet the milestone than those with at least one parent with a university degree (49.5 per cent vs 13.3 per cent) (Lamb et al., 2015, p. v). Moreover, Year 12 attainment (Higher School Certificate or vocational Certificate III equivalent) is strongly influenced by location and SES. Year 12 attainment rates for students in regional areas are between 62-64 per cent, with students from remote locations at 43-56 per cent. Moreover, 61 per cent of students in the lowest SES decile attain the credential compared with 89 per cent in the highest decile (Lamb et al., 2015, p. 42). On Indigenous Year 12 completion, the Closing the Gap report indicates that:

[B]etween 2008 and 2014-15 rates of Year 12 or equivalent attainment for Indigenous 20 to 24 year-olds increased from 45.4 per cent to 61.5 per cent, while rates for non-Indigenous Australians of the same age did not change significantly [from 85.0 per cent to 86.4 per cent]. This has resulted in the gap in Year 12 or equivalent attainment rates narrowing by 14.7 percentage points [from 39.6 percentage points to 24.9 percentage points] over this period … Year 12 attainment among Aboriginal and Torres Strait Islander young people aged 20 to 24 years varied considerably by remoteness area in 2014-15, ranging from 69.4 per cent in inner regional areas to 41.7 per cent in remote and very remote areas (Australian Government, 2017, pp. 43-44).
The *Closing the Gap* report also states that Indigenous and non-Indigenous children with the same level of academic achievement at age 15 go on to complete Year 12 and higher education at the same rates (Australian Government, 2017, p. 43).

For young people, direct access to undergraduate university degrees is largely dependent upon their Australian Tertiary Admission Rank (ATAR). While the general complexities of university admissions systems in Australia have been documented (Australian Government, 2016), generally the higher the prestige of the degree, the higher the ATAR admission requirement with some variation between elite and second-tier universities. For example, depending on the institution, an ATAR for medicine would be between 90-99/100 with Law being similar. Lamb et al.’s (2015, pp. 44-45) analysis of Longitudinal Survey of Australian Youth (LSAY) data indicates that overall around 57 per cent of students gain an ATAR. Only 36 per cent of those from the lowest SES decile will gain an ATAR, increasing to 83 per cent for those in the top decile. The average for those in the lowest SES decile is 67/100 compared to 84/100 in the highest decile, making students from low SES backgrounds far less able to compete for places in higher status degrees (and this despite the implementation of popular ‘bonus point’ schemes in higher education to compensate for disadvantage). Approximately 44 per cent of those living in regional centres and 28 per cent of those from remote areas receive an ATAR. The average ranking for students in metropolitan areas was 77, with an average rank of 74 for those in non-metropolitan areas (Lamb et al., 2015, p. 45). A small but increasing percentage of Indigenous students who complete Year 12 gain a university place by way of an Australian Tertiary Admissions Rank (ATAR). In 2008, around 10 per cent of Year 12 Indigenous students were eligible for university through an ATAR compared to 46 per cent of their non-Indigenous peers (Wilks & Wilson, 2015). Aboriginal and Torres Strait Islander students are vastly underrepresented in Years 11 and 12 academic courses that are the path to an ATAR and gaining direct university entrance (Behrendt et. al., 2012). It should be noted that more recent statistics on Indigenous ATAR and its relationship to university entry could not be located for this report despite efforts to do so.

It is important to contextualise ATAR within the context of curriculum options available to school students. Students from low SES backgrounds were two and a half times more likely to undertake vocational education and training (VET) courses in high school than their high SES peers (Lamb et al., 2015, p. 46). The type of curriculum on offer (including extension subjects) and the VET courses students choose will affects their ability to attain an ATAR (University Admissions Centre, n.d). Gale (2012) suggests that “ATAR is more indicative of socioeconomic status than it is of a student’s academic potential” (p. 246). For many young people, transition to university is associated with how well they do academically at school culminating in an ATAR, which in turn is associated with individual and school-level SES. This influences distinct patterns of university entry: over two-thirds of young people from the highest SES quartile enter university by age 24 compared to one-quarter from the lowest SES quartile. Lamb et al. (2015) provides a detailed picture of this pattern:

Transition from Year 12 to university study is intrinsically linked to the level of senior secondary certificate achievement … The link with school achievement pushes further back down … to the middle years [where] … the lowest achievers had very little chance of enrolling in higher education, with only 15.3 per cent enrolling by age 24. The relationship is linear as we ascend SES until, in a mirror-image reflection of the lowest achievers, 77.5 per cent of the highest achievers transition to university by age 24 (p. 76).

Australian schooling exhibits a “stratification of learning opportunities” mediated through unequal access to academic curriculum, learning resources and experiences, and quality pedagogy built on high expectations (Lamb, Hogan & Johnson, 2001). Stratification of learning opportunities contributes to differential school attainment and achievement results. Educational policy is the key driver in addressing stratification and in dismantling a segregated schooling system:
[S]chooling that is segregated by SES is most likely to benefit students who are already educationally privileged, but harm students who find themselves at educational disadvantage, associated with low SES backgrounds. Rather than mitigating or mediating educational inequity, school segregation exacerbates it. For the equitable educational benefit of all students, therefore, schools with large concentrations of students with low SES backgrounds are disadvantageous to those students. Educational policies that work against the segregation of students and schools based on SES could be vigorously pursued on the simple basis that they are likely to achieve better and more equitable educational outcomes for all, rather than for an economically privileged few (Perry & McConney, 2010, p. 81).

2.3 The Journey Into and Through Prestigious Degrees for Non-Traditional Students

While there is a growing body of evidence exploring Australian school students' aspiration to higher education (Bowden & Doughney, 2010; James, 2001; Smith, 2011; Zipin et al., 2015), research specifically on student's perceptions of, and attitudes towards, high-status professions is limited but intriguing. Aspiration towards medicine, arguably the most prestigious career, has received some national and international attention. For example, Greenhalgh et al. (2004) found that UK school students from low SES groups viewed a medical career as the domain of 'posh' people and underestimated their chances of admission and of finishing the degree. Another study of academically able Greek students reported that school students from low SES backgrounds were more likely to choose teaching than medicine and that these students were most concerned about getting a job (Sianou-Kyrgiou & Tsiplakides, 2011). Research on the influence of SES and immigrant background on career choice indicates that there are several factors influencing an aspiration to medicine, including: the dispositions (habitus) of family and school; the support of friends; individual psychological resources; and past experiences as formative in developing aspiration (Robb et al., 2007). Some research has explored how high schools sometimes discouraged potential FiF students from going to university and aspiring to medical school (McHarg, Mattick & Knight, 2007). An Australian study of academically able high school students found that young people from low SES and FiF backgrounds generally thought that they were 'smart enough' to go to university and perhaps even to study medicine, but had been given almost no opportunities to do 'taster' work experience in the health industry (Southgate, Kelly and Symonds, 2015).

Some literature has documented the often difficult and protracted journeys of people from working-class, ethnic minority and Indigenous backgrounds into high-status professions and their associated degrees (Ashley and Empson, 2013; Ashley et al., 2015; Brosnan et al. 2016; Granfield, 1991; McDonald, 2014; Southgate et al., 2017). Again, the field of medicine has received particular attention. Griffin and Hu's (2015) analysis of application data to Australian medical schools found that people from low SES backgrounds were underrepresented and disadvantaged at selection by the use of high school matriculation grades (ATAR) and the cognitive ability tests used by medical schools to sort applicants, but not when they were interviewed as part of an admissions process. Furthermore, low SES female applicants were the most disadvantaged by cognitive ability testing at selection. In the Australian context, FiF medical students from Indigenous and non-Indigenous backgrounds, describe difficulties in navigating the complex admissions process of medical school, and reported a general lack of useful guidance on admissions from school career advisors (Southgate et al., 2017). Some also recount feelings of stigma during their time in medical school (Southgate, 2017). These students describe the great social and cultural distance they needed to ‘travel’ to fit as they entered the cultural milieu of university study and medical school, and suggest that an absence of health professionals within their social networks created an occasional hindrance to professional opportunities (Brosnan et al., 2016; Southgate et al., 2017). A Canadian qualitative study of working-class students found that some experienced problems fitting into the culture of medical school because they did not have the same tastes and hobbies as their wealthier peers and faculty (Beagan, 2005). Alternate entry schemes and enabling programs are identified as particularly important for Australian Indigenous
students (Lawson et al., 2007), however these appear to rarely extend to other equity groups seeking admission to Australian medical schools (Southgate et al. 2017).

There is some research on the efficacy of specific pipeline or summer school programs for medicine (Greenhalgh et al., 2006; Farrar, 2012, Wang et al., 2015), however much more research is required in the area of high-status professions generally, including understanding the degree to which such programs maximise competitiveness in university admissions. There is mixed evidence on whether postgraduate degrees rather than undergraduate entry for initial education in disciplines such as medicine or law effectively increase social diversity in high-status professions (James et al., 2008; Mathers et al., 2011). Some argue that the postgraduate route may be the best way to address equity concerns, however this position requires a more robust and definitive evidence base before its claims can be substantiated. Furthermore, the postgraduate route argument does not take into account the hardship endured by those from less privileged backgrounds when they are required to considerably extend their university study and delay their earning capacity and career progression.

While there is very little research on what happens to people from low SES and FiF backgrounds when they make their transition out of university and into high-status professions, three recent studies from the UK are particularly illuminating. The first study, the Sutton Trust’s Leading People 2016: The Educational Backgrounds of the UK Professional Elite (Kirby, 2016), found that the most prestigious professions “remain disproportionately populated by alumni of private schools and Oxbridge, despite these educating only a small minority of the population (estimates suggest about seven per cent attended private schools, less than one per cent Oxbridge)” (p. 2). The report illuminated the effects of social reproduction and the stratification of learning opportunities. For example, in medicine 61 per cent of ‘top doctors’, defined as those who have received a Fellowship of the Royal College of Physicians, were educated at independent schools, nearly one-quarter at grammar schools (22 per cent) and the remainder (16 per cent) comprehensive schools (p. 2). Moreover, 40 percent of ‘top doctors’ were educated at Oxbridge and 60 per cent at one of the top 30 universities in the UK (Kirby, 2016, p. 2). In law, 74 per cent of the top judiciary were educated at independent schools and the same proportion (74 per cent) graduated from Oxbridge (Kirby, 2016, p. 2). There is no similar mapping of the social composition of the professions in Australia. While, Australia has higher rates of social mobility than the UK and the US (Causa & Johansson, 2010), conducting longitudinal research on access to prestigious occupations in this country would hold a light to the role of education systems and the professions themselves in either sustaining or addressing inequity.

The second study, qualitative research on the non-educational entry barriers for elite legal and financial services firms, found that there is a strong tendency within these companies to recruit new entrants from a narrow range of elite universities whose student body primarily comprised those from high SES backgrounds (Ashley et al., 2015). The authors concluded that class-based ideas about talent underpin discriminatory practice at elite firms:

[E]lite firms define “talent” according to a number of factors such as drive, resilience, strong communication skills and above all confidence and ‘polish’, which participants in the research acknowledge can be mapped on to a middle-class status and socialisation (Ashley et al., 2015, p. 6).

The final study from the London School of Economics documented the disadvantage faced by working-class people, particularly working-class women, in high-status professions. Laurison and Friedman (2015) argue that research has generally conceptualised the social mobility ‘problem’ as one of access into occupations rather than examining the journey into and within the profession, taking account of objective markers such as earnings and occupational position. Utilising a large data set from the UK Labour Force Survey, they found that in professions such as medicine and law there were distinct patterns of ‘micro-class reproduction’: children with parents in these occupations were...
21.6 and 18.9 times respectively more common in the occupation than the population as a whole. Furthermore, there was a substantial earnings difference among those in the highest positions of elite occupations linked with social origin: the upwardly mobile earned far less per week than those who were from the same prestigious occupational group as their parents (the ’micro-stable’). Laurison and Friedman (2015) describe this phenomenon as the ‘class ceiling’, with women experiencing the double disadvantage of the glass and class ceiling. The authors recommend further research to ’untangle’ the reasons why this disadvantage persists, including qualitative research on how upwardly mobile individuals are evaluated within elite professions particularly in relation to their class-based embodied dispositions or habitus (Bourdieu, 1977). There are some recent studies on the graduate outcomes of equity in the Australian context (Koshy et al., 2016; Pitman et al., 2017), however this is an area that requires further research.

2.4 Concluding Remarks

In the Australian context, child poverty exists at alarming levels with indications that it is increasing (ACOSS & SPRC, 2016). Children living in poverty experience cumulative disadvantage that prevent them from meeting developmental and educational milestones (Lamb et al., 2015; Phillips et al., 2013). Educational inequality linked to SES, Indigeneity and regional and remote geographic location has been documented for many decades in the Australian context. Australian schooling has been described as a “high quality, low equity” system (McGaw, 2006) and it exhibits social segregation and stratification of learning opportunities (Lamb, Hogan & Johnson, 2001; Naylor & James, 2015; Perry & McConney, 2010). This impacts students’ learning opportunities, the curriculum available to them, and their academic achievement. Naylor and James (2015) sum up the situation:

[L]ow SES schools are less likely to be able to afford high achieving teachers or replace them in emergencies, sufficient teaching resources, sufficiently rich learning environments, less likely to have their students complete Year 12, and are less likely to provide access to the core academic curricula required for access to university (p. 7).

The over-reliance on an exceedingly high ATAR as an indicator of talent in admissions to high-status degrees, even when there are other criteria, acts as a key barrier for young people from equity groups. Through no fault of their own, these students are more likely to go to schools that have undergone residualisation and they are affected by limited learning opportunities and this impacts their ability to achieve an ATAR that will make them competitive in university admissions processes related to high-status degrees. In some cases, there are alternative entry or pipeline programs (for example to increase the number of Indigenous doctors [Lawson et al., 2007] or specially resourced and targeted rural doctors schemes [Wilkinson et al., 2003]) that acknowledge that there are quality candidates who may not be able to meet all the stringent admissions standards but who would make fine physicians. These programs are however relatively rare perhaps because they require a radically different mindset, adequate resourcing, and a will to implement systemic change. The postgraduate route to equity argument requires more evidence and does not take into account how extended university study and delay in career earnings can impacts on students from less privileged backgrounds.

The university experiences of those in elite degrees has received very little attention, despite some students feeling their distinct sociocultural difference and, in some cases, encountering stigma (Southgate, 2017). Similarly, there is a limited research that explores how people from equity groups make their way into the professions, post-graduation, and how disadvantage can persist in relation to earnings and elevation with the professions or being recognised as ‘the top of the top’. Research on the post-graduation social mobility journey, its potential class and glass ceilings, are more advanced in the UK (Kirby, 2016; Laurison & Friedman 2015, 2016) than in Australia, and this is an area that requires immediate attention from both researchers and the professions alike.
3. A Snapshot of Australian Equity Group Participation in High-Status Fields of Education

3.1 Background

As part of the Fellowship, 2015 domestic undergraduate and postgraduate enrolment data was obtained from the Australian Government Department of Education and Training (DET) for the following broad and narrow Field of Education (FoE) codes (Australian Bureau of Statistics, 2001):

02 Information Technology
03 Engineering
0401 Architecture and Urban Environment
0601 Medical Studies
061701 Physiotherapy
0909 Law

These FoE comprise the degrees that are the pathways into high-status professions. Data was provided for four equity groups (low SES, Indigenous, regional, and remote) and were categorised by enrolment in either elite or non-elite university type: either the Group of Eight (Go8) or ‘other’ university. The Go8 are a coalition of high-status, high ranking, and research-intensive universities. The other university category comprised all other higher education institutions which are arguably less elite and of lower status (see Koshy, 2016a, p. 2 for a list of Go8 and other higher education institutions in Australia).

It is important to situate any snapshot of FoE data, within the broader picture of equity group participation in Australian higher education. A summary of 2015 Australian higher education full year statistics indicated that:

- In 2015, there were 1,046,835 domestic undergraduate and postgraduate students enrolled in higher education institutions;
- The total number of low SES students increased by 3.2 per cent between 2014 and 2015 (from 165,517 to 170,854 students) with low SES students comprising 16.32 per cent of domestic undergraduate and postgraduate students enrolled in 2015; and
- Self-identified Aboriginal and Torres Strait Islander students comprised 1.1 per cent of all enrolments in 2015 (up 7.1 per cent from 2014 to 16,136 students). Increases in Indigenous student numbers were recorded across most broad FoE.

In terms of Australian domestic undergraduate student equity performance, Koshy (2016b) indicated that in 2015:

- Remote students accounted for 0.9 per cent of enrolments
- Regional students accounted for 18.8 per cent of enrolments
- Low SES students accounted for 18.2 per cent of enrolments.
- Indigenous students accounted for 1.6 per cent of enrolments.

For proportional representational parity, or equal share of enrolment to population, university data (Koshy, 2016b) would need to reflect the following:

- 2.4 per cent remote students
- 25.4 per cent regional students
In 2015, all equity group enrolments were significantly less than the equal share indicator. Moreover, Koshy (2016a) noted that Go8 universities were generally far less likely to enrol students from equity groups than other universities. For example, in 2015 Go8 universities had 11 per cent low SES enrolments while other (non-Go8) institutional groupings had between 17-30 per cent (with the Go8 exhibiting limited growth in their low SES share over the previous three years). Furthermore, the Go8 enrolled Indigenous students at around half the rate of the national average (Koshy, 2016a).

Bradley et al. (2008) indicate that students from low SES backgrounds tend to enrol in Humanities and Social Sciences degrees rather than Science, Medicine and Law. Gale and Parker (2013) highlight variation in FoE preference in university applications by SES. In 2012, low SES applicants were far more likely to apply for Nursing and Education degrees than those from high SES backgrounds, and were far less likely to apply to Medical Studies (at less than half the rate of high SES applicants) (Gale and Parker, 2013). However, low SES applicants were slightly more likely to be offered a place in a medical program than those from higher SES backgrounds. Low SES applicants were also less likely to apply to study Management and Commerce, Society and Culture, Creative Arts and Natural and Physical Sciences (Gale & Parker, 2013). In 2015, the main FoE in which Indigenous students were enrolled were: Society and Culture (5,318 students, or 33.0 per cent of all Indigenous students); followed by Health (3,167 students or 19.6 per cent); and Education (2,568 students or 15.9 per cent) (Department of Education and Training, n.d).

The findings on higher equity group participation in lower status degrees is born out in analysis conducted for this project. As a point of comparison to prestigious FoE (reported below), an analysis of participation rates for the lower status FoE Nursing (0603) and Education (07) codes was undertaken (see Appendix 2). The analysis revealed that FoEs Nursing and Education met or exceeded proportional representation parity or equal share in undergraduate degrees with the exception of the ‘remote’ equity group. The analysis also indicated that vast majority of places for these FoEs are in non-elite universities. These findings contrast with those for high-status FoEs presented below.

