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# Preparing young people for the future of work

Policy roundtable report

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## About the Mitchell Institute

Mitchell Institute at Victoria University works to improve the connection between evidence and policy reform. We promote the principle that high-quality education, from the early years through to early adulthood, is fundamental to individual wellbeing and to a prosperous society. We believe in an education system that is oriented towards the future, creates pathways for individual success, and meets the needs of a globalised economy. Mitchell Institute was established in 2013 by Victoria University with foundational investment from the Harold Mitchell Foundation.

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# ■ Overview

In 2016 Mitchell Institute brought together a group of leaders from across Australia to consider a challenge which is putting our nation's wellbeing and future prosperity at risk: preparing young people for the future of work.

This Roundtable of education practitioners, government leaders, policy specialists and researchers put forward two ideas about how Australia's education system can change to accelerate innovation and improve transitions to employment:

1. Transforming senior secondary education; and
2. Revitalising apprenticeships

The Roundtable purposefully included diverse views and perspectives and even so, there was absolute consensus on the need for change.

## Critical challenges

For many twenty-first century school leavers the journey from school to the workforce is taking longer, and becoming more precarious.

- Youth unemployment has remained high since the onset of the Global Financial Crisis. The unemployment rate of young people (15-24 year olds) averaged 12.7 per cent in 2016, up from 9.4 per cent in 2007 (Australian Bureau of Statistics, 2016a).
- Fewer young people have full-time work. In 2016, 25 per cent of young people aged 15-24 who weren't studying were employed full-time, down from 34 per cent in 2007 (Australian Bureau of Statistics, 2016a).
- A large proportion of young people engage in unpaid work just to get a foot in the door, which makes it harder for those who cannot afford to work for free. A recent study by Oliver, McDonald, Stewart, and Hewitt (2016) found that 58 per cent of 18-29 year olds participated in unpaid work experience.
- The traditionally reliable pathways to a permanent job are not providing young people with the same employment outcomes they once did. The full-time employment rate for bachelor graduates was 71 per cent in 2016, compared to 85 per cent in 2007 (Quality Indicators for Learning and Teaching (QILT), 2016). And around one in four bachelor graduates work in casual positions (Longitudinal Surveys of Australian Youth, 2015).
- Many young people struggle to find employment in the field they studied and trained for, indications of a mismatch between study decisions and employment opportunities. For instance in 2016, only one third (33.2 per cent) of VET graduates were employed in the occupation they trained in (National Centre for Vocational Education Research, 2016a).
- Over a quarter of young people are not fully engaged in education or training at age 24 (Lamb, Jackson, Walstab, & Huo, 2015).

In this labour market context, traditional groupings such as ‘employed’ and ‘unemployed’ fail to capture the range of experiences common to many young people (Cuervo, Crofts, & Wyn, 2013). Some young people are seeking the flexibility and freedom to balance multiple jobs and studies, while others seek but struggle to find stability and secure incomes.

## What this means for Australia’s future

These changes in young people’s pathways into work have clear implications for education and economic policy. Education systems have not been designed to foster the types of capabilities needed to navigate complex environments and multiple careers. The basic model of education has been largely static in the face of changes in the broader economy. Many young people are being left behind, and this challenge will only intensify into the future.

Future generations will navigate a vastly different world of work to that of their predecessors. Technology is rapidly disrupting how we live and work – many tasks at the core of low and medium skill jobs are being automated or contracted offshore. Some research estimates that 40 per cent of jobs in Australia are at high risk of being automated in the next 10 to 15 years (Durrant-Whyte, McCalman, O’Callaghan, Reid, & Steinberg, 2015).

Young people will need different skill sets to thrive in technology-rich, globalised, competitive job markets. We need to adapt our approaches to education so that young people are equipped with the capabilities that will enable them to thrive in these complex education and employment settings. And we need citizens with the right skills and capabilities if Australia is to successfully transition from a resource-based economy.

## Harnessing ideas and exploring future directions

### Background on the changes, challenges and opportunities

The first section in this report includes background data and analysis prepared by Mitchell Institute. It delves into some of the challenges facing young people as they make the transition from education to employment. It focuses on the last decade, capturing the growth period just before the global financial crisis hit in 2007-08, and the period of economic downturn and slow recovery. It highlights some transformational shifts underway in the world of work and explores how education systems must adapt to enable young people to make the most of future opportunities.