### 3.2 Descriptive Analysis of Equity Group Domestic Student Participation in High-Status FoEs

An analysis of the high-status FoE data indicted often very significant underrepresentation of students from equity groups. In some FoE, such as Medicine and Law, undergraduate and postgraduate entry programs are available for the initial degree. Some medical schools offer both options while others offer only postgraduate entry. Table 1 provides data on 2015 undergraduate and postgraduate domestic student enrolment by FoE and by university type.
Table 1: Domestic student enrolment by FoE

<table>
<thead>
<tr>
<th>Field of Education</th>
<th>Undergraduate</th>
<th>Postgraduate</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engineering and Related Technologies</td>
<td>56,674</td>
<td>11,186</td>
<td>68,028</td>
</tr>
<tr>
<td>Go8</td>
<td>16,700</td>
<td>5,462</td>
<td>22,168</td>
</tr>
<tr>
<td>Other</td>
<td>39,974</td>
<td>5,724</td>
<td>45,690</td>
</tr>
<tr>
<td>Information Technology</td>
<td>25,686</td>
<td>5,425</td>
<td>31,111</td>
</tr>
<tr>
<td>Go8</td>
<td>3,774</td>
<td>1,258</td>
<td>5,032</td>
</tr>
<tr>
<td>Other</td>
<td>21,912</td>
<td>4,167</td>
<td>26,085</td>
</tr>
<tr>
<td>Architecture and Urban Environment</td>
<td>12,696</td>
<td>4,311</td>
<td>17,019</td>
</tr>
<tr>
<td>Go8</td>
<td>2,812</td>
<td>1,386</td>
<td>4,210</td>
</tr>
<tr>
<td>Other</td>
<td>9,884</td>
<td>2,925</td>
<td>12,809</td>
</tr>
<tr>
<td>Information Technology</td>
<td>25,686</td>
<td>5,425</td>
<td>31,111</td>
</tr>
<tr>
<td>Go8</td>
<td>3,774</td>
<td>1,258</td>
<td>5,032</td>
</tr>
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</tr>
<tr>
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<td>12,696</td>
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<td>17,019</td>
</tr>
<tr>
<td>Go8</td>
<td>2,812</td>
<td>1,386</td>
<td>4,210</td>
</tr>
<tr>
<td>Other</td>
<td>9,884</td>
<td>2,925</td>
<td>12,809</td>
</tr>
</tbody>
</table>

Table 2 provides an overview of 2015 domestic student undergraduate and postgraduate (combined) enrolments by FoE and student equity group. In terms of sheer numbers, that other university grouping have many more students from equity groups in their high-status degrees, with the exception of Medical Studies. This is not surprising given that the other category has many more universities in it and therefore more places to offer than the Go8 and that students from remote and regional settings may prefer to attend a regional university rather than relocate to a metropolitan Go8 university.

Table 2: 2015 domestic student undergraduate and postgraduate (combined) equity group enrolment by FoE

<table>
<thead>
<tr>
<th>Field of Education</th>
<th>Remote</th>
<th>Regional</th>
<th>Low SES</th>
<th>Indigenous</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engineering and Related Technologies</td>
<td>588</td>
<td>10,109</td>
<td>10,910</td>
<td>410</td>
</tr>
<tr>
<td>Go8</td>
<td>149 (25.34%)</td>
<td>2,251 (22.27%)</td>
<td>2,511 (23.02%)</td>
<td>70 (17.07%)</td>
</tr>
<tr>
<td>Other</td>
<td>439 (74.66%)</td>
<td>7,858 (77.73%)</td>
<td>8,399 (76.98%)</td>
<td>340 (82.93%)</td>
</tr>
<tr>
<td>Information Technology</td>
<td>94</td>
<td>3,615</td>
<td>5,021</td>
<td>259</td>
</tr>
<tr>
<td>Go8</td>
<td>4 (4.26%)</td>
<td>329 (9.10%)</td>
<td>546 (10.87%)</td>
<td>19 (7.34%)</td>
</tr>
<tr>
<td>Other</td>
<td>89 (94.68%)</td>
<td>3,287 (90.93%)</td>
<td>4,475 (89.13%)</td>
<td>240 (92.66%)</td>
</tr>
<tr>
<td>Architecture and Urban Environment</td>
<td>72</td>
<td>1,902</td>
<td>1,789</td>
<td>118</td>
</tr>
<tr>
<td>Go8</td>
<td>19 (26.39%)</td>
<td>367 (19.30%)</td>
<td>395 (22.08%)</td>
<td>24 (20.34%)</td>
</tr>
<tr>
<td>Other</td>
<td>53 (73.61%)</td>
<td>1,536 (80.76%)</td>
<td>1,394 (77.92%)</td>
<td>94 (79.66%)</td>
</tr>
<tr>
<td>Law</td>
<td>260</td>
<td>5,402</td>
<td>5,252</td>
<td>585</td>
</tr>
<tr>
<td>Go8</td>
<td>44 (16.92%)</td>
<td>1,156 (21.40%)</td>
<td>965 (18.37%)</td>
<td>95 (16.24%)</td>
</tr>
<tr>
<td>Other</td>
<td>216 (83.08%)</td>
<td>4,245 (78.58%)</td>
<td>4,287 (81.63%)</td>
<td>400 (83.76%)</td>
</tr>
<tr>
<td>Medical Studies</td>
<td>166</td>
<td>2,904</td>
<td>1,871</td>
<td>20</td>
</tr>
<tr>
<td>Go8</td>
<td>63 (37.95%)</td>
<td>1,685 (58.02%)</td>
<td>1,046 (55.91%)</td>
<td>152 (47.50%)</td>
</tr>
<tr>
<td>Other</td>
<td>103 (62.05%)</td>
<td>1,219 (41.98%)</td>
<td>825 (44.09%)</td>
<td>168 (52.50%)</td>
</tr>
<tr>
<td>Physiotherapy</td>
<td>78</td>
<td>1,316</td>
<td>992</td>
<td>77</td>
</tr>
<tr>
<td>Go8</td>
<td>8 (10.26%)</td>
<td>219 (16.64%)</td>
<td>202 (20.36%)</td>
<td>33 (42.86%)</td>
</tr>
<tr>
<td>Other</td>
<td>70 (89.74%)</td>
<td>1,097 (83.36%)</td>
<td>790 (79.64%)</td>
<td>44 (57.14%)</td>
</tr>
</tbody>
</table>
Table 3 focuses on undergraduate equity group enrolments by FoE. In general, enrolment patterns are under the 2015 national average for equity group performance (Koshy, 2016a). Physiotherapy exceeds the national average for two equity groups (remote and regional) but not for low SES or Indigenous. Engineering and Related Technologies comes closest to the national average except for Indigenous. Information Technology is only close to the national average for low SES. Medical Studies is close to the national average for remote and regional groups and exceeds the national average for Indigenous, but is considerably under average for low SES. Law performs poorly against the national average for all equity groups, with Architecture and Urban Environment exhibiting the worst performance. Table 3 adds weight to Koshy’s (2016a) assertion that the vast majority of undergraduate equity group enrolments are in other universities and not the Go8. Importantly, in terms of *equal share* for equity groups, all FoEs are substantially under what would constitute representational parity.
Table 3: 2015 domestic undergraduate student enrolment in FoE by equity group

<table>
<thead>
<tr>
<th>FoE</th>
<th>Equity Group</th>
<th>% Enrolled in FoE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engineering and Related Technologies</td>
<td>Remote (451)</td>
<td>0.80</td>
</tr>
<tr>
<td></td>
<td>Regional (8,907)</td>
<td>15.72</td>
</tr>
<tr>
<td></td>
<td>Low SES (9,637)</td>
<td>17.00</td>
</tr>
<tr>
<td></td>
<td>Indigenous (370)</td>
<td>0.65</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Information Technology</td>
<td>Remote (77)</td>
<td>0.30</td>
</tr>
<tr>
<td></td>
<td>Regional (3,181)</td>
<td>12.38</td>
</tr>
<tr>
<td></td>
<td>Low SES (4,477)</td>
<td>17.43</td>
</tr>
<tr>
<td></td>
<td>Indigenous (234)</td>
<td>0.91</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Architecture and Urban Environment</td>
<td>Remote (0)</td>
<td>0.00</td>
</tr>
<tr>
<td></td>
<td>Regional (7)</td>
<td>0.06</td>
</tr>
<tr>
<td></td>
<td>Low SES *</td>
<td>*</td>
</tr>
<tr>
<td></td>
<td>Indigenous (0)</td>
<td>0.00</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Law</td>
<td>Remote (216)</td>
<td>0.53</td>
</tr>
<tr>
<td></td>
<td>Regional (4,033)</td>
<td>9.86</td>
</tr>
<tr>
<td></td>
<td>Low SES (3,936)</td>
<td>9.62</td>
</tr>
<tr>
<td></td>
<td>Indigenous (459)</td>
<td>1.12</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medical Studies</td>
<td>Remote (84)</td>
<td>0.76</td>
</tr>
<tr>
<td></td>
<td>Regional (1,768)</td>
<td>16.05</td>
</tr>
<tr>
<td></td>
<td>Low SES (1,132)</td>
<td>10.28</td>
</tr>
<tr>
<td></td>
<td>Indigenous (211)</td>
<td>1.92</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Physiotherapy</td>
<td>Remote (68)</td>
<td>1.34</td>
</tr>
<tr>
<td></td>
<td>Regional (1,086)</td>
<td>21.35</td>
</tr>
<tr>
<td></td>
<td>Low SES (808)</td>
<td>15.89</td>
</tr>
<tr>
<td></td>
<td>Indigenous (62)</td>
<td>1.22</td>
</tr>
</tbody>
</table>

*less than 5 students

Table 4 shows postgraduate equity group enrolments by FoE. It illustrates a pattern of low equity group participation in all postgraduate level degrees for these FoE. With a few exceptions, equity group enrolment in Medical Studies and Law (both of which have initial discipline degree entry at postgraduate level) are lower than undergraduate rates. In postgraduate Law there are almost equal enrolments for the remote and regional equity groups for Go8 and other universities, with other
universities more likely to enrol low SES students. In postgraduate Medical studies, Go8 enrolments exceed other universities in the low SES and regional group categories.

Table 4: 2015 domestic postgraduate student enrolment in FoE by equity group

<table>
<thead>
<tr>
<th>FoE</th>
<th>Equity Group</th>
<th>% Enrolled in FoE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engineering and Related Technologies</td>
<td>Remote (137)</td>
<td>1.22</td>
</tr>
<tr>
<td>(11186)</td>
<td>Go8</td>
<td>0.21</td>
</tr>
<tr>
<td></td>
<td>Other</td>
<td>1.02</td>
</tr>
<tr>
<td></td>
<td>Low SES (1,224)</td>
<td>10.94</td>
</tr>
<tr>
<td></td>
<td>Go8</td>
<td>3.01</td>
</tr>
<tr>
<td></td>
<td>Other</td>
<td>7.93</td>
</tr>
<tr>
<td></td>
<td>Indigenous (38)</td>
<td>0.34</td>
</tr>
<tr>
<td></td>
<td>Go8</td>
<td>0.05</td>
</tr>
<tr>
<td></td>
<td>Other</td>
<td>0.29</td>
</tr>
<tr>
<td>Information Technology</td>
<td>Remote (16)</td>
<td>0.29</td>
</tr>
<tr>
<td>(5425)</td>
<td>Go8</td>
<td>0.00</td>
</tr>
<tr>
<td></td>
<td>Other</td>
<td>0.29</td>
</tr>
<tr>
<td></td>
<td>Regional (431)</td>
<td>7.94</td>
</tr>
<tr>
<td></td>
<td>Go8</td>
<td>0.92</td>
</tr>
<tr>
<td></td>
<td>Other</td>
<td>7.02</td>
</tr>
<tr>
<td></td>
<td>Low SES (542)</td>
<td>9.99</td>
</tr>
<tr>
<td></td>
<td>Go8</td>
<td>1.42</td>
</tr>
<tr>
<td></td>
<td>Other</td>
<td>8.57</td>
</tr>
<tr>
<td></td>
<td>Indigenous (25)</td>
<td>0.46</td>
</tr>
<tr>
<td></td>
<td>Go8</td>
<td>0.04</td>
</tr>
<tr>
<td></td>
<td>Other</td>
<td>0.42</td>
</tr>
<tr>
<td>Architecture and Urban Environment</td>
<td>Remote (0)</td>
<td>0.00</td>
</tr>
<tr>
<td>(4311)</td>
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</tr>
<tr>
<td></td>
<td>Other</td>
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</tr>
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<td></td>
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</tr>
<tr>
<td></td>
<td>Go8</td>
<td>0.53</td>
</tr>
<tr>
<td></td>
<td>Other</td>
<td>*</td>
</tr>
<tr>
<td></td>
<td>Low SES (24)</td>
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</tr>
<tr>
<td></td>
<td>Go8</td>
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</tr>
<tr>
<td></td>
<td>Other</td>
<td>0.00</td>
</tr>
<tr>
<td></td>
<td>Indigenous *</td>
<td>*</td>
</tr>
<tr>
<td></td>
<td>Go8</td>
<td>*</td>
</tr>
<tr>
<td></td>
<td>Other</td>
<td>*</td>
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<td>Other</td>
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</tr>
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<td></td>
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<td></td>
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<td></td>
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<td></td>
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</tr>
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<td></td>
<td>Other</td>
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</tr>
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</tr>
<tr>
<td>(2121)</td>
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<td></td>
<td>Other</td>
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<td></td>
<td>Regional (250)</td>
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<tr>
<td></td>
<td>Go8</td>
<td>4.48</td>
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<tr>
<td></td>
<td>Other</td>
<td>7.31</td>
</tr>
<tr>
<td></td>
<td>Low SES (184)</td>
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<tr>
<td></td>
<td>Go8</td>
<td>3.44</td>
</tr>
<tr>
<td></td>
<td>Other</td>
<td>5.23</td>
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</tr>
<tr>
<td></td>
<td>Go8</td>
<td>0.38</td>
</tr>
<tr>
<td></td>
<td>Other</td>
<td>0.33</td>
</tr>
</tbody>
</table>

*less than 5 students
Table 5 shows students from equity groups as a proportion of the undergraduate FoE cohort in both Go8 and other university categories. With the exception of low SES and Indigenous in Physiotherapy, equity group students comprise a much higher proportion of the FoE student cohort in other universities than in the Go8. While undergraduate students from equity groups are a minority within high-status FoE, in the elite context of Go8 universities they are usually a very small minority indeed.

### Table 5: 2015 domestic undergraduate enrolment by equity group as a proportion of FoE cohort at Go8 and other universities

<table>
<thead>
<tr>
<th>FoE Enrolment by University Type</th>
<th>Equity Group</th>
<th>% of Go8 FoE cohort</th>
<th>% of other FoE cohort</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engineering and Related Technologies</td>
<td>Remote</td>
<td>0.52</td>
<td>0.91</td>
</tr>
<tr>
<td>Go8 (16,700)</td>
<td>Regional</td>
<td>8.28</td>
<td>18.82</td>
</tr>
<tr>
<td>Other (39,974)</td>
<td>Low SES</td>
<td>8.77</td>
<td>20.44</td>
</tr>
<tr>
<td>Indigenous</td>
<td>0.25</td>
<td>0.82</td>
<td></td>
</tr>
<tr>
<td>Information Technology</td>
<td>Remote</td>
<td>0.11</td>
<td>0.33</td>
</tr>
<tr>
<td>Go8 (3,774)</td>
<td>Regional</td>
<td>6.09</td>
<td>13.47</td>
</tr>
<tr>
<td>Other (21,912)</td>
<td>Low SES</td>
<td>9.96</td>
<td>18.72</td>
</tr>
<tr>
<td>Indigenous</td>
<td>0.37</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>Architecture and Urban Environment</td>
<td>Remote</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Go8 (2,812)</td>
<td>Regional</td>
<td>0.00</td>
<td>0.07</td>
</tr>
<tr>
<td>Other (9,884)</td>
<td>Low SES</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>Indigenous</td>
<td>0.00</td>
<td>0.00</td>
<td></td>
</tr>
<tr>
<td>Law</td>
<td>Remote</td>
<td>0.27</td>
<td>0.59</td>
</tr>
<tr>
<td>Go8 (7,759)</td>
<td>Regional</td>
<td>5.89</td>
<td>10.79</td>
</tr>
<tr>
<td>Other (33,144)</td>
<td>Low SES</td>
<td>4.87</td>
<td>10.73</td>
</tr>
<tr>
<td>Indigenous</td>
<td>0.46</td>
<td>1.28</td>
<td></td>
</tr>
<tr>
<td>Medical Studies</td>
<td>Remote</td>
<td>0.48</td>
<td>1.01</td>
</tr>
<tr>
<td>Go8 (5,048)</td>
<td>Regional</td>
<td>12.92</td>
<td>18.71</td>
</tr>
<tr>
<td>Other (5,966)</td>
<td>Low SES</td>
<td>7.57</td>
<td>12.57</td>
</tr>
<tr>
<td>Indigenous</td>
<td>0.85</td>
<td>2.82</td>
<td></td>
</tr>
<tr>
<td>Physiotherapy</td>
<td>Remote</td>
<td>0.61</td>
<td>1.26</td>
</tr>
<tr>
<td>Go8 (815)</td>
<td>Regional</td>
<td>15.21</td>
<td>18.87</td>
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<tr>
<td>Other (4,991)</td>
<td>Low SES</td>
<td>15.83</td>
<td>13.60</td>
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<tr>
<td>Indigenous</td>
<td>3.07</td>
<td>0.74</td>
<td></td>
</tr>
</tbody>
</table>

*less than 5 students

At a postgraduate level, Table 6 illustrates a more varied pattern of equity group cohort proportionality. The pattern of higher proportionality of students from equity groups in other universities holds for FoEs Engineering and Related Technologies and Information Technologies, with Law showing more equal proportionality between Go8 and Other universities. Medical Studies and Physiotherapy illustrate that the Go8 have higher proportions for regional and low SES groups, with Physiotherapy also having higher proportionality for Indigenous. Key questions that this data cannot provide answers to are: how many students in Law and Medical Studies are undertaking initial discipline degrees versus other postgraduate degrees (e.g. Masters and PhDs) and how does this affect equity group participation rates?
Table 6: 2015 domestic postgraduate enrolment by equity group as a proportion of FoE cohort at Go8 and other universities