### Mitchell Institute Roundtable

The second part of the report explores the two ideas discussed at the roundtable: reforming senior secondary education (Years 10 to 12) and expanding and applying the apprenticeships model in innovative ways. This section highlights directions for further research and policy reform.

### The next step: strengthening capabilities

While there are a number of policy, structural and practice changes needed to transform the education system, Mitchell Institute believes that a renewed focus on capabilities must underpin reform. Capabilities can bridge the academic and vocational divide, providing young people with the resources to navigate the future. The final section is a reflection on the importance of capabilities.

### What are capabilities?

*“Knowledge is crucial, of course, but young people need to understand how to find it, how to interpret it, how to utilise it and how and when to act on it.” (Lucas & Claxton, 2009)*

Capabilities are the set of skills, behaviours and dispositions which allow an individual to convert their knowledge into meaningful action in a range of different settings (Fox, 2016) .

Types of capabilities (also referred to as non-cognitive skills, enterprise skills, 21<sup>st</sup> Century skills) include: critical thinking, problem solving, creativity, curiosity, interpersonal and communication skills, self-regulation, grit, entrepreneurial skills, teamwork and craftsmanship.

There is a growing evidence base for the power of capabilities and employers are increasingly seeking them in young people (Duckworth & Seligman, 2005; Gray, 2016; Heckman, Stixrud, & Urzua, 2006; Schleicher, 2016; The Foundation for Young Australians, 2016).

# ■ 1. Background on the changes, challenges and opportunities

There are fundamental, structural changes underway in shape of the economy and the organisation of society. Children starting preschool in 2017 may go on to be employed in jobs we haven't yet imagined. Our education systems are not yet adequately preparing young people for the future, and already the data is showing this strain.

The focus of this section is data on the school to work transitions of young people. Where there was once a clear pathway from study to work, it is evident that in the current economic climate, young people are spending longer periods in education and many are taking longer to find their feet in the labour market. The key challenges here relate to:

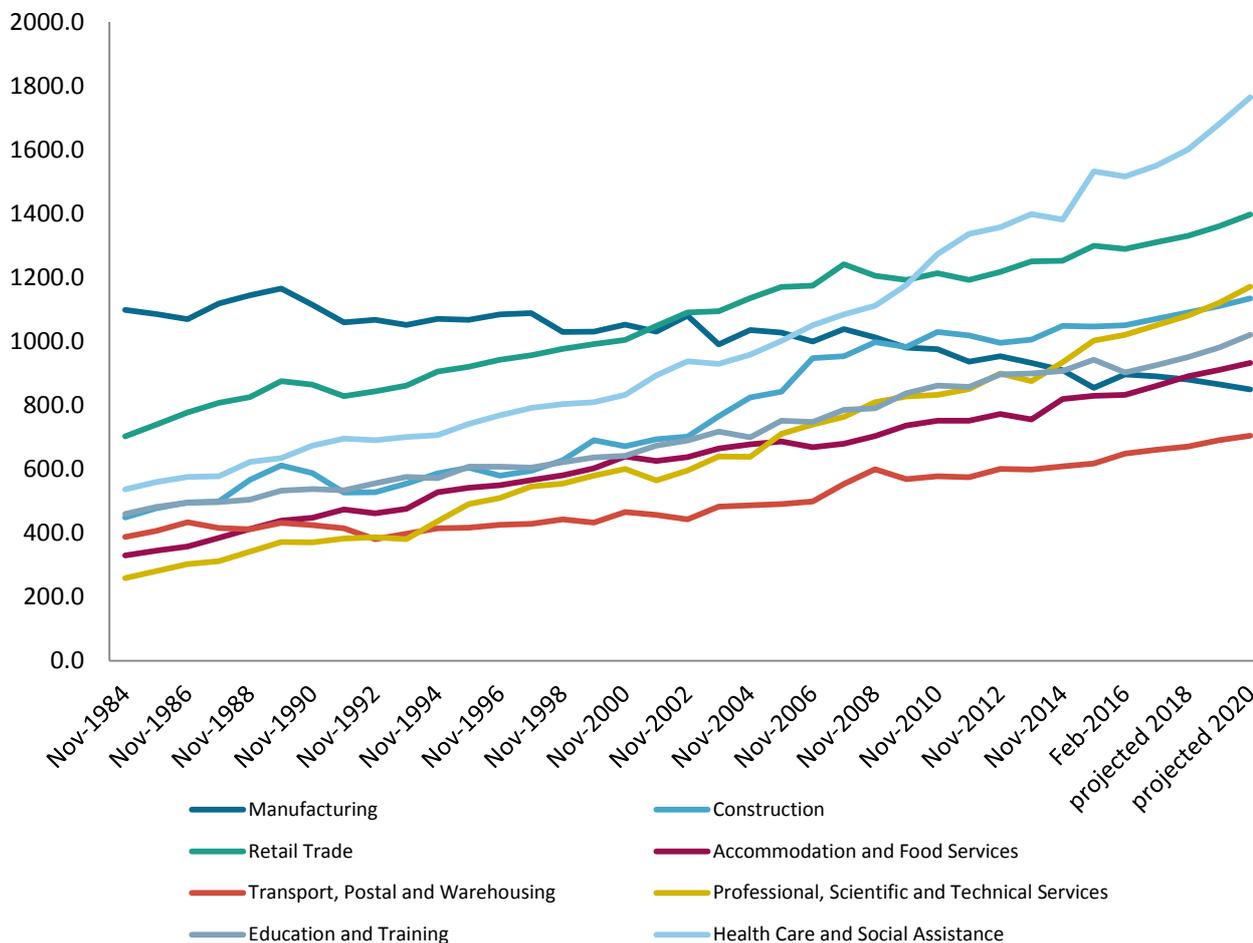
- Preparing for the future world of work
- The extent to which the education system is equipping young people with relevant skills and knowledge; and
- Fundamental changes in the economy and labour force.

## 1.1 The future of work

There are transformational changes occurring to the way we live and work. Economies are becoming increasingly complex and globalised, and new technologies are bringing about unforeseeable disruptions to the world of work (Zhao, 2012). The types of skills that young people will need in order to thrive in the future workforce are changing too.

In Australia, changes to key employment industries are already underway. Employment in the services sector has experienced strong growth – with significant expansion in healthcare and social assistance; professional, scientific and technical services; and retail (Figure 1). Manufacturing, which was the top employment industry at the beginning of the twenty-first century, has been in steady decline.

**Figure 1: Industry growth ('000s)**



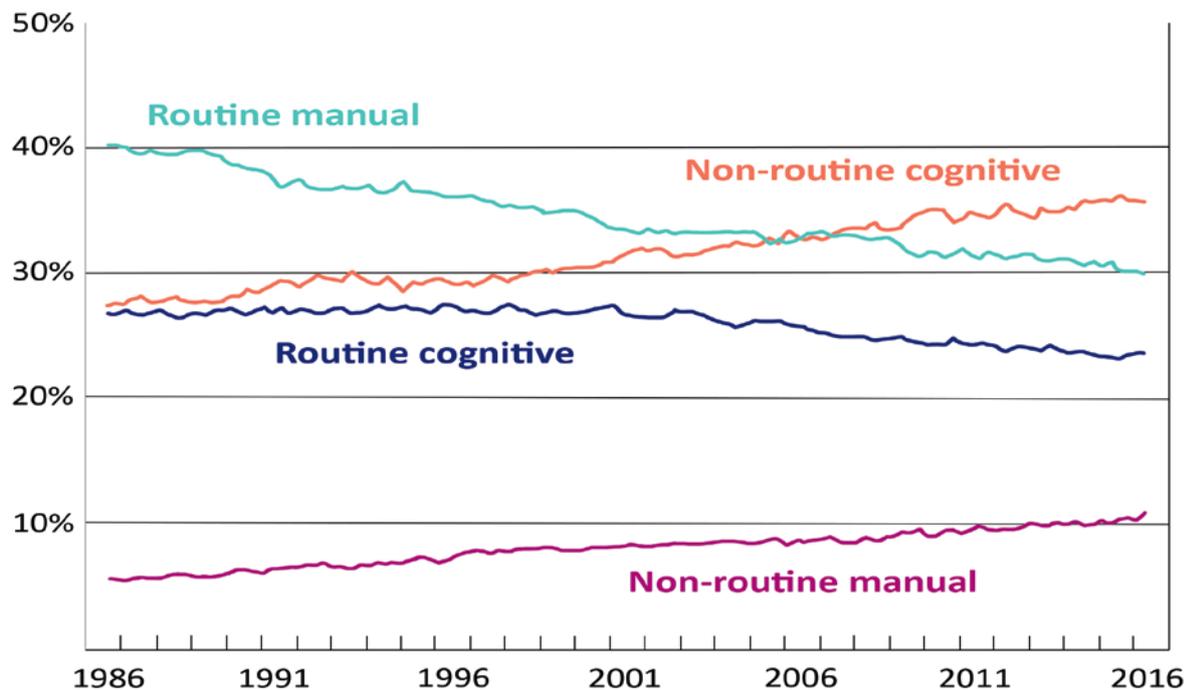
Source: Catalogue 6202.0 - Labour Force, Australia, Dec 2016, Australian Bureau of Statistics (2016a) & employment projections sourced from 2016 Employment Projections, Australian Government Department of Employment (2016)