<table>
<thead>
<tr>
<th>FoE Enrolment by University Type</th>
<th>Equity Group</th>
<th>% of Go8 FoE cohort</th>
<th>% of other FoE cohort</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engineering and Related Technologies</td>
<td>Remote</td>
<td>0.42</td>
<td>1.99</td>
</tr>
<tr>
<td></td>
<td>Regional</td>
<td>5.97</td>
<td>15.13</td>
</tr>
<tr>
<td></td>
<td>Low SES</td>
<td>6.17</td>
<td>15.50</td>
</tr>
<tr>
<td></td>
<td>Indigenous</td>
<td>0.11</td>
<td>0.56</td>
</tr>
<tr>
<td>Information Technology</td>
<td>Remote</td>
<td>0.00</td>
<td>0.38</td>
</tr>
<tr>
<td></td>
<td>Regional</td>
<td>3.97</td>
<td>9.14</td>
</tr>
<tr>
<td></td>
<td>Low SES</td>
<td>6.12</td>
<td>11.16</td>
</tr>
<tr>
<td></td>
<td>Indigenous</td>
<td>0.16</td>
<td>0.55</td>
</tr>
<tr>
<td>Architecture and Urban Environment</td>
<td>Remote</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td></td>
<td>Regional</td>
<td>1.66</td>
<td>*</td>
</tr>
<tr>
<td></td>
<td>Low SES</td>
<td>1.73</td>
<td>0.00</td>
</tr>
<tr>
<td></td>
<td>Indigenous</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>Law</td>
<td>Remote</td>
<td>0.23</td>
<td>0.24</td>
</tr>
<tr>
<td></td>
<td>Regional</td>
<td>7.19</td>
<td>7.69</td>
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<td>5.97</td>
<td>8.28</td>
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<td>Indigenous</td>
<td>0.56</td>
<td>0.81</td>
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<tr>
<td>Medical Studies</td>
<td>Remote</td>
<td>0.47</td>
<td>1.17</td>
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<td></td>
<td>Regional</td>
<td>12.80</td>
<td>8.35</td>
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<tr>
<td></td>
<td>Low SES</td>
<td>8.87</td>
<td>4.76</td>
</tr>
<tr>
<td></td>
<td>Indigenous</td>
<td>1.03</td>
<td>1.04</td>
</tr>
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<td>Physiotherapy</td>
<td>Remote</td>
<td>*</td>
<td>0.48</td>
</tr>
<tr>
<td></td>
<td>Regional</td>
<td>20.65</td>
<td>9.33</td>
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</tr>
<tr>
<td></td>
<td>Indigenous</td>
<td>1.74</td>
<td>0.42</td>
</tr>
</tbody>
</table>

*less than 5 students

3.3 Concluding Remarks

While only one year (2015) of national participation data was used in this analysis, it does paint a picture of low and in some cases non-existent equity group participation in high-status FoE. There are distinct differences across FoE and for different equity groups within them. For example, FoE Engineering and Related Technologies and Information Technology fare much better on low SES undergraduate participation than Law or Medical Studies, but the latter perform better for Indigenous (Medical Studies exceeds the national average for Indigenous participation). For all groups, Physiotherapy does best against current national equity performance, however no FoE meets the equal share (representational parity) indicators. Indeed against the equal share indicators, some FoE are doing very poorly; for example, Engineering and Related Technologies and Information Technology have very few Indigenous students, with Information Technology also performing poorly for those from remote backgrounds. Medical Studies and Law demonstrate poor participation of low SES students (in both undergraduate and postgraduate degrees), with Law also having low participation rates for those from regional backgrounds. Perhaps the most concerning picture is that from Architecture and Urban Environment which has very few students from any equity group at undergraduate or postgraduate level.

The analysis revealed that students from equity groups are in a minority in high-status FoE, and are in a very small minority in Go8 institutions and within their particular student cohort. While Go8 institutions have comparatively higher retention and success rates than other universities, they do target and attract high ATAR students, including those from equity groups. These equity group
students may be more like their higher SES peers in terms of academic preparation and their small number means that they can receive greater access to resources, if required, to ensure success at university (Gale & Parker, 2013). While there is some research on FiF and working-class student experience in elite degrees, very little is known about the social, professional and learning experiences of students from equity groups studying at an elite university and in an elite degree.

It is at the discretion of each university which students they accept into their degrees. This includes students from equity groups and the high-status degrees. The Australian higher education sector has broadly supported increasing the representation of students from equity group backgrounds, including the Go8 universities (Group of Eight, 2010, p. 9). This snapshot of participation indicates that students from equity groups are far more likely to be enrolled in a high-status degrees in less elite universities and that these students make up a remarkably small percentage of their FoE cohort in Go8 universities in particular. From an equity perspective, such patterns of unequal distribution require concerted attention.

To return to Gale’s (2012) assertion, for “equity to have real teeth, proportional representation … needs to apply across institution and course types [otherwise] it will be difficult to argue that the policy … has been successful” (p. 246). The equity group participation snapshot provided in this chapter suggests that it would be useful for the higher education sector to have FoE data freely and publicly available, particularly for those FoEs that continue to demonstrate poor equal share performance.
4. “Uni is more study. TAFE is just, I don’t know?” — A Case Study of Education and Career Aspiration in Regional Australia

4.1 Introduction

This chapter reports on findings from a case study drawn from the Aspirations Longitudinal Study, a mixed method research project that focused on the education and career aspirations of students in the middle and high school years. Case studies aim to provide an in-depth understanding of phenomena in their natural setting, recognising complexity within context (Punch & Oancea, 2014). This case study of the Longahart community (a pseudonym) was developed from qualitative focus group data collected from students and educators at two high schools in a regional area of Australia. It uses de-identified publicly available demographic data to ‘set the scene’. The purpose of the Longahart community case study was to provide a situated description of the aspirations of regional high school students to careers and post-secondary education, particularly university study and high-status degrees. In this chapter, pseudonyms have been used to protect the identities of participants, the schools, and the community, and only broad or aggregated demographic and economic data are presented.

4.2 The Longahart Community and its Schools

Longahart is a regional area with a population of approximately 30,000 people. It comprises mainly regional farming districts, a town and smaller villages, with waterways and ocean coastline. The Australian Standard Geographical Classification–Remoteness Areas (ASGC–RA) system classifies the Longahart area as inner and outer regional (Australian Bureau of Statistics, n.d.). Like many regional areas it has an aging population and a low median annual income: excluding pensions, the annual income is around AUD 10,000 less than the national average. It has a relatively small number of overseas-born residents but a sizeable Indigenous population. Major employers in the area include health and social services, agriculture, construction and tourism. Unemployment in the area is above state average with Indigenous unemployment well above this. The area has very high youth unemployment and a high percentage of jobless families. Only half the residents aged 15 and over hold a post-school education qualification. The percentage of university educated residents is half that of the national average.

The study was conducted in two government high schools in the Longahart area. The ethos of the schools focused on respect, fairness and caring about others. Both schools were considered to be in the highly disadvantaged category with over 60 per cent of students falling within the bottom socioeconomic status quartile, and with more than 20 per cent of students from Indigenous backgrounds. While school attendance rates had been steadily increasing they remain below the state average. The schools are lower on all standardised literacy and numeracy test scores compared to the state average, with modest growth in some areas over the last few years. There has also been a steady increase in Year 12 completion rates with most students undertaking vocational education as part of the Higher School Certificate. Upon leaving school after Year 12, around half of all students go on to seek employment with the remainder transitioning to vocational education and training (VET) or higher education in equal numbers.

4.3 The Study

Twenty-six student focus groups were conducted at two government high schools. Seventy-seven students from Years 7 to 11 participated: 20 were in Year 7 (12-13 years of age); 41 in Year 9 (14-16
years of age); and 16 in Year 11 (16-18 years of age). The majority of students came from one high school. Thirty-three female and 44 male students participated. Fourteen educators also took part in focus groups. Thirteen were from two high schools and one from a local feeder primary school. Most were qualified high school teachers, however the sample also included two learning support officers and three Aboriginal Education Officers (including one Elder who had a learning and cultural support role at a school). Five of the 14 educators were Indigenous.

Focus groups were conducted at the schools, were 40-60 minutes in duration and were digitally recorded. Discussion was guided by a schedule of questions focusing on the post-school education and career aspirations of students. The study received university and state education department ethics approval.

Digital recordings were transcribed and transcripts ‘cleaned’ of identifiers. All person, organisation and place names were replaced with pseudonyms. Inductive and deductive analyses (Creswell, 2013) of the data was undertaken in order to: (i) identify key themes for each group (students, educators); (ii) identify areas of thematic similarity and dissimilarity between students at different year levels (Years 7, 9, 11); and, (iii) deductively code based on key findings from the literature. The analysis presented in this chapter is primarily descriptive, with reference to the literature where it resonates with findings. The findings are reported according to the student or educator perspective.

4.4 The Student Perspective

4.4.1 Student Views on Living in Longahart and their Attitudes to School

When students were asked to describe their community, many highlighted positive aspects such as strong familial and social bonds, the natural beauty of the place, and the many recreational and sporting activities they enjoyed with friends and family:

Like you don’t need to be that worried because like town is like close and you have like a range of people that you can count on and you trust and everything. (Sally, Year 7)

The other day I was riding my bike on a path near where I live, the one I ride to work and back, and for the first time ever I saw an echidna in the wild … just walking along the side of the track, across the track and then off into the bush. (Cheryl, Year 7)

Well in the winter I play soccer, and in the summer I go to the beach and when I’m bored I just play PlayStation. (Graham, Year 9)

Some students had an ambivalent attitude to the Longahart community. Jonah, a Year 11 student, summed this up when he stated that it was “good and bad, but it’s a quiet place.” Other students, particularly those in Years 9 and 11, expressed concern about antisocial and criminal behaviour exemplified by the following exchange in a Year 9 focus group:

Sean: It doesn’t have the greatest reputation here.
Facilitator: Why hasn’t it got a good reputation?
Sean: Because old ladies are getting beat up and cars are getting stolen and stuff.
Tonya: The drugs and the alcohol abuse.

Some students rightly worried about youth unemployment while others described the important role that their part-time jobs played in their lives:
Honour: Yeah, most of us have jobs.
Facilitator: What do you do?
Honour: I’m a waitress, she’s a person — she works at a fish and chip shop.
Vera: I work in a café and then a job in [retail].
Facilitator: And how do you feel generally about having work in Year 9?
Honour: Oh, I like it actually.
Vera: It’s good.
Honour: It gives you like an excuse for not having plans on the weekend. It keeps you out of trouble. Like other kids may be doing bad stuff and going to parties all the time, whereas ‘Oh no, I can’t go to parties’, and working kind of keeps you out of all that stuff, so yeah, I like that, and it gives you money, so it’s pretty cool. (Year 9 focus group)

Students’ attitude towards school were mixed. Some students said there were “some boring days and some good days.” Others emphasised the learning, extracurricular and social opportunities their schools provided and the potential to form good relationships with teachers:

Facilitator: So what’s the school like?
Natasha: It’s great. I love this school.
Sally: It’s good, and it offers a lot, like going out to sport and like going away for excursions, like to the [city] art [gallery] and all that.
Natasha: It’s not like there’s only one thing to pick, there’s a range of things.
Sally: It’s not all compulsory.
Natasha: Yeah, you get to choose, and I think that all the kids have an opportunity if they want. (Year 7 focus group)

Ron: The best thing about this school is there’s so many kids, so you have so many friends and there’s lots of teachers, and because I’m Aboriginal, I think they come and talk to me a little bit more than other students. So I have a lot more relationships with the teachers than some other students. But yeah that’s cool … What could be better? Smaller classes could be better, like because they have 31 students to one teacher, so the student ratio would be … [T]hat would be better, but that’s probably a hard thing, but yeah. That would be better. (Year 11 student)

On occasion, students showed great pride in their school and the achievements of its former students. For example Donny, a Year 9 student, remarked:

[This school] gets put down a lot but we have had all these people that have come out — we had someone who came out and she is now one of the leading experts in scientific engineering and she came out of here. People say that not many particular things come out of [this school] but we have a guy that came out and he’s a doctor. He is one of [a few] people in the world that can do a certain type of surgery. So there’s lots of gifted and talented people come out of [this school].

4.4.2 Career Education and Work Experience

Year 7 students discussed attending a career expo in primary school but viewed career education as something that happened “once you get higher up” when they reached Year 9 and were required to choose elective subjects. Many could only think of tenuous links between what they were studying and a career path:

Facilitator: What other careers stuff do you do at school?
Cath: I don’t even think there is anything.
Honour: Textiles which could help you become a designer or something, but it doesn’t really give you much of a career … but it doesn’t really give you a large span of information on things
that you could do with it, and there’s not really anything else. Or they have marine studies which could help you become like a marine biologist or something.

Trudy: I think they get more into that kind of stuff when you’re like a senior. I don’t think they do it while you’re still a junior.

Honour: They have hospitality in Year 11 and 12 so you can become like a cook. (Year 9 focus group)

Year 9 students remarked on a general lack of formal career education. For example, one stated: “The only thing we get told in careers is, ‘If you want a job, go get a tax file number’ … That’s our careers.” Some students humorously commented that teachers advised against a teaching career but offered advice on post-school education and jobs. For example, Sean, a Year 9 student, described how a teacher had advised that he “should go for electrical engineering and take a gap year or two before [going to university] as apparently it’s really stressful.” Other students explained how a teacher provided encouragement and support:

Facilitator: So do you guys talk to any of your teachers?
Lochy: Yeah I spoke to a few of my teachers. I’ve spoken to my [language] teacher, my geography teacher and my animal care teacher. I’ve spoken to many of my teachers.

Facilitator: About what you want to do? What do they say to you?
Lochy: They just say “Look, you have the capability and you have all the needs, you just need to get that score and if you get that score, it’s yours.”

Facilitator: What score is that?
Lochy: For [a] vet it is like in the 90 range while a nurse I’m actually not so sure. I will have to look that one up.

Facilitator: What about you Ian? Have you talked to your teachers?
Ian: I have got one teacher that I have talked to and he gave me his number for my resume and he reckons that I would be pretty good at getting a job and stuff like that. (Year 9 focus group)

Opportunities to undertake ‘taster’ work experience were very limited. In Year 9, work experience was offered as a component of only one subject, which not all students undertook, and in the senior years of high school when it was integrated into the vocational education stream. These Year 11 students explained the situation:

Facilitator: Did anyone else have that kind of … work experience … How did it go?
Reece: I didn’t do work experience last year.

Facilitator: No work experience? Margot did you do it?
Margot: I didn’t do it.

Facilitator: Is it like a voluntary thing?
Reece: No it was just that subject, it was like an assignment for that subject.

Facilitator: So what subject is this again?
Yvonne: [X subject]

Facilitator: Oh okay, so do you guys get work experience at all in Year 11 and 12 at all?
Reece: If you do a VET subject you have to.

Some Year 11 students suggested that the formal career education they had received at school had come too late, causing them to worry about occupational decisions:

Louise: I reckon they should introduce you to careers earlier than Year 11 because like we really were only just told about — like, to start thinking about what we want to do in Year 11, because they try not to drill it into you in earlier years, but by the time you get to Year 11 you’re kind of like ‘Oh well.’
Aster: What do I want to do?
Louise: I’ve only got two years left and I’ve got to kind of — and then it’s all just pressure to figure out what you want to do, and they tell you not to stress about it, but of course you’re going to stress.

4.4.3 Career and Post-School Aspirations

Participants expressed a range of career aspirations from the very specific (for example, marine biologist, hairdresser, stockman, veterinary nurse, and dentist) to more ambiguously described occupations (working at NASA, scientist, in the army). Many, even in the senior years, were unsure of their immediate post-school destination (see Table 7).

Table 7: Students’ perceived immediate post-school destination

<table>
<thead>
<tr>
<th>Year at school (# of participants)</th>
<th>University</th>
<th>TAFE</th>
<th>Forces*</th>
<th>Work</th>
<th>Unsure</th>
</tr>
</thead>
<tbody>
<tr>
<td>7 (20)</td>
<td>7</td>
<td>1</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>9 (41)</td>
<td>12</td>
<td>6</td>
<td>7</td>
<td>0</td>
<td>12</td>
</tr>
<tr>
<td>11 (16)</td>
<td>4</td>
<td>6</td>
<td>1</td>
<td>0</td>
<td>5</td>
</tr>
</tbody>
</table>

*This includes the armed forces and the police force

The career choices of some students were influenced by popular culture, particularly television and films. These students were often unclear about exactly what was involved in realising their aspiration. For example, Year 7 student Cheryl, discussed her dream of becoming an anthropologist and the (mistaken) possibility of getting a “head start” on this by leaving school early:

Facilitator: [H]ave thought about doing when you’re older?
Cheryl: Anthropologist … Yeah, because I love watching all the gore in the movies and Bones is my favourite movie …
Facilitator: So how long have you wanted to be an anthropologist for?
Cheryl: Since I was in Year 4 …
Rhianna: I want to be a police officer because I see like these shows like FBI and all of that, and I like it, yeah.
Facilitator: How would you become an anthropologist?
Cheryl: I don’t know, like go to university, TAFE and all that, major things, yeah … I only talked to my mum about being an anthropologist, and that’s about it.
Facilitator: Yeah, and what does she say?
Cheryl: She said oh, you probably have to go through university and stuff like that. As long as you get a better job than me and your father have, that’ll be alright …
Facilitator: So if you were going to leave school here, when are you thinking of leaving?
Cheryl: Well I don’t really know. Like if I leave in Year 11 and get a head start … in anthropology, I think like around Year 11. Yeah, I will stay to Year 12 and complete high school if I can’t do that, so yeah.
Facilitator: What’s the head start thing you just mentioned, if you leave in Year 11?
Cheryl: If I leave in Year 11, like if I can leave in Year 11 and go straight to like the anthropology and stuff like that, like if I learn a bit more about it here, and I know a lot more, and if I can go there and answer like a lot of questions and stuff like that I’ll be alright like that. That’s my head start thing.
While Cheryl is only in Year 7, her incorrect assumption that leaving before completing a HSC could give her “head start” in goal of becoming an anthropologist, is indicative of many students misperceptions regarding career paths. Lana, a Year 7 student, showed immense interest in becoming a marine biologist stating: “I want to live on a houseboat and do marine biology and I want to have a dog on my boat … I’ve always wanted to study nudibranch [soft-bodied, marine molluscs].” Despite, always wanting to do it, Lana went on to explain that she did not know what is involved in pursuing this career.

Some students had thought about a number of jobs but seemed unclear about the post-school educational pathways related to these. For example, Victor who was in Year 9, originally wanted to be a veterinarian but had decided to be a security guard instead stating he would “probably go to university” to do this. Leo, another Year 9 student, described his aspiration to “work at NASA” because he wanted to “build rocket ships and stuff”. While Leo could not name the exact professions associated with building rocket ships he did state that he would “go to uni” and study physics and chemistry. He also explained he would be the first to go to university because his family had “done TAFE and stuff … and [his] brother drives a truck”. In contrast to Leo, another Year 9 student Donny, was quite well informed about what it took achieve his long-held aspirations of becoming a scientist and a university lecturer:

Donny: Since I was three I have always wanted to be a scientist and then just about a year ago I had to watch this video on YouTube for a science project. It was a lecture on chemistry and particle physics and I just saw what he did and I went, ‘That’s what I want to do.’ So I want to be a lecturer at a university [in] particle physics or chemistry or something like that. We did those in science and those were the ones that I got, I understood everything about it.  
Facilitator: What do you have to be to be a lecturer at uni?  
Donny: You have to get your Masters, you have to get like your Bachelor and you have to get your Doctorate. You also have to get your Dip Ed. So I haven’t really looked into it all that much just the basics I’ve been told.  
Facilitator: Have you talked to your parents about it? …  
Donny: They said it’s a good idea. I have a friend that came in and did this kind of thing ages ago … and he brought me up wanting to do that and in the conversation he talked about that and he told me about it. That all sounds good …  
Donny: I’ve always wanted to do it since I was three. I think I got it from Bill Nye the Science Guy on the TV … Bill Nye the Science Guy of Disney …  
Facilitator: So Donny, you got your interest in science off a telly show?  
Donny: I think so. That and my parents. I have I think an uncle … He works for [an engineering company] but he — so my uncle and my aunty. My uncle works for [an engineering company] and got 99.8 in his ATAR or something like that and he majored in statistics. Now my aunty has just got her PhD in [Health]. So I think I get it from there.

Unlike the budding rocket scientist Leo, Donny had a highly educated familial and social network to draw on in order to develop his pathway towards his career aspiration. Research attests to the benefits of having this type of social capital in realising educational and career goals (e.g. Aschbacher, Li & Roth, 2010; Dika & Singh, 2002; Lareau, 2001). Ron, an Indigenous Year 11 student who aspired to be a dentist, had actively sought to build his social and professional network by securing work experience at the local dentist:

Ron: Well I hope to be a dentist when I leave school. It all started when I went to [the dentist], I think. Dad was getting his teeth cleaned, it was a check-up thing, and the lady come and let me stand behind there and watch what was happening, and I really — I just fell in love with that straight away. Then from there on I went and saw the—I did work experience with the— because I did a [specific] Year 10 [subject], so I did work experience with Dentist for a week. I
did that from eight o’clock til four or something like that for four days. Yeah and at the end of
that they sort of paid me for it.
Facilitator: Which is even better?
Ron: Yeah, which they’re not entitled to do, but they did and [the dentist], he was the person
that I was working with, he said to me on my last day — he said, I’ve spoken to [another
dentist] and we’re really happy for you if you want to come back and work for us. So I went
and saw [the teacher] and got like a traineeship thing, like she said, and hopefully I can go off
to [the surgery] every Tuesday and get paid for it. Yeah.

Ron’s curiosity about dentistry was sparked by a fortuitous event: the ‘lady’ cleaning his dad’s teeth
let him watch the process. This coincided with his decision to take the only subject at the school
that included a work experience component, allowing him to experience first-hand what the work
of a dentist actually entailed, and it led to paid employment at the practice. Unlike Leo, who had no
immediate family with experience of higher education, Ron has a father who is “studying to be a fully
qualified teacher” and a supportive school friend who wanted be an orthodontist. Ron clearly identifies
his main support for his career aspirations as his friends who are “all really high achievers” and his
family: “[F]amily was pretty much there, because they’re with me to support me all the way through it.
They’ve said that they’re ready to push me to get there.”

4.4.4 Knowledge of, and Attitudes Towards Vocational and Higher Education

While a few students had good knowledge about vocational and higher education, and the differences
between these, others admitted to knowing very little about post-school education options. Year 7
students offered the following perspectives on university and vocational education, with university
described as ‘hard’, ‘stressful’ and ‘boring’ and occasionally as linked to a ‘better future’:

Facilitator: Do you see a difference between them [vocational and higher education]? 
Ralph: Well TAFE you can do it in high school, I’m pretty sure. You’re like doing Year 12 and
TAFE — I don’t know.
Aaron: University is like where you live.
Ralph: Yes, like college. It’s like a boarding school.
Facilitator: Okay. You were shaking your head Aaron. When I said if you saw a difference
between those things you were sort of …
Aaron: Because no one’s really explained it to me so I don’t know.
Facilitator: What’s it like to study at university?
Craig: Stressful sometimes.
Aaron: It’d feel like a big school excursion but boring.
[Laughter]

Facilitator: [W]hat do you think it’ll be like studying at TAFE or uni, Cheryl?
Cheryl: It’ll be hard I think.
Rhianna: Yeah.
Facilitator: Why is that?
Cheryl: Because of the way it sounds, like uni, and it’s like yeah that’s — it sounds hard.

Jill: I want to go to university.
Facilitator: Have you got one in mind … ?
Jill: No. I want to go to university but I don’t know what for.
Facilitator: [W]hy do you want to go there?
Jill: To learn more about it and to get a better understanding of what — to like get a better future.
Facilitator: What do you think it’s going to be like?
Jill: I don’t know, hard.
Year 9 students provided a range of responses to the differences between post-school education options. When asked about vocational and higher education, Howie stated: “Uni is more studying. TAFE is just, I don’t know?” Another student, Curren, was better informed about the pathway into his chosen career as a mechanic: “I’ve got to get an apprenticeship with TAFE doing my automotive course and then I’ve got to do my diesel mechanics course after that.”

Detailed descriptions of university ranged from accounts derived from the experiences of family members to those containing fantastical imagery:

Bonny: My cousin is doing engineering somewhere in X university. He’s always complaining about the group assignments that he has to do because his groups are always like writing the stuff out wrong or explaining something wrong, which is kind of funny.

Facilitator: Okay, so what do you think uni would be like?
Tonya: Stressful …
Bonny: Hard work.
Gail: First year’s pretty much just partying isn’t it or something? ...
Facilitator: What do you guys think of TAFE? ...
Gail: Lazy. It’s for people who don’t want to work as hard …
Tonya: Maybe they can’t afford university.

Facilitator: What do you think uni will be like?
Leo: Lot of lectures …
Andy: Lots of different girls.
Leo: Like talks and stuff, talks about the subject and stuff.
Facilitator: What do you think lectures look like? ...
Andy: Some old guy with like with a cane. Do this, do that …
Leo: [L]ike a guy down the front talking about it, and like writing stuff on the board.
Andy: That’d be annoying.
Leo: Doing experiments and stuff.
Andy: How do they even get—like apparently they have these massive boards—how do they even get it up there, do they have like ladders? ...
Facilitator: Is there any questions you want to ask? We’d be happy to give you an answer.
Andy: Is it hard?
Facilitator: It’s not as hard as people think it is, but you have to be self-motivated.
Andy: Any girls there?
Facilitator: It’s just all guys, 100 per cent guys. [Laughter] …
Leo: What’s the difference between like a PhD and a Master’s degree and Bachelor’s degree? [Facilitator explains difference between degree types]
Leo: PhD?
[Facilitator explains PhD]
Leo: Someone said you have to write a book.
[Facilitator explains PhD thesis]
Leo: So PhD is better than Masters? ...
Andy: Do you have a certain bed time?
Facilitator: Okay, well, no, because you’re an adult …
Andy: Do you get in trouble for annoying people? … What if another student’s pissing you off, can you just punch them in the head?
Facilitator: No, I don’t recommend that.
Leo: That’s illegal, like …

Like their Year 7 peers, Year 9 students described university as ‘hard’, ‘difficult’ and ‘stressful’, yet as also having social benefits (except for group assignments). In contrast, one participant described
TAFE as for 'lazy' people only to be challenged by another student who suggests that students might choose TAFE as a cheaper alternative to university. The conversation between Leo, Andy and the facilitator is particularly interesting as it both raises misconceptions about university and demonstrates Leo’s interest in academic credentials (Leo is the student who wanted to work at NASA and “build rocket ships” but whose parents left school in Year 9). For these students, university conjured up archaic (almost Hogwarts-esque) images of an “old guy” with “a cane” down the front of a class “doing experiments and stuff” and “massive boards” that might require a ladder to write on. This imagery is contrasted with the more mundane inquiry about having a “certain bed time”, a question probably related to living on campus. Despite Leo’s limited familial connections to higher education, he demonstrates considerable resourcefulness in using the focus group as a way of clarifying the difference between educational credentials. This is an example of ‘hot’ knowledge acquisition (the value of which will be discussed later in this chapter). In another exchange between Year 9 girls, university is associated with the disparate ideas of individual freedom, fun, expense, serious study, difficulty, high stakes assessment, and, worryingly, a lack of academic ‘help’:

Facilitator: So what do you think the difference is with uni and TAFE?
Valerie: Isn’t uni what you, you do more years and stuff or something.
Annalise: You get a better degree. Is that what it is? Yeah, it would be fun.
Valerie: And assignments that are like massive.
Facilitator: So what do you think studying at uni would be like then?
Edith: Hard.
Annalise: Yeah, difficult.
Valerie: A lot tougher than what it is now.
Edith: Yeah you don’t really have that help.
Anica: And you’re treated like a person instead of like a student.
Annalise: Yeah an adult, you get treated like an adult …
Facilitator: Have you sort of got any questions … ?
Edith: Well do you get homework?
Facilitator: Well it’s similar, you have assignments and you have a number of assignments that you have to complete for each …
Edith: What happens if you don’t hand them in?
Facilitator: You fail the course. So you have to …
Valerie: Yeah you don’t get detention or a second chance, you get boom, failed.
Annalise: Like can you just rock up in like your pyjamas to some lectures or do you have to wear …
Valerie: Like a suit or something.
Facilitator: You can wear whatever you like.
Valerie: So you can just wear whatever? Like you can rock up in your undies if you feel like?
Annalise: Nothing that revealing.
Edith: No probably not …
Valerie: You’d probably have to wear proper shoes and stuff …
Annalise: Is the cost expensive?
Anica: Yeah.
Valerie: What’s the cheapest course you can do? I’ll get into that one.

This spirited exchange exemplifies both the interest of Longahart’s young people in higher education and gaps in their knowledge about it (cf. Dalley-Trim & Alloway, 2010). Year 9 students wanted to know what it was like to go to university but often had few adults in their immediate family with experiences of higher education to call on (noting that the percentage of university educated residents in Longahart is half that of the national average). There is a growing literature on the value of ‘hot knowledge’ for post-school education and career decision making amongst young people from disadvantaged backgrounds (Greenbank, 2009; Smith, 2011; Southgate, Kelly & Symonds, 2015). Hot knowledge is
gained through experiential interaction within specific social contexts and networks. It is knowledge gained through doing (as in undertaking work experience) or by hearing about something through the ‘grapevine’ from someone you know or from someone like you (Ball & Vincent, 1998; Hutchings, 2003). In contrast, ‘cold knowledge’ involves more socially distant forms of information, for example, that found in pamphlets, prospectuses and on websites. Longahart students wanted to talk about university and vocational education. They not only shared what they knew but often asked insightful questions about VET and university during focus groups. They sought ‘hot knowledge’ from the facilitator. It has been argued that many working-class students consider ‘hot knowledge’ more reliable or trustworthy than ‘cold’ sources (Hutchings, 2003). Slack et al. (2014) suggests that more privileged students have a ‘hot knowledge’ grapevine that gives them better access to deeper, more relevant knowledge of higher education than their less advantaged peers. Certainly, those students with family members who had gone to university seemed more knowledgeable and had clearer ideas on what was required to pursue post-school education.

Post-school education and career choices are not just a matter of individual preference and interest. Rather, “choice” and “opportunity structures” are profoundly embedded in the conditions of people’s lives and the life histories of their families and communities, including the schools they attend (Ball et al., 2002). Year 9 is the stage in Australian schooling when students generally chose their subjects which formally set them on vocational or academic pathways. The “opportunity structures” for students in the Longahart area were determined by their choice of subjects which in turn provided them with access (or not) to self-organised work experience. The types of work experience that could be accessed were primarily determined by the personal and occupational connections of family members. Mostly, working-class students got working-class work experience. Teachers played a role in informal career counselling but family members and friends of the family were very important career advisers.

In some cases, but not all, students were fortunate enough to attend career expos and university outreach and taster programs. Ron, the Year 11 student who was pursuing his dream to become a dentist, describes the importance of family in directing and supporting career decisions while also expressing a common concern amongst students from lower SES backgrounds about the financial burden of university on the family:

*Facilitator:* Yeah what do you think about university?

*Ron:* Well I went to the X university camp in Year 7, and I’ve looked at it and went wow, this is huge. Compared to [school] it’s massive … Well because I’m one of five student, ah kids, mum and dad, they don’t know how much it’s going to cost for me to get into university and all that sort of stuff. They’re worried that they won’t be able to cover all of that, and so dad said … because I’m Aboriginal I can go through like scholarship or try and get something through that. Yeah but they’re worried about how they’re going to be able to pay for it. How would I go about that? … Yeah, so I’ll probably live off campus, because that’s a cheaper alternative. Yeah. All you’ve got to pay for is the petrol there and back, and your books and all that, so yeah.

The economic barriers to entering university for low-income students have been widely documented in research spanning several decades (e.g. Callender & Jackson, 2005; Lynch & O’Riordan, 1998; O’Shea et al., 2017). While a few students spoke of trying to attract scholarships to support study at university, Perry (2014) points out that any higher education scholarship or financial aid scheme requires careful planning and implementation, pointing out that in the US context most scholarships go to middle- and high-income students. Perry describes scholarships are a “fig leaf” that provide something for a few but do not improve access for all students from equity groups. Longahart students clearly expressed concerns about economic barriers to post-school study, adding their voice to an intergenerational chorus on this issue, one that politicians and policymakers within the higher education arena appear profoundly deaf to.
4.5 The Educator Perspective

4.5.1 Educator Views on the Longahart Community and the Schools

Most educators painted a very similar picture of the Longahart area as their students, although some thought that students did not like the area at all. Educators emphasised the natural beauty of the place, its regional economy and lifestyle but also its social issues:

I think the rural nature of it is rather lovely … There are a lot of farms in the area so if kids are interested in the agricultural pursuits this is a good place to be. It has all the schools, primary and high school. It has a [vocational education provider]. (Anni, Learning Support officer)

There’s a sense of belonging here and they [the students] know more of the community than … what I felt when I was growing up in Sydney. You know the people around you in the community a lot more. But I would say that the majority of students I’ve seen go through here think negatively about the area. Even though they sort of have a sense of belonging to it they feel negatively about it … They say it’s a hole and it’s all negatives about it. Boring and there’s nothing to do … But a lot of that is the grass is greener and they don’t see the opportunities that they do have here because they’re different and that’s what they’re used to. (Bobby, teacher)

You know, there are areas that are very — it’s pretty much like pepper and salt. You have white and black living together and a lot of social issues, probably what you’d find in a lot of other communities as well. Similar sort of social issues, all alcohol abuse and drugs and petty crime, sometimes major crime. It’s in this [area] and I’d imagine it’s in other [areas]. So that’s just a quick glimpse. (Stan, Aboriginal Elder and learning support officer)

When describing their schools, educators emphasised that although they were often ‘tough’ environments they were also professionally rewarding. Ali, a teacher, stated he worked in a “very honest, unsophisticated, straightforward working-class school.” He went on to describe a number of factors that fed into “low educational expectations” including parental experience of education, low family income that resulted in limited resources for learning, and a sense that a Year 12 qualification was not necessary to lead an “okay life”:

A lot of the parents I meet and parent-teacher nights, for example, there’s a significant number that didn’t finish school themselves and they’ve done alright. So there’s that sort of thing. I think some parents at home actually don’t know how to support the kids adequately in their education because 1) they can’t do the subjects themselves, and 2) because of the low economic basis. I’m still teaching kids without access to a computer, without access to an internet. So I think all those things combined that parents don’t understand. I don’t know what their incomes are but they don’t have a priority connecting to the internet or they think keeping the kids off the internet’s a great idea, whereas actually we now see it as a very fundamental tool to be doing well. So I think … the parents’ poor experience of school themselves, the fact that they didn’t finish Year 12 themselves yet have made an okay life for themselves, I think all of that accumulates with kids having low educational expectations and they don’t want to work hard … They [parents] don’t think they want their kids to be a pilot or a teacher or a nurse. That’s not how they think. They just want their kids to be happy and their aspirations for their kids quite often do not involve career paths.

Ali’s portrayal of his students’ family values towards education resonates with Lareau’s (2003) cultural logics of child-rearing which describes how working-class parents are guided by a logic of spontaneous natural growth. This contrasts with a middle-class logic of concerted cultivation which is premised on parents purposefully engaging their children in activities which lead to the types of
cognitive, social and cultural development valued by schools. The logic of working-class natural growth is echoed in other research. For example, university students from working-class and Indigenous backgrounds who are studying medicine speak about how their parents were mainly concerned about their happiness rather than the accrual of academic accomplishment, status or achieving high career aspiration (Southgate et al., 2017).

Scotty, who had been a teacher at his school for about a year, was concerned about the ‘low’ attendance rate stating, “kids aren’t engaged and therefore tending to drop off and drop out and we’re looking at how we can change that.” Bobby, who had taught at his school for over a decade, suggested that ‘tall poppy syndrome’ was part of the school culture:

There is definitely an element of tall poppy syndrome where people who do try and excel do get cut down for that. Rather than being encouraging for giving your best there is that negativity and so there’s an attitude across the school if you try too hard then you get hassled for that. So that’s a negative.

Ali probably best summed up educators’ assessment of attitude towards schooling in Longahart when he stated:

I think there’s a very significant number of kids who are affectionate towards the school and the teachers that they work with. There’s a significant number of kids who enjoy the coming to school, they’re not always enjoying the lessons but they enjoy the very significant social aspects of schooling.

4.5.2 Vocational and Academic Curriculum

Kenny, a school principal, described his student population as falling into three main groups:

We have students who achieve very highly and there are not enough of them and we need to do more to create a culture within the group of students who are high achievers that are going to get real high ATARs that are going to be — they’re going to enter the professions and do well. We need to create a subculture among those with that group of students because they tend to not be ignored but their needs to be met to a — there’s an appetite in us to be able to meet more of their needs … They’re not a large group and because they’re not a large group they’re harder to cater for often. Then there’s a group of other students who are at school, they’re engaged while they’re at school but they don’t have any great ambition and there’s not a great alignment necessarily between what they’re doing at school and what they’ll eventually do when they leave school or further training. In some cases, some of those students have already got traineeships through vocational education. They have a good future. So in the subjects which they don’t have that traineeship in … say in History … they don’t have a great ambition to get all that work covered and to get high marks in it … So there’s a group of students they’re engaged highly in some but disengaged in other subjects. Then there’s another smaller group of students who for various reasons are unengaged in almost anything and it is actually an extremely small group and particularly by the end of Year 10 those students if we haven’t been able to capture and engage them then they’ve left school and they’re not supposed to have left school but you can’t find them. So they’re into things, crime or just not achieving.