Alongside this economic transformation, the types of skills required in the workforce are changing.

The share of jobs in the Australian economy requiring routine processes (both manual and cognitive) has been in decline for a number of years. These 'routine' jobs, which include labourers, machinery operators and drivers and clerical workers, have been highly susceptible to automation, a trend set to continue in the future (Australian Government Productivity Commission, 2016). Some research estimates that 40 per cent of jobs in Australia are at high risk of being automated in the next 10 to 15 years (Durrant-Whyte et al., 2015).

Growth is seen in the 'non-routine' industries, those requiring innovation, creativity, problem-solving, relationships and responsiveness to changing circumstances.

**Figure 2: Employment by skill type**



Source: Reserve Bank of Australia, Heath (2016)

This rapid, fundamental change in the economy has significant implications for education systems which were designed for the economies that developed in the wake of the industrial revolution (Winthrop & McGivney, 2016). For workers to benefit from the employment opportunities brought about by current and future technological developments, they will need to acquire a different set of capabilities than what is currently prioritised.

The Foundation for Young Australians argue that young people will need to be more entrepreneurial than in the past, and that a more transferable set of ‘enterprise skills’ will be demanded in 70 per cent of future jobs (The Foundation for Young Australians, 2015, 2016).

If schools are to meet the challenge of equipping young people with the skills to navigate the future of work, a substantial shift in current approaches is needed. Leadbeater (2016) argues that to enable young people to adapt and thrive, “learning should promote skills of collaboration and problem solving, making and designing, empathy and emotional acuity, rather than dutiful diligence in following a routine to deliver the expected answer at the appropriate moment.”

The OECD advocate for the need to rebuild school curricula and education systems more broadly to prioritise these competencies, to ensure individuals develop creative, critical thinking and collaborative skills, and build the character attributes such as mindfulness, curiosity, courage and resilience (Schleicher, 2015).

## 1.2 Is the education system equipping young people with the skills, knowledge and capabilities they need?

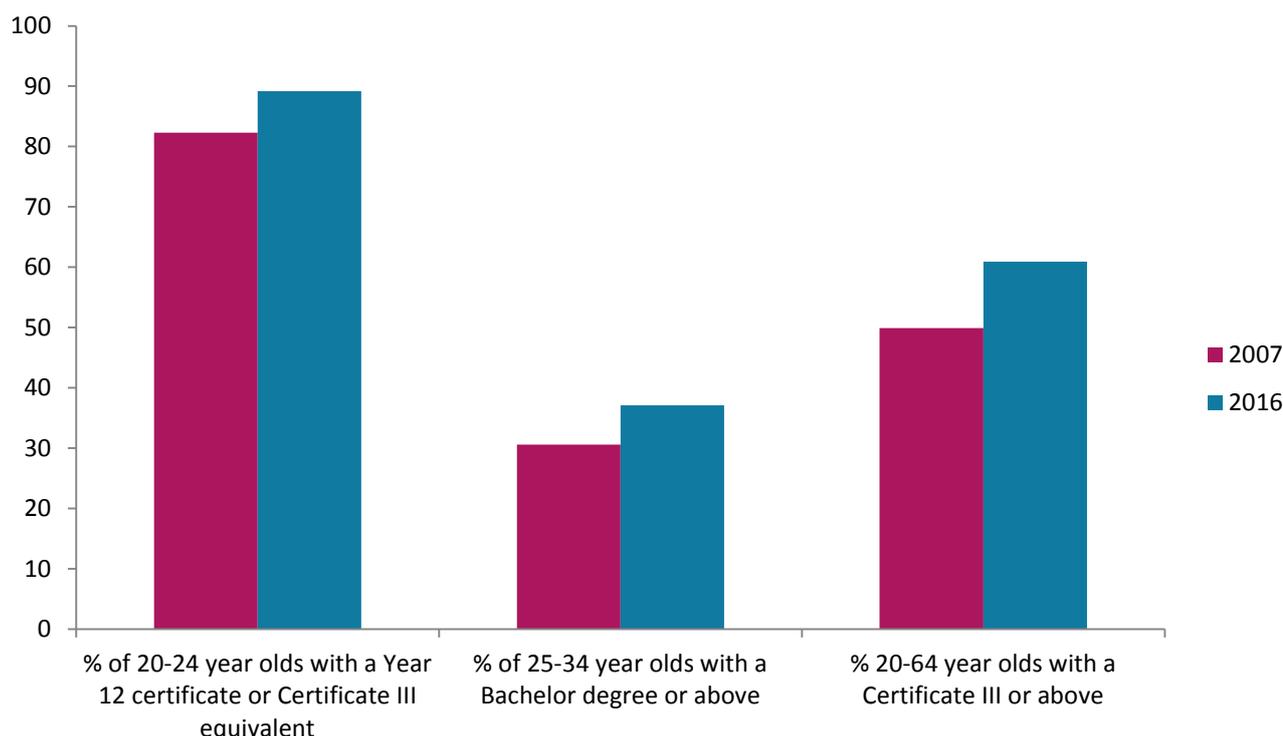
In recent decades, Australia has made a lot of ground in increasing education participation and more young people are reaching higher levels of educational attainment than ever before.