Teachers were well aware of low attendance at their schools and of the fate that often awaited school refusers, particularly in Longahart with its high rate of youth unemployment. They all described the strength of vocational education within their school with students having access to a variety of courses including hospitality, agriculture, mechanics, personal services and engineering. Schools had excellent partnership arrangements with the local vocational education provider so that students could attain
a Certificate II or III qualification in the senior years of school. Casey, a head teacher, described a change in the composition and aspirations of the student body over time due to the rising age of compulsory high school education:

[Over the last 20 years] I have found that the school has changed quite significantly … [T]he main difference I have seen is in the seniors [Years 11 and 12] … with more kids staying on … The school has had to try and adapt to that situation because our seniors are — when I first got here all basically stayed on, because most of them wanted to go to university. That was the real drive, now we have probably half of our kids or less, probably closer to about 40 per cent or less who really go to university. So the whole nature of the school in terms of seniors has changed significantly.

Emphasis on a vocational curriculum in schools had been strengthened by the ‘learning or earning’ policy requirement that young people must be in education and/or training until the age of 17 (with only those working around 25 hours a week exempt). Kenny’s description of the large ‘traineeship’ group of students was supported by school data which indicated that the majority of senior students in Longahart high schools were in a vocational stream and would leave school having attained a Certificate II qualification.

Lim and Karmel (2011), in their report exploring vocational equivalency in Year 12 qualifications, suggest that the concept of equivalency is a rhetorical device of government policy rather than a reflection of volume of learning, attributes and outcomes. They argue that vocational pathways should be deemed as an alternative rather than a literal equivalent to a Year 12 qualification and that a vocational equivalent would have to be at least at Certificate III and not Certificate II level. Chesters (2015) supports this stating that the value of low-level VET certificates is as a stepping stone into further study and that this “outweighs their value in the labour market” (p. 233). Lamb et al. (2015) use attainment of a Certificate III or Year 12 equivalent as a senior school milestone. Those who do not meet milestones are considered “insufficiently prepared to take on the challenges of the following stages of their lives” (Lamb et al., 2015, p. iii). Lamb et al. (2015) find that by age 19, around 26 per cent of young people have not met this milestone. While teachers in Longahart considered their vocational curriculum as a strength, school data suggests that upon leaving school most Longahart students in the VET stream did not meet the milestone specified by Lamb and colleagues, leaving them at risk in a very tight regional job market. This, coupled with Longahart students’ gaps in knowledge about vocational and higher education, highlights the need for schools to more deeply engage with the value of different types of credentials and the real world job opportunities associated with these. Kenny’s identification of the early school leavers (who can’t be found) are included in the group who will not meet the milestone. These ‘dropouts’ are at greatest risk of very poor life outcomes such as unemployment and long-term unemployment, poorer physical and mental health and, as Principal Kenny correctly identifies, criminal activity (Lamb & Markussen, 2010).

Only 56 per cent of students gain an Australian Tertiary Admission Rank (ATAR) that allows competitive access to university with poorer outcomes linked to student background (SES, Indigeneity and regionality having strong effects) (Lamb et al., 2015). More academically inclined students, those who will “enter the professions and do well” are in the minority at Longahart schools. The schools recognised that they find this group “harder to cater for” and that more needed to be done to meet their educational need. This was emphasised by Aboriginal education officers who discussed how difficult it was to adequately support all Aboriginal students, particularly those at the ‘middle’ and the ‘top’ of their class:

Yasmin: [Y]ou feel like you’re failing them in the school because there’s just—there’s too many of them and too many of them with—don’t have any competency or the literacy is so low and what not. It’s really hard. There’s not enough resources in the school to support and help them
... Try[ing] to cater ... for the amount of people that we have here it’s just not happening. They’re just slipping through the system.

Dyna: We always end up working with the kids who are really struggling. That’s just how it ends up to be. So the kids who are in the middle or at the top aren’t getting that extra support and push that they really need as well.

While research indicates that regional schools can create a powerful sense of wellbeing and belonging, their smaller size and relative geographic isolation from cities means that they are less likely to offer a comprehensive, academic range of curricula options and may have high staff turnover and expertise gaps in their teacher profile (Alloway et al., 2004; Lamb, 2010; Lyons et al. 2006; Sullivan, Perry & McConney, 2013). Cuervo (2014) highlights how “[d]istance and time are perennial themes faced daily by people in rural communities” (p. 550). School teacher, Ali, commented on how the geographic isolation of his school impacted upon student’s learning opportunities:

I certainly feel that one of the things in teaching kids in the school, particularly in the senior years, 10, 11 and 12, is the one of the things that we don’t want, is well, we are dealing with our isolation to tell you the truth. I think I’m very aware of the discrimination that occurs in terms of city schools versus country schools and the opportunity the kids have in the city both to meet professional people and catch up, and also to complement their own studies with things that they can do outside of school. I’m just aware for example [a city university] runs HSC coaching in various subjects at various weekends. Now those [city] kids can just go to that. My kids can’t go to that.

4.5.3 Post-School Destinations

Educators painted a varied picture of post-school education and career options. For example, some emphasised that most students would leave school looking for local work in a limited job market:

There isn’t I think a lot of options for kids if they stay [in Longahart] unless they want to go on the farm or work in the local retail type area. It doesn’t offer a great deal to inspire them I think in terms of the big, wide world that’s out there. Yes, I think sometimes a lot of these kids see the world in a very small way (Anni, teacher).

Ziggy, a primary school principal, painted a depressing picture of his students who were not just unsure about what type of career might interest them, but who envisaged their future as involving incarceration:

If you talk to the kids — I talk to the older boys a lot, just sort of come and talking to them about various things that are going on. They’ll often say that they want to get a job and have no idea what sort of job they want to get and they also say they’re probably going to go to jail or they know a bunch of people who have been to jail. It’s not unusual in any stretch. Pretty much every kid would have a direct relative who’s been incarcerated at some time.

Aboriginal education officers described various attitudes to post-school destinations amongst their senior Indigenous students ranging from those who “don’t even have a clue” about what they would like to do to others who were “motivated to go to university” and were supported by their families to get there:

Yasmin: Sometimes they just don’t — just don’t even know what they want to do when they leave school. Even the lot last year that completed Year 12, even some of the lot that we’ve got coming through this year, you’ve only got about one or two in that group know what they want to do. But the rest — and they’ve got no idea the rest of them. There’s even — when you talk to the ones in Year 11, they don’t even have any clue what they want to do. So they’re not
sort of thinking outside the square to see, “Okay, this is what I want to work towards. This is what I want to be and this is what I’ve got to do.” But when you talk to them about it they say, “Oh, I don’t know. I never thought about it” … [W]e had some kids move away, like, the ones that’s teaching and doing the …

_Dyna:_ Yeah, that are sort of motivated enough to go to university have sort of gone on and done well.

_Yasmin:_ Yeah. Yeah, they’ve gone on and doing journalism. Yeah … for nursing and whatever.

_Stan:_ But the big thing is that you had family support behind it.

Aboriginal Elder and educator, Stan, described the limited job prospects for Indigenous people in the towns of the Longahart region, sometimes related to the racist attitudes amongst employers, and how Aboriginal educators championed aspiration for post-school education, even if it meant moving away from the area:

But if you were to look at the townscape itself most of the businesses are—apart from the major chains—they’re private family type businesses. So our kids don’t really get a look in there. Like a lot of other towns you can walk the main street and you don’t see too many Aboriginal people at the shopfront if you like. So that’s the nature of things. It’s the way it is. You don’t have to accept it but when you start talking to kids about education being the key it’s like an old cliché, you know, they—I don’t know whether it switches them off or what but it—there’s so much truth to it that maybe they just don’t hear it, you know. But, you know, that’s just my observation over the years and that. But there’s a lot of good people in this town; good employers, both, you know, white employers who give our mob a go. But by and large I tell kids, like, if you have an aspiration you’ve got to be prepared to think about leaving this place. It’s not going anywhere … They’re not going to pick it up and move it. So if you have to go to [cities] to uni and whatever, or go to another area to do a TAFE program, Longahart will be still here. Get your qualifications. That gives you a good grounding, you know, for life.

Kenny, a high school principal, discussed the economic reality of regional economies and offered a radical re-visioning of curriculum and its relationship to the world of work. This included the need for schools to offer support for students as they transitioned into employment:

So I’m talking fundamental structural changes to the way in which we deliver schooling and education in ways that enable the student to interact much more closely with business and jobs and is a lot more seamless and where I suppose we exert our influence and care over students that doesn’t end when they finish at Year 12. But in fact nurtures them into some of those jobs perhaps even beyond Year 12. Now people would say well how long are you going to hold kids’ hands for? It’s not a matter of holding kids’ hands. It’s a matter of recognising that we live in a community that has some multiple disadvantage in it, that has high levels of youth unemployment and then if we’re going to really address that issue we can’t simply address education on its own. We have to get engaged and roll our sleeves up with the job market and look at how we can assist our graduates, kids that are in our school, to actually get sustainable jobs and there are only so many jobs in a country town.

While most focus group discussion on post-school destinations revolved around getting a job, the local economy and vocational education, some educators such as Stan, provided insight into the struggle for some students in making the decision to leave their family and friends, and in the case of some Indigenous students ‘Country’, to pursue tertiary education. The literature highlights that students from Indigenous backgrounds and from regional areas can have difficulty in relocating due to financial, social and cultural reasons (Barney, 2016; Dang et al., 2016). Bobby, a teacher, described how difficult it was for many of his former students, Indigenous and non-Indigenous, to discard their histories of “feeling disadvantaged” to persist and succeed at university study:
There’s an element of getting stuck, of that change from a transition from high school into wider life and from Longahart to wherever they want to be, where there’s more opportunity. It’s overwhelming for many. So they never are able to make that move. I’ve talked to quite a few ex-students who sort of have an element of regret in not being able to push themselves and do that or they go to Uni for three months, six months or a year and then drop out and end up coming back. They’re disappointed and I think part of that is that they’re feeling the sense of feeling disadvantaged by being here which exacerbates the problem of that disadvantage if you know what I mean? If you can overcome it and don’t see yourself as that [disadvantaged] then you can actually achieve a bit better.

Bobby is describing the ‘push/pull’ dynamic experienced by some students when they leave their family and community to pursue education: in this situation the costs and benefits of persisting with a university degree are by no means clear cut (Abbott-Chapman, 2011, p. 61). With around 60 per cent of families in the bottom socioeconomic quartile, there is no doubt that many Longahart students live in dire poverty. Disadvantage is, however, more than material deprivation. Certain types of disadvantage and marginalisation are associated with notions of deficit (Collins, 1988; Gorski, 2011) that can be incorporated into people’s sense of self. Feelings of deficit accumulate and manifest themselves in the “hidden injuries” (Sennett & Cobb, 1972) of never feeling good enough or smart enough to pursue opportunities, especially in the alien context of higher education. The struggle of students from working-class, first-in-family and Indigenous backgrounds to ‘fit’ into university culture (Lehmann, 2007, 2013, 2014; O’Shea et al., 2017; Reay, Crozier and Clayton, 2009) and especially into elite degrees (Granfield, 1991; Beagan, 2005; Southgate et al., 2017) continues to be explored. While the culture and systems of universities are part of the problem and the solution, Zipin et al. (2015) echo Bobby’s sentiment quoted above, when they suggest that people who experience cumulative disadvantage often embody a “dispositional sense of self-limiting possibility [that] abides as deeply internalized, estimations of probable futures” (p. 234). This is because aspiration is not just a personal dream or hope, but a “formative process [that] entails capacities of human agency to desire, imagine, articulate and pursue alternative futures” (Zipin et al., 2015, p. 230). Capacities are based on material practice and resources, lived authentic opportunity structures in people’s life histories, that allow them to explore, try out and take risks (or in colloquial Australian parlance ‘have a red hot go’) at finding out what they would like to get out of life (Bok, 2010). In Appadurai’s (2004) terms, aspirations are the capacities to act effectively in the world and people must be given opportunities to develop capacity through practice:

I am not saying that the poor cannot wish, want, need, plan, or aspire. But part of poverty is a diminishing of the circumstances in which these practices occur. If the map of aspirations … is seen to consist of dense combinations of nodes and pathways, relative poverty means a smaller number of aspirational nodes and a thinner weaker sense of the pathways … Where pathways do exist for the poor, they are likely to be more rigid, less supple, and less strategically valuable, not because of any cognitive deficit on the part of the poor but because the capacity to aspire, like any complex cultural capacity, thrives and survives on practice, repetition, exploration, conjecture and refutation. (emphasis added)(p. 69).

4.6 Concluding Remarks

There is persuasive argument that it should not be the role of education policy, or school or higher education systems, to uncritically promote normative aspirations or singular pathways to a “good life” (Gale & Parker, 2013; Slack, 2003; Walker, 2008; Zipin et al., 2015). As Roberts and Green (2013) suggest, it is not for the “interests of the disadvantaged [to be] decided for them and their needs determined by others” (p. 767). In a fairer world, students experiencing disadvantage would have greatly improved access to learning opportunities that allowed them to explore and make informed decisions about post-school education and career pathways (Walker, 2008). They would, through
practice, repetition, exploration, conjecture and refutation', develop finely-honed capacities to aspire for a future of their choosing. In a much fairer world, economic and educational opportunities would be more evenly distributed across geographic areas so that students from low SES and regional school communities would not have to choose between moving away from their families, community, and in the case of many Indigenous people, Country, to pursue their aspirations. Students would be provided with deep and sustained options to explore vocational and academic curriculum, and innovative hybrids of these, instead of being corralled into vocational or academic streams. Indeed, schools would not have to choose between specialising in either vocational or academic curriculum and educators would not feel overwhelmed by the sheer number of students 'struggling' to get through school each day. Educators would not have to make hard decisions about who has access to their precious time. They would not express their remorse about prioritising the strugglers or students in crisis instead of “the kids who are in the middle or at the top [who] aren’t getting that extra support and push that they really need as well” (also see Southgate, Kelly & Symonds [2015] on the limited capacity of career advisors to assist high achieving students in low SES schools). Principals like Kenny would not be left to grapple with what to do with the “small academic group” who are “harder to cater for”. And, in a more equitable world, there would certainly be far fewer students “slipping through the system” never to be found. In this study, educators were more likely than students to provide narratives which contrasted despair with hope. Some even articulated hopeful reconceptualisation of how the world of work might be integrated into schooling. Others provided a more sombre picture, like the principal who talked about his primary school boys seeing a future that inevitably involved incarceration.

The emphasis on vocational education in Longahart schools raised questions about the value of the credentials students were attaining in senior school. Most students completed Year 12 with a VET Certificate II qualification, which is certainly better than leaving school and becoming unemployed, yet research indicates that a Certificate III is required to sufficiently prepare students to meet the employment challenges of young adulthood particularly in very tight job markets (Lamb et al., 2015, p. iii). Certainly, some students would go directly into post-school VET and attain a Certificate III, but a lack of post-school destination tracking makes this difficult to know with certainty. There was very little talk amongst Longahart educators regarding VET as a pathway to higher education or university enabling programs. Students do need to know about these options, even if they are taken up in a more distant future. Aboriginal educators in particular shone a light on how long histories of racism in small towns affected employment opportunities for their youth and were concerned about the lack of resources required to assist many Indigenous students with their literacy and numeracy needs.

The case study highlighted the motivation, enthusiasm and most of all, curiosity, of Longahart students about post-school education and the world of work. Students generally described their communities and their schools in affectionate terms, even as they perceptively identified local social and economic issues. Most were grateful for the opportunities that their schools gave them and few expressed what Farrugia and colleagues (2014) call the “frustrations of isolation” of regional youth (p. 1,164). Some students demonstrated a hunger for information about careers and post-school study. Year 9 student Leo, who would be the first-in-family to go university, voiced a passionate aspiration to “work at NASA” but had very limited knowledge of the types of professions that were involved in aspects of space exploration or what university study generally entailed. Leo did, however, cleverly use the focus group as an opportunity to find out what the difference was between a degree credentials. Others, like Lana, demonstrated significant interest in careers: she wanted to be a marine biologist and was conversant in scientific language about her favourite species but admitted she did not know what is involved in pursuing this career. Some like Cheryl held misconceptions about what actual career paths involved: she wanted to be an anthropologist and thought she would “get a head start” on this by leaving in Year 11 without completing high school and gaining the ATAR required make her competitive for a place in a degree. Abbott-Chapman and Kilpatrick (2001) observed that for many regional, low SES students “deciding which way to go [is] a bit of a lottery” (p. 44). Serendipity certainly played a key part in Year
11 student Ron’s decision to be a dentist. He accidentally became interested in this career after a kind ‘lady’ allowed him to watch his father’s teeth being cleaned. An equitable education system is not one that is based on chance encounters with people who can provide ‘hot knowledge’ of careers or post-school education options. Rather, a fairer education system would work to harness the intelligence, motivation and curiosity of students like these and engage them in developing the type of wide-ranging and inspirational career education and work experience opportunities they deserve.

Career education, its delivery and relationship to curriculum, remains a highly problematic area in Australian schooling. That students in a Longahart school only had access to work experience if they undertook a specific subject, in a specific year of study or if they were in a vocational stream, is indicative of the ambivalent and often marginal place of career education in schools. Unfortunately, the call to address the parlous state of career education remains unheeded. More than a decade ago, Walker et al. (2006) recommended a review of models of career education delivery that went beyond one determined by individual career advisors in different schools. Similarly, Patton and Creed (2007) argued that there was a pressing need in Australia for comprehensive career education and “not the just-in-time ad-hoc approaches so often included in many schools” (p. 22).

All students, regardless of their geographic location, the type school they attended or their curriculum pathway and subject choice, should be given genuine opportunities to explore the world of work, including access to work experience placements even when occupations are ‘socially distant’ from their immediate familial and community context. The Longahart case study highlights an enduring problem with career education in the Australian school — working-class students get working-class work experience (Southgate, Kelly, Symonds, 2015; Waller et al., 2014). It is unjust that working-class students and their families are required to organise placements themselves, especially when families do not have the social capital to deploy if their child wants undertake work experience in the professions. To continue this common practice is to knowingly preserve inequality. Low-income school communities need support in developing sustainable connections to employers of all kinds so that they can offer the type of work experience placements that will benefit and excite students. To borrow a phrase from Kinnane et al. (2014), it is too often the case that “You can’t be what you can’t see”. Authentic career education, incorporating work experience, which is meaningfully integrated into the broader curriculum and connected to discipline knowledge is vital if young people, like those in the Longahart are to develop the capacity to both make informed career choices and increase their likelihood of achieving aspirations. In regional and other communities, where social and geographic distance and cost make it difficult for students to engage in authentic work experience, emerging technologies may provide one solution (see Southgate, Smith & Cheers, 2016). Nevertheless, the Longahart case study highlights the need to rethink and revitalise career education—to bring it back in from the curriculum margins—so that it can play a pivotal role in addressing inequity rather than perpetuating it.
5. Views from the National Consultation

If you have never been exposed to anyone who has ever been in any of these professions. Why would you even think it’s possible? [Participant 4]

5.1 Aim and Methodology

The aim of the national consultation was to garner the collective wisdom of experts in the field of higher education and the professions in order to highlight key areas for attention to increase access to high-status professions for those experiencing disadvantage and marginalisation. The consultation consisted of semi-structured interviews conducted with 24 experts in higher education and one from the community sector. A concerted effort was made to involve representatives from state and national peak professional associations, however no response was forthcoming. Similarly, attempts were made to engage engineering academics but only one volunteered to participate. There were 25 participants from 11 different universities: 13 from Go8 universities; 11 from other (non-Go8) universities; and one from the community sector. Table 8 provides an overview of the sample. Interestingly, 20 of the 25 participants were first-in-family to attend university. Interviews lasted between 45-90 minutes and were guided by a schedule of questions and prompts (see Appendix 3). Interviews were audio-recorded and transcribed. Interview data were thematised and, where relevant, triangulated (Creswell, 2015) with other data collected as part of the Fellowship. The consultation was approved by the institutional ethics committee.

Table 8: National consultation participant characteristics

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<tr>
<th>Participant Number</th>
<th>State</th>
<th>Area of Expertise and Role</th>
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<tr>
<td>1</td>
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<tr>
<td>2</td>
<td>VIC</td>
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<td>3</td>
<td>VIC</td>
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<td>7</td>
<td>WA</td>
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<td>Medicine academic</td>
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1 This chapter has been co-authored with Jarrad Cox.
5.2 Key Themes

5.2.1 Post-School Destinations

A major point of discussion that arose across participant interviews was the role schooling played as a barrier or enabler to accessing high-status degrees for young people experiencing disadvantage. While the importance of literacy and numeracy skills was emphasised, this was also contextualised within a pedagogical approach based on an authentic, negotiated curriculum and deep sustained learning opportunities (Noguera, Darling-Hammond & Friedlaender, 2015). For example, Participant 1 described a problem-based learning approach she had used in low-income schools to effectively engage young people in deep learning:

[We worked with] kids who had failed the Year 9 benchmarks in NAPLAN … and they all had poor levels of literacy so you know about grade four, five … Really disengaged kids and rural as well as metro and we worked with the teachers on building a strong curriculum which was diverse and negotiated … with kids to build their strong capacities. Their capacity to think because their literacy comes with it … if you on work on stuff that they’re engaged in and what we found was in one term of doing a longer … project … was their literacy went up four to five years in one term their numeracy often higher.

This participant went on to explain that the problem with the school curriculum was a fundamental disconnect between the teaching of discipline knowledge and links to real world practice and problem-solving:

[O]ur issues in schools to me is the disconnect of disciplinary knowledges from doing and so schools become places of abstraction taking away from the data, the lived data, alright and that means … you’ve actually got to bring the abstract and the practical together. [Participant 1]

Participants were concerned that deficit views of students experiencing disadvantage and marginalisation persisted in schooling systems and that this had significant impacts on the way learners viewed themselves:

The curriculum hasn’t really changed in a way that works for those [working-class, regional and Indigenous] kids, and the experience of being humiliated by their so-called deficits hasn’t stopped. [Participant 10]

Interestingly, this observation resonates with the teacher in the Longahart case study who described how many of his former students who were academically inclined found it difficult to overcome personal feelings of deficit stemming from their socioeconomic/sociocultural disadvantage and that this this was a factor in their inability to succeed in tertiary education.

Participants explicitly referenced the achievement gap between students from more advantaged and less advantaged backgrounds as a key blocker in access to university, including high-status degrees. This reflects the findings on the achievement gap in Australian schooling discussed in Chapter 2 of this report. Participants also commented that schools needed to supply better guidance of what subjects to take in the junior years of high school if students were to optimise their chances of being offered a place in a high-status degree:

I mean the really major barrier, just obviously, is the schools that kids go to, at any educational levels that, however good they are, it’s going to be very hard for them to get the kind of HSC resource which are not just [about] ticking the box, but … that [are preparing them] for starting to study at university level. [Participant 20]
The whole problem is there is something wrong with senior education. Indigenous students can’t get the same grades and that is why they can’t succeed. [Participant 24]

The problem with the HSC and the ATAR are that they’re such artificial hot houses of coached study that true ability — it’s hard to see. So, there are some people who get high ATARs which shouldn’t and there are some people who get low ATARs which should get higher ones. [Participant 8]

For the high profession courses, it’s a big thing because they all have maths as a prerequisite, a lot of them have chemistry, and those are not the subjects the students are doing. And they’re not getting the advice back in Year 9 and 10, but that’s what they should be doing. [Participant 12]

One participant specifically detailed how many students from refugee background had been deterred from pursuing university study during their school years:

They’re being told that they can’t go to university, they can’t go further, their English isn’t good enough, their grades aren’t good enough. So a lot of students are being told that they can’t.” [Participant 14]

Participants noted that students from regional and remote areas were often in schools where there was high teacher turn-over, crippling teacher workload and limited resources, which all impacted on the ability of educators to meet the learning needs of students, foster career aspirations and envisage their students in high-status professions:

[In some regional schools] they have staff turnover that is often 50 per cent per annum they have so that you don’t build up the cohesion and you don’t get a sense of a school that knows you as an individual. [Participant 1]

And I guess teachers are under-resourced and limited with time and these students require more time, more one-on-one time, and the teachers just can’t give it. Even if they want to, they just simply don’t have the time to keep up with everything. [Participant 14]

Rurally the philosophy was you’re in a rural school, so you’re not bright enough, you won’t go on to tertiary studies, let alone Medicine or Dentistry. [Participant 7]

5.2.2 Career Education at School

Many of the participants worked directly with schools delivering outreach programs, conducting research and in an advisory capacity. Some were key contacts for teachers and career advisors who had gaps in their knowledge about the industries that students were interested in:

I often would find teachers that were in those roles weren’t necessarily career coaches and didn’t really understand different industries, so they would often ring us and say this student wants to do this and we don’t know where to send them. [Participant 14]

Many commented on the lack of resources available for low SES, regional, and remote school communities and provided examples of how important the school was in delivering careers and options for these students. The following quote unpacks some of the complexity around disadvantage and career education from the viewpoint of individual students changing their mindset to explore options, to the importance of career advisors and concerns about university attrition stemming from students who did not know “what they were letting themselves in for”: 
It's more doing your homework … [W]ith the students I always use the analogy, and I was in all-girls school the other week, and we were talking about buying some clothes. How do they buy a t-shirt? What's the process [you] go through? And they talk about going and trying them on and doing this and that … So they all know that they will do that process for a $10 t-shirt … So [then I say] ‘Ok what effort are you gonna put in for something that's: a) the rest of your life; b) you could be doing this for 40 years; c) gonna cost you X amount of money? Would you put some effort into it?’ Just trying to get them to understand that … it’s not like just going into a shop and there’s a menu and you know. You shop around and you gonna shop around a bit and have a look and the more effort they put into [it] the more informed they will be [and] the less likely they are gonna be to drop out [of study]. I think from a university's point of view that attrition rate is one of the biggest things at the minute that they’re all sort of looking at and a lot of that comes down to because people didn’t make good decisions upfront about why they were going and didn’t know what they were letting themselves in for. So it is about that. Now if they as kids don’t have somebody they can talk to then school … becomes the most important place. So for our low SES schools, the school is their fountain of knowledge on this because they haven’t got it at home. Whereas for other schools it’s you know the [higher SES] school has got two or three careers teachers actually has a lesser job to do because they’ve got the parents who are doing that [providing career advice] for them. Whereas the [low SES] school with 0.5 or 0.2 of a careers teacher have a bigger work load to do and that’s were these issues sort of arise in there. So that’s where I think the disadvantage comes in. [Participant 3]

Participants identified a key element of effective career education as having direct access to ‘hot knowledge’ from role models working within the professions. This was seen as particularly important for regional and remote students:

They [regional and remote students] don’t have access to people in different fields. Also that they don’t and I was speaking to a teacher the other day who was saying that because they don’t have people who are actually in these different fields that they might not be aware of them and they don’t have anyone they can talk to or anyone that can role model. So being able to see people do something that they have an interest in … is really important. [Participant 23]

5.2.3 The Importance of University-School Partnerships

Participants all saw value in school-university partnerships that reached into the early years of high school. Part of the value was seen in raising aspiration and providing students and their families with the know-how to work towards university, and in some cases, high-status degrees:

Now the problem, if you look at our applicant success rate isn’t any discrimination against students from low SES backgrounds; it is that relatively lower numbers of them apply [to medicine]. So, you know, to address that we need to go to the sort of work we have been doing around raising expectations way back at Year 7, 8, 9 as to yeah, ‘I could do this’, not to just say ‘Well nobody I know has ever done this, so there is no way I could possibly do this.’ Also, ‘How do I get to that point,’ I think that is the other thing, ‘If I want to become a doctor, what do I need to do to get to that point?’ To do that you’re really talking about a long-term investment in school outreach. [Participant 25]

The consultation indicated that a variety of programs were currently being implemented by universities such as visit days, ‘taster programs’, e-mentoring, summer and winter schools:

We run Skype lessons with students in both rural/remote and low SES areas primarily to connect them with academics or PhD students or experts in the field, to share their experience
so that it can create aspiration or just to open their eyes to something they may not have heard of before and make them think about their future and the direction they might be looking to go in. [Participant 23]

There was a couple of programs designed to give high school students the opportunity to engage with high-status professions, particularly in health. These program gave students a direct experience of workplaces in a safe and structured manner. Students in these programs had direct access to ‘hot knowledge’ with a primary aim being to demystify professionals so that “they’d feel like normal people” to students. These types of programs paid careful pedagogical attention to the authenticity of learning:

So any workshops was not just like an activity. It was very much, ‘Ok, you’re a paramedic now how are you going to approach dealing with this … accident? … You’re an analytical scientist, you’re an engineer, how are you going to [do this]? These are the steps that a professional would actually go through you know.’ So showing a kid that a paramedic just gets a code number and [what] they’re gonna have to react to. What they feel like when they have to go into a house they have no idea what they [are going to see]. So informing the kids so they’re actually much more aware of what they’re gonna do and then sort of inspiring them to go off. [Participant 3]

Most often discipline-specific outreach programs used university students as their main conduit to schools and these were usually in regional areas:

We have developed some school outreach programs: a rural clinical school has been more proactive in establishing a relationship with the medical students from the local schools and their communities. Not so much of that was in the city here, but it is something that is on the agenda at the moment. [Participant 25]

Some participants thought that the ideal solution would be the formalisation of school-university-professions partnerships that harnessed the knowledge and skills of people in the professions who were from the same backgrounds as students:

The better solution is to mobilise people who come from the less advantaged backgrounds and who will understand these things and can work with the kids that come from those backgrounds. [Participant 10]

There is increasing interest in developing more seamless partnerships between schools and industry (Australian Industry Group, 2017), however much more work is required in this area, particularly in high-status occupations.

5.2.4 Medical School Admission Processes

Admission into high-status degrees can often be far more complex than gaining the required ATAR. Places in high-status degrees are highly competitive and some degrees such as medicine have multiple processes (or hurdles) that require both money and careful sequencing over time. For example, a student applying for undergraduate medicine needs to sit the Undergraduate Medicine and Health Sciences Admissions Test (UMAT) which is held once a year (mid-year) and must pay a fee of $250 or $150 for concession holders, with a late fee of $65. For high school students this is before they sit their Higher School Certificate examinations. They must also travel to a test centre in a specified city or town. Only if very high scores are achieved for both UMAT and ATAR, are students then invited to take part in an interview or multiple-mini interview processes (most medical schools have variations on these). Students must travel, sometimes inter-state, to participate in the interview at their own cost. The discriminatory effects of these processes and validity in predicting student
performance beyond the first year of study is documented (Griffin & Hu, 2015; Lynagh et al., 2017). One participant provided insight into this:

I mean if you look at medicine, they have the three stages to get through that it’s not good enough just to get the ATAR. They’ve got to do the UMAT, and they’ve got to do the interview. And if you talk to some of our schools, the interview is a huge hurdle because the skills needed in the interview are far more likely to be gained by those who already have social mobility than those that don’t. [Participant 17]

Some participants provided detailed reflections on the complex nature of levelling the admissions playing field, particularly in medicine:

[T]he whole supply and demand ATAR system, that we’ve got here now. And so, to get into those high professions, you’ve got the high ATAR, but how should it be adjusted for the inherently unequal nature of schooling in Australia, and should we be having quotas, or should we be just compensating the ATAR by boosting it at the point of entry, and so on and so on. That’s how that all plays out as an issue … Say a student finally gets over the imagination issue about, ‘I’d like to be a doctor’ and that’s actually quite a common aspiration in young working-class people and particularly first generation migrant communities. It’s quite common ‘cause they see that profession in their lives. They see it because they go to the doctor. But when they discover what you’ve got to do to get there, it becomes all too difficult. And what’s not made clear is that it is actually within reach if certain things happen in your life along the way … But I think one of the answers to access to high-status profession is that part of the puzzle which is the ATAR part. So everybody’s got the compensation thing [university bonus ATAR point schemes for disadvantaged students], but really that’s probably not sufficient to get you the diversity you need in that profession, which is another value in itself. There are consequences when not having diversity in professions particularly human services. So, whether you move to quotas or not, and some people do for Indigenous and do for rural, but they don’t for poor. And that’s a live debate, and it’s quite a tough one because the whole of that profession is stuck in the supply and demand model. You can’t just admit who you like, really, because the supply is restricted, the number of places is restricted. So the competition is fiercer, and there’s more of a spotlight on it. It’s a tricky one. I don’t know what the answer is. The answer is certainly bonus points, just as a general principle across all courses. And I think the answer is probably quotas because it’s not just fairness to the applicant, it’s an attribute of the profession to have a diverse range of practitioners. I think that’s a whole other debate, which is the debate that of interest to the professional standards bodies. You can’t have a whole medical profession that haven’t got Indigenous practitioners in it, and so on and so on. So, that’s another motivation to ensure that professions are diverse. [Participant 18]

The issue of quotas or reserved places for students from regional backgrounds and usually linked to bonded government funding schemes designed to address medical workforce shortages, was raised as one model that had led to more social diversity in medical schools:

So … they actually reserve places for students from regional [areas] so I think it’s gone up to [around 30 per cent] of the places are now reserved for remote and rural students. [Participant 4]

We have multiple [admissions] streams, so we have a set additional points for rurality and separate streams for rural bonded medical places and obviously for Indigenous selection as well. So, it is similar in that regard and I think it is largely because of that stream, that the rural kids have access rather than the lowering of their ATAR threshold. [Participant 25]
A number of participants stressed the importance of enabling programs and alternative pathways into medical education and highlighted its success in Indigenous doctors. One participant described Indigenous pathways programs as a “terrific asset” for his medical school and the profession as a whole. The 2015 undergraduate participation data for Indigenous students points to some success in this area with the Medical Studies FoE having the highest proportion on Indigenous students compared to Engineering, Information Technology, Architecture and Physiotherapy (see Chapter 3 of this report). One participant described the importance of looking beyond the “mould” of the “typical medical school applicant”:

So an alternative pathway [for Indigenous students] was developed, so that they don’t … necessarily have to fit the mould in terms of how you might look at a typical medical school applicant … And there is a special pathway for them, and they actually can apply, and had applied [for a number of years] to do a preparation for medicine program. [Participant 16]

One participant did highlight that some Indigenous medical students who were admitted via the alternative pathway encountered hostility amongst their peers:

It’s interesting that the issue of stigma and discrimination comes up a little bit for our Indigenous students who will say, regrettably, sometimes tell some really awful things that fellow students have said, ‘Well, you got in here through special pathway. You didn’t really work hard like all the rest of us,’ and that sort of stuff, which is awful sort of thing to counteract. So I think we got to also work on the culture of our program which accepts what everybody contributes and provides as much peer and academic support to students as possible. [Participant 18]

A few participants argued that a postgraduate path was the best way to increase equity group participation in medicine:

They have to do GAMSAT [Graduate Medical School Admissions Test] and have a GPA just like other students. But it sort of gives them a bit of a — not an advantage but it gets them to the point where they’ve got a foot in the door and they have an opportunity to potentially become a medical student. [Participant 15]

As stated in previous chapters of this report, there is mixed evidence on whether postgraduate degrees rather than undergraduate entry are the best way to achieve social diversity and equity in high-status professions including medicine (James et al., 2008; Mathers et al., 2011). This position requires further evidence before its equity claim can be confirmed. Moreover, the position ignores the financial hardship endured by those from less privileged backgrounds when they are required to considerably extend their university study and delay their earning capacity and career progression. While caution should be taken, it should be noted that the 2015 postgraduate participation rates for regional, low SES and Indigenous equity groups in the Medical Studies FoE was less than that of the undergraduate rate (see Chapter 3 of this report).

5.2.5 Financial Constraints, Scholarships and Academic Support

The cost of deferring income from employment and accruing a debt from university study deter some students from pursuing higher education. Once students are at university the costs moving, living and studying can be considerable. Participants expressed concern that many students were struggling under the financial strain and this may affect academic outcomes and health:
Perhaps if you come from a family with money, they will buy you somewhere to live while
you’re over here. And if not, maybe you move over here, but then you have to work. And
maybe then if you have to work, you can’t study as much. [Participant 16]

[For regional students] who have to go and do a [legal] clerkship in Sydney … [t]hat’s very
expensive for them to come go to Sydney. They don’t go home to the North Shore [an up-
market area of Sydney] to bed every night. They don’t get that support they really struggle.
[Participant 5]

Look, they’re trying to manage part-time jobs and study. We’ve got some flexibility in our
[medical] program, but it’s not a part-time program. It’s a fulltime program. So managing those
sorts of pressures is important. We probably don’t have a good enough picture of just how
difficult life is for some of our students. If we were to look at that closely, I suspect we’d be
alarmed. I think they kind of try to get by without letting us know how tough things are at times.
When they do reach a kind of peak of difficulty, we try and do our best to support students,
but we’re probably only seeing the tip of an iceberg in terms of financial struggles of many
students. [Participant 18]

Some participants remarked on the financial plight of students from a refugee background. In some
cases these students were required to find significant paid work after leaving school or bring in a
decent income even while studying as they were considered a primary bread-winner for the family.
Furthermore, the costs associated with studying at university caused considerable strain:

So there’s this big need to earn money immediately, and so some families think university is
going to take you three, four, five years. That’s too long. We need money urgently. You have
to work now … So, they’re studying maths but they didn’t even have the textbook or the
calculator because that costs $100 plus, and they couldn’t afford that. So you would have
students that may have been able to do the subject, but just didn’t even have the finances to
have the resources at school either. [Participant 14]

Scholarships were considered vital in providing support for students experiencing disadvantage.
Some participants wanted more scholarships made available, while others expressed frustration with
university processes which delayed scholarship funding getting to students in need:

We could have a lot more scholarships that mean that students aren’t carrying that sort of
sense of financial worry from here to here which impacts not only in the time that they can
spend, but their emotional energy that kind of gets burnt up having to cope with lots of things.
[Participant 18]

So, we’d have students [from refugee backgrounds] coming to us saying, panicking, ‘I’m at
university and I can’t afford the books,’ and we’d say, ‘Just wait a few weeks because you’re
going to get $1,000, and that’s just going to cover your books.’ So, that’s definitely helped a lot
of our students that are disadvantaged to stay in their education and just cover like bus tickets
and their books for the semester. [Participant 14]

I mean so I’m really angry about it [the scholarship process] when we got a load of money …
This semester, the university managed to give the money, to provide the money to one of the
students who got the scholarship a week before the end of semester, and it’s like, ‘Are you
[expletive] kidding me?’ … It’s got to be given to them before the beginning of semester. They
just don’t appreciate what the point of what they’re [university administrators] employed to do,
is just to help kids come to university and be able to [p]ay rents in Sydney, buy books. Law
books are just ridiculously expensive. [Participant 20]
Participants we spoke to were passionate about providing ongoing social and academic support for students to ensure success, however some noted that adequate support often did not extend into the degree:

It’s not just you will admit [around 30 per cent] rural [medical] students, but you will ensure you have this percentage of students in the course at the whole time. You’ll ensure this many actually graduate, so it’s not just that they get in, it’s that they graduate. And you will undertake a research program around it. [Participant 16]

There are people for instance who are very, very dedicated to having more Indigenous [Law] students and are very well motivated in programs to bring Indigenous students to university, but a lot of the programs are just saying well let’s take someone who um got in from alternative entry means and lets just plonk them in first year with all the other students and again I think often it is setting people up to fail. [Participant 24]

Support extended beyond the usual academic and social programs offered by universities. For example, one law academic explained how she advised students on how to get an affordable business clothes which would be appropriate for job interviews:

You know, you know some kid I remember there was one young fellow here who was so worried about getting a suit for an interview … and he umm and I always say to them [students from less privileged backgrounds], ‘Well see this, see what I’ve got on — now I bought that at Vinnie’s [a thrift shop]. They’ve got fantastic clothes. You’ll see the suits. Go down there [to buy one].’ So you know normalise it and say you can do this cause it’s a bit of a dressing up profession. [Participant 5]

Some argue that working-class and non-white students should cultivate more ‘beneficial’ non-cognitive, personality characteristics, such as extraversion and positive outlook, that will benefit them in the labour market (Vries and Rentfrow, 2016). In other words, adapt a “professional” self to reflect the middle-class norms of “confidence” and “polish” valued by elite firms (Ashley et al., 2015). This kind of practical approach to cultivation of a “professional self” can be viewed as both a pragmatic response to the culture of elite professions and as a reproduction of normative (and biased) position on what constitutes a ‘quality’ professional. It reinforces traditional, commonsensical values and beliefs related to status, for example law is a “bit of a dressing up profession”. There is nothing natural about the cultures of prestigious professions. The search for elite firms to find a “natural fit” with potential employees is not natural or common sense (Tholen et al., 2013). As C. Wright Mills (2000) suggests:

[P]eople with advantages are loath to believe that they just happen to be people with advantages. They come readily to define themselves as inherently worthy of what they possess; they come to believe themselves “naturally” elite; and, in fact, to imagine their possessions and their privileges as natural extensions of their own elite selves. (p. 14)

The professions have particular histories that are classed, gendered and raced, and culture that endures through either complete or incomplete profession socialisation and ‘micro-class reproduction’, where the children of professionals enter into the same or an equivalent high-status professions (Friedman, Laurison & Miles, 2015). The role of universities in professional socialisation is complicated. Becoming socially mobile via a university education can be a difficult experience. Reay (2013) captures some of the social and subjective implications when she writes:

Social mobility is a wrenching experience. It rips working-class young people out of communities that need to hold on to them, and it rips valuable aspects of self out of the socially mobile themselves as they are forced to discard qualities and dispositions that do not accord
with the dominant middle-class culture that is increasingly characterised by selfish individualism and hyper-competition. (p. 667).

Some research suggests students from less privileged backgrounds in elite settings do feel ambivalent about their newly acquired social status, while others begin to echo the “middle-class chorus that renders working-class knowledge and experience deficient if not pathological” (Lehmann, 2014, p. 13). Students from non-traditional backgrounds can enact agency as they become socialised into elite professions as they tactically incorporate (in a conscious and an embodied sense) middle-class ‘professional’ attributes with the knowledge, dispositions and language they bring with them from their family and community of origin (Southgate et al., 2017). The question remains — should these students have to radically change their dispositions and ways of being-in-the-world to succeed in high-status professions or should the professions themselves adapt to authentically recognise (Fraser, 1998) the myriad strengths that these students bring to the professional table?

5.2.6 The Professions

Participants from Law and Medicine remarked on the conservative nature of the professions and noted micro-class reproduction. They were, however, cautiously confident that the professions were changing as they diversified:

I think I see it on the profession as well and I know that some members of the [Law] profession that I’ve talked to are much more likely to employ you if you’re from a certain university with a private school background. That’s the reality. In saying that though, there’s an increasing focus on contextual recruitment … It is an issue though. I think people tend to trust what they know. And if somebody looks and sounds like they do, they’re more likely to get in the job. And so there is I think some discrimination that takes place, if you want to call it that, but there’s definitely a bias. And because most of the older parts of the profession and people who often make the employment decisions, I think as well, tend to be older white males with an Anglo-Saxon background in private school, tend to come through from a family line of lawyers and doctors, then they’ll look often for people who they think can replicate their success and those people might look more like them. Although, I think many of them are fine with employing women now … but that wasn’t the case thirty years ago than it’s now. [Participant 6]

What we [Medical Academics] want is intelligent, empathetic, honest, conscientious people from whatever background they’re from and we need to find ways of enabling that. There is unequivocal support from [us] and I don’t think any of them would say, ‘stuff this social equity stuff.’ [In the professions] there is a mixture and this will change. To some degree this is a bit more variable depending on where you are. I think there is still the traditional old families. It’s incredible the number of people … who are fourth, fifth generation medics and how people tend to do all their training, maybe with the odd year away, but who end up practising [in the same city as their parents] … There is a degree to which social connections are important and [some doctors] can still probably appoint people who are like themselves and we still see a generation of [doctors] like that … We have moved a long way to increasing [diversity] but there is a danger we have stalled around this and we need to be thinking about the next strategies to increase this. [Participant 25]

One of the really big drivers now for the big [law] firms is globalisation and they are desperate to hire people who are fluent in more than one language. So, we’re finding that anybody who can speak an Asian language and whose grades are equal to a mono-cultural person will always get the job. So globalism is driving diversity at that ethnic level as well. [Participant 8]
These perspectives capture both state-of-play and future challenges. The gradual opening up of the modern medical profession to women illustrates that substantially increasing social diversity in high-status professions is possible, even if there are uneven effects such as far fewer women in very high-status specialisations or academic medicine (Bruce et al., 2015; Edmunds, 2016). The success of programs to increase the number of Indigenous doctors is also evidence of this (Lawson, Armstrong & Van Der Weyden, 2007). Globalism can also drive a push for diversity and it can act to reinforce social division. This issue of widening access and ensuring success for non-traditional students requires a markedly different mindset that recognises the value of these students to the profession, adequate resourcing, and a will to change admissions processes and pathways and provide socioculturally responsive student support. The challenge, as Participant 25 astutely points out, is that there has been momentum around increasing diversity but there is always a danger that efforts will be stalled unless new strategies are developed and implemented by universities and the professions.

5.3 Concluding Remarks

The national consultation echoed the key issues and concerns around equitable access to high-status professions found in the literature and illustrated in the Longahart regional community case study presented in this report. Participants emphasised that learning in schools needed to be linked to real world problem solving and a comprehensive curriculum that connected with the lived experience of students instead of reinforcing notions of deficit. The issue of poorer academic achievement and preparation was also highlighted with participants highlighting the need to empower students to understand “what they were letting themselves in for” if they aspired to university and high-status professions. Participants grappled with the issue of the very high ATAR required to be competitive in the admissions process with a number of approaches such as bonus point schemes, quotas, taster experiences and pipeline and alternative entry programs, as important but not wholly adequate for increasing social diversity in high-status degrees. Financial barriers and the significance of scholarships were discussed, with some academics expressing frustration with slow bureaucratic response of university administrators in distributing scholarships in a timely manner to relieve the financial stress experienced by students from less privileged backgrounds. Finally the role of the professions themselves was raised in relation to actively contributing to school-university-profession partnership programs and in slowly embracing the benefits of social diversity, although it was also noted that micro-class reproduction did persist and many more new strategies needed to be developed to prevent current equity or social accountability efforts from stalling.
6. Tensions and Directions

Successful learning in schools stands out as a major determinant of entry into satisfying and well-paid employment. But so long as access to careers is restricted to a minority of workers, the familiar stress on competition and academic success within the schooling system will combine to defeat all but very few children of low-income families, irrespective of their intellectual ability. As a result, the growing gap between the haves and the have-nots in a so-called egalitarian society will continue to widen. (Australian Government Commission of Inquiry into Poverty and Education in Australia [Fitzgerald, 1976, p. 11]).

Commentators have highlighted multiple tensions within widening participation policy and practice. For example, there has been considerable scholarship that dismantles the neoliberal conception of education and career decision-making as a matter of individual choice and private responsibility (Ball et al., 2002; Cuervo, 2014; Hodkinson, 2008; Sellar & Storan, 2013; Southgate & Bennett, 2014, 2016; Zipin et al., 2015). Research continues to examine the limiting effects of socioeconomic and geographic inequality, poverty and marginalisation, and the very specific policy levers that have resulted in a residualisation of public education and its concomitant impacts on learning, pedagogy, curriculum and resourcing, and how these affect access to higher education (Lamb, 2007; Sullivan, Perry & McConney, 2013; Tranter, 2012). Sadly, more than forty years after Commissioner Fitzgerald wrote the words that preface this chapter, the issue of access to particular professions is still relevant. Higher education policy and university programs that are underpinned by ‘common sense’ notions of highly individualised aspiration and choice wilfully ignore the ways in which poverty and the residualisation of schooling can prevent even the most determined and talented young person from achieving their goals.

Gale and Parker (2013, p. 62) suggest that one key tension is how post-school education and career aspirations about a “good life” are based on normative, populist and ideological ideas that fail to value and legitimate alternative conceptions, and that universities contribute to this by assuming they are the best possible route to a “good life” destination. Others have questioned the primacy of discourses of social mobility (Reay, 2013), documented the personal “price of the ticket” of becoming socially mobile (Friedman, 2014), and the persistence of stratification and micro-class reproduction within high-status professions that result in class and glass ceilings (Laurison & Friedman 2015). There are innumerable tensions in journeys of extreme social mobility, where people travel large social distances from humble family and community of origin to the rarefied world of high-status degrees; these journeys can be exhilarating and confronting (Southgate et al., 2017). Non-traditional students can simultaneously experience both empowerment and stigma as they navigate their way into their chosen professions (Beagan, 2005; Southgate, 2017). It is not enough to beat the odds and gain access to and succeed in a high-status degree. Despite their resilience and demonstrable accomplishments, some non-traditional students can be judged by employers not by their achievements but on their class-based and cultural dispositions (Ashley and Empson, 2013; Ashley et al., 2015; Southgate et al., 2017). Moreover, there are indications that this can translate into lower earnings and holding less prestigious positions over a lifetime (Friedman, Laurison, & Miles, 2015; Laurison & Friedman, 2015, 2016).

Any widening participation agenda needs to seriously attend to the inequities that persist in the Australian schooling system. This must go well beyond universities ‘selling the dream’ of campus life or providing ‘taster’ or roadshow experiences. These are a reasonable start but they are not enough to address enduring achievement gaps or provide the type of deep learning opportunities linked to the real world (including the world of work) that enable school students to succeed and navigate towards their aspirations (Noguera, Darling-Hammond & Friedlaender, 2015). A sustained, collective
and coordinated intellectual and practical partnership between communities, schools, vocational and higher university systems and the professions themselves is required to provide increased access to high-status degrees and their associated professions. One of the most pressing needs is to review and revitalise the role of career education in schools so that it can play a pivotal role in addressing inequity rather than preserving it. If universities and the professions are committed to increasing social diversity they need to provide significantly more original and robustly evaluated “strategically valuable” opportunities for young people experiencing disadvantage to develop their capacity to aspire though “practice, repetition, exploration, conjecture and refutation” (Appadurai, 2004, p. 69). New and emerging technologies, such as augmented and virtual reality, may provide solutions to engaging students in authentic learning related to the world of work, socially diverse role models from the profession and virtual work experience. The time to sand pit, prototype and trial these technologies is now (see Southgate, Smith & Cheers, 2016).

Remembering that “ATAR is more indicative of socioeconomic status than it is of a student’s academic potential” (Gale, 2012, p. 246), it is imperative that universities expand and innovate around pipeline, enabling and alternative pathway programs into high-status degrees for students from equity groups. There is good evidence from alternative Indigenous entry programs to medical school that these approaches work to open up access to such degrees, diversify the profession and produce quality professionals. If the Go8 universities are genuinely committed to equity, as some of their documentation suggest, then they need to substantially improve the proportion of their student cohort who are from equity groups, particularly in high-status degrees. To not do so, and yet continue to make claims that they are concerned stakeholders in the equity field, would be disingenuous. To monitor trends in access, participation and success, and assist in the robust evaluation of interventions, the government should openly publish, on an annual basis, broad and narrow Field of Education code statistics related to high-status degrees.

The call for a comprehensive approach to tackling educational inequity that goes beyond sectoral and partisan political interests is not new (Fitzgerald, 1976; James et al., 1999; James, 2001; MacKenzie, 2006; Bradley et al. 2008). However, in a national context of entrenched inequality, the urgency remains (NCOSS, 2015). Nowhere is it more crucial than in the area of high-status degrees and their associated professions which remain some of the last bastions of inequity. To return to Gale (2012, p. 246), we cannot as a nation argue that widening participation has been successful until proportional representation applies across institutions and course types. Moreover, we cannot relieve high-status occupations from their responsibility to socially diversify by attracting the best talent from all sociocultural backgrounds and in honouring the unique and valuable difference that such people bring with them to professional practice and the communities they serve.
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Appendices

Appendix 1: 2016/17 Outputs with Abstracts

PEER REVIEWED BOOK CHAPTERS, JOURNAL ARTICLES AND CONFERENCE PAPERS


Students who are the first-in-family (FiF) to gain admittance into high-status degrees experience long-range social mobility. This chapter uses Erving Goffman's social theory of stigma to explore the experiences of medical students who are the first generation (first-in-family) to attend university. Specifically, Goffman's concepts of the 'discredited' and the 'discreditables' are deployed to explore how these students manage and resist the stigma they encounter during their pathways through medical school as they gradually form their professional identity as doctors.


The increasing commercial availability of intensely immersive virtual, augmented and mixed reality experiences, mediated through the use of head-mounted display technology, has prompted serious deliberations about the ethical implications of using such technology with humans to resolve technical issues and explore the complex cognitive, behavioral and social dynamics of human 'virtuality'. However, very little is known about the developmental and social effects these types of immersive experiences will have on children and young people (aged 0-18 years). This paper brings together principles of conducting ethical research with children and young people with perspectives on child development to present a conceptual and a practical framework for conducting ethical research with children using immersive virtual and augmented reality technologies. This paper addresses not only procedural ethics (gaining institutional approval) but ethics-in-practice (ongoing ethical decision-making) in this type of research.


The purpose of this paper is the document seven key areas for consideration when designing and conducting research using immersive virtual, augmented and mixed reality technologies in school settings. We provide seven observations drawn from the literature, theory and research experience to offer initial methodological, ethical and practical advice on such research. These seven observations are designed to prompt a broader interdisciplinary conversation and knowledge base about school-based research using immersive technologies so that the educational benefits of the technologies can be fuller realised.


Computer gaming is a global phenomenon and there has been rapid growth in 'serious' games for learning. An emergent body of evidence demonstrates how serious games can be used in primary
and secondary school classrooms. Despite the popularity of serious games and their pedagogical potential, there are few specialised frameworks to guide K-12 teachers in choosing and using serious games. The purpose of this paper is twofold. Firstly, we draw on the research to provide an overview of the nature and uses of serious games, current knowledge about their learning efficacy, and the features that teachers should consider when choosing a game. Secondly, we draw on this literature to provide a new, practical and comprehensive framework especially designed to guide teachers in making evidence-informed decisions about choosing and using serious games in their classrooms. This framework is organised according to the domains of learning, pedagogy, curriculum, assessment, and technical context.


Higher education is understood as essential to enabling social mobility. Research and policy have centred on access to university, but recently attention has turned to the journey of social mobility itself — and its costs. Long-distance or ‘extreme’ social mobility journeys particularly require analysis. This paper examines journeys of first-in-family university students in the especially high-status degree of medicine, through interviews with 21 students at an Australian medical school. Three themes are discussed: (1) the roots of participants’ social mobility journeys; (2) how sociocultural difference is experienced and negotiated within medical school; and (3) how participants think about their professional identities and futures. Students described getting to medical school ‘the hard way’, and emphasised the different backgrounds and attitudes of themselves and their wealthier peers. Many felt like ‘imposters’, using self-deprecating language to highlight their lack of ‘fit’ in the privileged world of medicine. However, such language also reflected resistance to middle-class norms and served to create solidarity with community of origin, and, importantly, patients. Rather than narratives of loss, students’ stories reflect a tactical refinement of self and incorporation of certain middle-class attributes, alongside an appreciation of the worth their ‘difference’ brings to their new destination, the medical profession.


Students from backgrounds of low socioeconomic status (SES) or who are first-in-family to attend university (FiF) are underrepresented in medicine. Research has focused on these students’ pre-admission perceptions of medicine, rather than on their lived experience as medical students. Such research is necessary to monitor and understand the potential perpetuation of disadvantage within medical schools. This study drew on the theory of Bourdieu to explore FiF students’ experiences at one Australian medical school, aiming to identify any barriers faced and inform strategies for equity. Twenty-two FiF students were interviewed about their backgrounds, expectations and experiences of medical school. Interviews were recorded, transcribed and analysed thematically. Findings illustrate the influence and interaction of Bourdieu’s principal forms of capital (social, economic and cultural) in FiF students’ experiences. The absence of health professionals within participants’ networks (social capital) was experienced as a barrier to connecting with fellow students and accessing placements. Financial concerns were common among interviewees who juggled paid work with study and worried about expenses associated with the medical program. Finally, participants’ ‘medical student’ status provided access to new forms of cultural capital, a transition that was received with some ambivalence by participants themselves and their existing social networks. This study revealed the gaps between the forms of capital valued in medical education and those accessible to FiF students. Admitting more students from diverse backgrounds is only one part of the solution; widening participation strategies need to address challenges for FiF students during medical school and should enable students to retain, rather than subdue, their existing, diverse forms of social and cultural capital. Embracing the diversity
sought in admissions is likely to benefit student learning, as well as the communities graduates will serve. Change must ideally go beyond medical programs to address medical culture itself.


The present study explored the interactive effect of age and gender in predicting surface and deep learning approaches. It also investigated how these variables related to degree satisfaction. Participants were 983 undergraduate students at a large public Australian university. They completed a research survey either online or on paper. Consistent with previous research, age was a positive predictor of both surface and deep learning. However, gender moderated this age effect in the case of deep learning: age predicted deep learning more strongly among women and not among men. Furthermore, age positively predicted degree satisfaction among women but not among men, and deep learning mediated this moderation effect. Hence, older female students showed the greatest deep learning in the present sample, and this effect explained their greater satisfaction with their degree. The implications of these findings for pedagogical practices and institutional policy are considered.


Virtual and augmented reality technologies have been heralded as bringing an end to education in its traditional, institutional forms. This paper explores this claim by deploying two areas of educational theory: non-technicised pedagogical theory and sociological theories of embodiment. The paper traces each theoretical area, weaving a series of provocations, throughout which raise significant questions for the development and study of educational technology. This paper highlights a number of educational issues and tensions that need to be deeply considered and debated if virtual reality is to become the much heralded transformative technology for education and embodied learning.


The purpose of this paper and session is fourfold. Firstly, we outline an enduring educational and social problem, poor levels of literacy amongst some adults, including students in higher education, and a potential innovative solution — the gamification of literacy learning. The problem of literacy development in higher education is often subsumed under study skills programs; however, we suggest that serious computer games can be used as digital tools to assist students overcome the shame associated with poor literacy and provide an engaging way to learn. Secondly, we outline the development of two serious literacy game apps, and discuss findings from an initial evaluation of one of the apps, Apostrophe Power. Thirdly, we offer some critical observation about game development and educational technology. Finally, we provide a series of questions formulated to facilitate a critical sharing of experience around individual and institutional use of educational technology.

The collection and analysis of analytics incorporated into serious games provides researchers with objective data on player behavior related to serious game design elements and learning. Such analytics offer insights about play-learners engagement that is not possible to capture through traditional techniques. Visualisation of learning behavior data can allow for a comparison between the pedagogical intent of the game design and the play-learners actual behavior within the serious game. This paper describes the use of game-play logs to identify pathways through gaming content in a serious game app for literacy improvement. The paper describes the technical aspects of processing game-play logs and their transformation into visualisations, and considers how these visualisations can be used to explore play-learner behavior in relation to the pedagogical intent of activities embedded in the serious game app.


There is increasing interest in the application of serious games for learning. Growth in the take-up of digital devices, smartphones and tablets for example, and their use for gaming, provides new opportunities for mobile learning (m-learning). A serious game m-learning app for improving adult learners’ apostrophe usage, called Apostrophe Power, has been developed. The research team, which consisted of software engineers and educationalists, encountered a number of discipline spanning issues while designing and developing this m-learning app. This paper overviews the issues encountered, the recommendations from recent literature and how the issues were ultimately addressed, exemplified in a case study. These lessons learnt offer insight for serious game development and highlight practical solutions for m-learning apps involving interdisciplinary teams.


Soft skills such as effective communication are becoming increasingly important for engineering graduates. Employers prize excellent written and oral abilities and literacy proficiency. High levels of academic literacy can significantly improve students’ success in their university study. Traditional approaches to literacy improvement can limit student engagement. However, mobile learning and the use of smart phone apps present new opportunities to support literacy education. This paper describes current work exploring the use of apps, as serious games, to improve literacy in undergraduate students and outlines initial results from a cross-discipline evaluation of an m-learning literacy app.

REPORT


The purpose of this report is to provide an overview of existing and emerging digital technologies and their potential application for K-12 education and career exploration. The report scopes a range of technologies including virtual and augmented reality, haptics, tangibles, and new video media. It aims to provide accessible explanations of these technologies and some examples of how they are or might be used to promote deeper learning in the disciplines associated with different professions and virtual ‘taster’ experiences of post-school education and the world of work. At the heart of the report is a vision for using these technologies to promote equity of educational outcomes and career opportunities for students facing disadvantage.
The issues facing equity students are multi-faceted and effective policy and practice will come from a detailed and in-depth understanding of the situations students face and the impact of current policy in higher education and more broadly. Providing access to higher levels of education to people from all backgrounds enhances social inclusion and reduces social and economic disadvantage. In the interests of individuals and for the nation, higher education equity for all students must be seen as an objective of the system. Participating in higher education confers significant individual personal benefits in terms of personal development, career opportunities and lifetime learning. In addition, higher education is key to the social wellbeing and economic prosperity of Australia. In pursuing its objective of improving higher education participation and success for people from socially marginalised and disadvantaged backgrounds, the Australian Government has funded, through the National Centre for Student Equity in Higher Education (NCSEHE), six Equity Fellowships over two years for a total investment of $1.54 million. In this symposium, the NCSEHE’s three inaugural Equity Fellows will present the outcomes of their strategic research activities, aimed at informing the development and refinement of government programs and policy and institutional practice. The 2016 Equity Fellowships have been an extraordinary opportunity for the Fellows to demonstrate sector leadership and contribute to closing some of the research gaps present in student equity in higher education. The work undertaken by this first cohort was shared in November 2016 during an NCSEHE-hosted Fellows Forum in Canberra, and disseminated via the NCSEHE and Centre of Excellence for Equity in Higher Education (CEEHE) websites. The Equity Fellows provide a collaborative overview of higher education student equity from their perspectives. Dr Erica Southgate’s research investigated the connecting of disadvantaged youth to high-status professions through technology and provides a roadmap for how new technologies can be harnessed to provide timely, authentic and effective connections to the professions for young people facing disadvantage. (Abbreviated version).


The massification of Western higher education has led to an increase in students from non-traditional backgrounds attending university (Altbach, 2013). The term non-traditional student describes people who have historically been underrepresented in universities, including people from first-in-family (FiF) backgrounds. Despite the success of widening participation policy in increasing the social diversity of higher education, non-traditional students remain vastly underrepresented in elite institutions (Gale, 2011; Reay, Crozier and Clayton, 2009) and in high-status degrees such as Law, Engineering, Architecture, and particularly Medicine (Association of Faculties of Medicine of Canada, 2012; Cleland et al. 2012). To date, there has been limited empirical exploration of extreme social mobility, with very few studies conducted in medical education. The presentation begins by critically outlining the concept of social mobility and theorising its most extreme cases, including the literature on the “price of the ticket” of social mobility (Friedman, 2013). It then presents the eclectic theoretical lenses that were used to interpret data including Goffman’s (1963) notion of stigma and Skegg’s (2004) tools for class analysis. It then presents description of the study design, methodology, epistemological position and sample. This is followed by an analysis of semi-structured interviews conducted with 20 FiF Indigenous and non-Indigenous medical students, with a focus on the stages and key aspects of their social mobility journey including: FiF student’s perspectives on family background, schooling
and aspiration to medicine; experiences of being different in medical education; and sociocultural identity and professional identity formation related to future prospects in the profession. It concludes by arguing that while there is a price to the ticket of social mobility in the form of some identity ambivalence and the occasional experience of stigma, more often participants view their social and cultural backgrounds as a valuable professional resource.


Social media usage is now understood as playing a role in career access and success, and the development of a positive online presence or digital footprint is an important part of this. However, there is a paucity of knowledge in Australia on how children, adolescents and young people comprehend digital footprints despite social media being amongst the most popular internet applications. This paper reports on the findings of a Delphi survey and series of projects researching how primary students, secondary students and tertiary students in regional locations in NSW understood their digital footprints. Using focus groups, students’ understanding of digital footprint and the role of social media in their lives was explored. Drawing on Boyd’s notion of “networked publics” we compare and contrast students’ reported behavior and understanding with the responses of 53 digital experts, elicited through a Delphi survey. In analysing the results from each age group we describe the sequential development of students’ understanding of their digital footprints. This sequence is used as the basis for understanding how students can be taught about social media management and the curation of a positive digital footprint in the context of a life time approach to career guidance.


Improving higher education access, experience and outcomes for students with disabilities (SWD) is an explicit performance target and goal for Australian universities. Prevalence of SWD vary greatly by institution and are considered under-reported. International research identifies SWD failure to disclose to institutions as a major concern for providing appropriate support to success for this equity group. The number of “hidden” or “invisible” disabilities that impact on learning is well known, but the actual numbers of students who deal with these in Australian universities is unknown. This project aims to identify SWD who do not disclose and to explore the reasons behind their non-disclosure. A cross-sectional survey was offered to the students of an Australian regional university in order to identify the size of the non-disclosed population dealing with learning difficulties, ongoing medical conditions, mental health issues and physical challenges that impact on learning. Using a modified version of the UK Higher Education Statistics Agency (HESA) disability categories, students identified diagnoses/assessments and their institutional disclosure status. The diagnoses/assessments identified were called “learning challenges” in order to focus students on the results of the various disabilities in terms of their learning. The survey collected demographics, enrolment detail and existence of assessments/diagnoses of learning challenges with detail on institutional disclosure and reasons behind non-disclosure. Reasons for non-disclosure were further explored with open-ended questions around learning impacts and suggestions for improving experience of learning at university. Statistical analyses of the valid responses received for the domestic undergraduates (n=2,821; 13.2 per cent of DOM UG population) were completed in terms of size of the population with learning challenges, what reasons are given for choosing non-disclosure and the use and importance of various formal and informal supports. The non-disclosing subsample of students with learning challenges (n=633, 24.4 per cent of the sample) is more likely to be younger (under 25) with an HSC entry pathway than the
disclosed subsample. Students with two or more learning challenges are more likely to disclose to the institution than those with only one learning challenge. In terms of the learning challenges themselves, students dealing with ongoing medical conditions and physical disabilities are more likely to disclose whereas students with mental health issues are less likely to disclose. Non-disclosing students are also less likely to use any of the institutional supports than disclosing students. Implications of these characteristics in terms of academic support are explored through the suggestions of the non-disclosing students.

OTHER

• Appointed Visiting Fellow in Education, Bath Spa University (UK).
• Keynote address: 32nd National Society for the Provision of Education in Rural Australia (SPERA) Conference and 4th International Symposium for Innovation in Rural Education.
• Finalist 2016 Australian and New Zealand Internet Awards (ANZIA) — Innovation category
• Shortlisted for the international Reimagine Education Competition 2016.
• Shortlisted author New Philosopher Writers’ Award XI — Technology.
### Appendix 2: 2015 Domestic Undergraduate and Postgraduate Participation for FoE Education (07) and Nursing (0603)

#### Table 9: Domestic student enrolment by FoE Education and Nursing

<table>
<thead>
<tr>
<th>Education</th>
<th>Undergraduate</th>
<th>Postgraduate</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Go8</td>
<td>5,459</td>
<td>7,316</td>
<td>12,775</td>
</tr>
<tr>
<td>Other</td>
<td>69,364</td>
<td>32,854</td>
<td>102,218</td>
</tr>
<tr>
<td>Nursing</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Go8</td>
<td>2,939</td>
<td>2,428</td>
<td>5,367</td>
</tr>
<tr>
<td>Other</td>
<td>51,440</td>
<td>9,137</td>
<td>60,577</td>
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</table>

#### Table 10: 2015 domestic student undergraduate and postgraduate (combined) equity group enrolment by FoE Education and Nursing

<table>
<thead>
<tr>
<th>Equity Group</th>
<th>Remote</th>
<th>Regional</th>
<th>Low SES</th>
<th>Indigenous</th>
</tr>
</thead>
<tbody>
<tr>
<td>Education</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Go8</td>
<td>1,628</td>
<td>27,814</td>
<td>24,244</td>
<td>2,397</td>
</tr>
<tr>
<td>Other</td>
<td>76 (4.69%)</td>
<td>1,530 (5.50%)</td>
<td>1,662 (6.86%)</td>
<td>115 (4.80%)</td>
</tr>
<tr>
<td>Nursing</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Go8</td>
<td>1,031</td>
<td>16,967</td>
<td>15,431</td>
<td>1,384</td>
</tr>
<tr>
<td>Other</td>
<td>36 (3.49%)</td>
<td>724 (4.27%)</td>
<td>997 (6.46%)</td>
<td>40 (2.89%)</td>
</tr>
</tbody>
</table>

#### Table 11: 2015 domestic undergraduate student equity group enrolment by FoE Education and Nursing

<table>
<thead>
<tr>
<th>Equity Group</th>
<th>Enrolled in FoE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Education</td>
<td></td>
</tr>
<tr>
<td>Remote</td>
<td>1.37</td>
</tr>
<tr>
<td>Low SES</td>
<td>24.04</td>
</tr>
<tr>
<td>Indigenous</td>
<td>2.59</td>
</tr>
<tr>
<td>Nursing</td>
<td></td>
</tr>
<tr>
<td>Remote</td>
<td>1.32</td>
</tr>
<tr>
<td>Low SES</td>
<td>24.56</td>
</tr>
</tbody>
</table>

Fair Connection to Professional Careers: Associate Professor Erica Southgate
Table 12: 2015 domestic postgraduate students from equity groups enrolled by FoE Education and Nursing

<table>
<thead>
<tr>
<th>FoE</th>
<th>Equity Group</th>
<th>Enrolled in FoE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Education</td>
<td>Remote (601)</td>
<td>1.50</td>
</tr>
<tr>
<td></td>
<td>Regional (7,607)</td>
<td>18.94</td>
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<tr>
<td></td>
<td>Low SES (6,256)</td>
<td>15.57</td>
</tr>
<tr>
<td></td>
<td>Indigenous (460)</td>
<td>1.15</td>
</tr>
<tr>
<td>Nursing</td>
<td>Remote (315)</td>
<td>2.72</td>
</tr>
<tr>
<td></td>
<td>Regional (2,521)</td>
<td>21.80</td>
</tr>
<tr>
<td></td>
<td>Low SES (2,075)</td>
<td>17.94</td>
</tr>
<tr>
<td></td>
<td>Indigenous (116)</td>
<td>1.00</td>
</tr>
</tbody>
</table>

Table 13: 2015 domestic undergraduate equity group students as a percentage of FoE (Education and Nursing) cohorts at Go8 and other universities

<table>
<thead>
<tr>
<th>FoE Enrolment by University Type</th>
<th>Equity Group</th>
<th>% of Go8 FoE Cohort</th>
<th>% of other FoE Cohort</th>
</tr>
</thead>
<tbody>
<tr>
<td>Education</td>
<td>Remote</td>
<td>0.31</td>
<td>1.46</td>
</tr>
<tr>
<td></td>
<td>Regional</td>
<td>12.42</td>
<td>28.15</td>
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<tr>
<td></td>
<td>Low SES</td>
<td>17.79</td>
<td>24.53</td>
</tr>
<tr>
<td></td>
<td>Indigenous</td>
<td>1.41</td>
<td>2.68</td>
</tr>
<tr>
<td>Nursing</td>
<td>Remote</td>
<td>0.58</td>
<td>1.36</td>
</tr>
<tr>
<td></td>
<td>Regional</td>
<td>14.32</td>
<td>27.26</td>
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<tr>
<td></td>
<td>Low SES</td>
<td>20.62</td>
<td>24.79</td>
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<tr>
<td></td>
<td>Indigenous</td>
<td>0.92</td>
<td>2.41</td>
</tr>
</tbody>
</table>

Table 14: 2015 postgraduate equity group students as a percentage of FoE (Education and Nursing) cohort at Go8 and other universities

<table>
<thead>
<tr>
<th>FoE Enrolment by University Type</th>
<th>Equity Group</th>
<th>% of Go8 FoE Cohort</th>
<th>% of other FoE Cohort</th>
</tr>
</thead>
<tbody>
<tr>
<td>Education</td>
<td>Remote</td>
<td>0.81</td>
<td>1.65</td>
</tr>
<tr>
<td></td>
<td>Regional</td>
<td>11.65</td>
<td>20.56</td>
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<tr>
<td></td>
<td>Low SES</td>
<td>9.45</td>
<td>16.94</td>
</tr>
<tr>
<td></td>
<td>Indigenous</td>
<td>0.52</td>
<td>1.28</td>
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<tr>
<td>Nursing</td>
<td>Remote</td>
<td>0.78</td>
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<td></td>
<td>Regional</td>
<td>12.48</td>
<td>24.27</td>
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<td></td>
<td>Low SES</td>
<td>16.10</td>
<td>18.43</td>
</tr>
<tr>
<td></td>
<td>Indigenous</td>
<td>0.54</td>
<td>1.13</td>
</tr>
</tbody>
</table>
Appendix 3: Schedule of Interview Questions for National Consultation

1. Could you tell me a bit about your professional background and how you came to be in your current position?

2. What do you know about the types of people who become (insert profession)?

3. What do you consider to be the main issues relating to fair access to (insert profession)?

4. Do you know of any programs or approaches that have been implemented to address the access issue? Could you describe these and comment on their effectiveness?

5. Are there approaches that you know about that use digital technology to address the issue of fair access? Could you describe these and comment on their effectiveness?

6. What would you like to see happen to create fairer access to (insert profession)?

Prompts:
• Programs
• Partnerships
• Resourcing
• Policy

7. Do you have any other thoughts or comments?