In 2016, 83 per cent of young people aged 15-19 were participating in formal study, an increase from 77.8 per cent in 2007, and the proportion of 20-24 year olds in formal study increased from 37 per cent in 2007 to 45 per cent in 2016 (Australian Bureau of Statistics, 2007, 2016b). Australia is ranked 8<sup>th</sup> of 44 OECD countries in the proportion of people aged 25-64 with a tertiary qualification (OECD, 2016a).

This is a significant achievement given that completing school and post-school qualifications are associated with higher levels of employment and income, as well as health and wellbeing, in the long term.

The rapid increase in educational attainment is the result of explicit policy intent. Over the last decade, a series of National Partnership Agreements established targets for increasing education attainment levels of young people and the workforce. Figure 3 highlights the uplift in the proportion of the population with formal qualifications between 2007 and 2017.

**Figure 3: Educational attainment indicators**



Source: Catalogue 6227.0 - Education and Work, Australia, May 2016, Australian Bureau of Statistics (2016b)

The policy and investment decisions made to reach these targets have facilitated a rapid expansion of the tertiary sector – although increases in funding and participation have been skewed towards higher education rather than the VET sector (O’Connell & Torii, 2016). Investment and participation in VET has been in decline, particularly since 2012, which has the effect of reducing educational opportunities and pathways for many young people (Australian Government Productivity Commission, 2017).

While Australia has been progressing in some areas of education, there continues to be significant gaps and ongoing challenges, as detailed in the sections below:

**We are not yet developing the full range of knowledge, skills and capabilities young people need**

Currently at the system level, only narrow measures of education achievement and certain outcomes are captured, valued and prioritised. The two stated goals in the *Melbourne Declaration on Educational Goals for Young Australians*, agreed on by all Australian governments in 2008, are that (Ministerial Council on Education, 2008):

- Australian schooling promotes equity and excellence, and
- All young Australians become successful learners, confident and creative individuals, active and informed citizens.

Yet outcomes against most of these goals are not systematically measured (Ross, 2014). Narrow proxy measures of academic achievement are made a priority – as demonstrated by the emphasis that many schools place on lifting National Assessment Program - Literacy and Numeracy (NAPLAN) results and Australian Tertiary Admission Ranks (ATAR).

Measures which capture broader cognitive, social and emotional dimensions of children’s development exist in the early years via the Australian Early Development Census (AEDC). However as children progress through school, these important measures are not tracked at a national level, and are measured in inconsistent ways, if at all, in the states and territories.

The National Curriculum includes a range of broader learning outcomes – general capabilities such as critical and creative thinking, personal and social capability, and ethical understanding. However, there is no consistent national approach to measuring and tracking the general capabilities, and each jurisdiction is able to determine the extent to which they are assessed and reported (Australian Curriculum). It is not yet well understood by all schools how to teach capabilities, although some schools are moving to include them (Mitchell Institute, 2016).

Without these broader measures of educational achievement, the useful but narrow NAPLAN and ATAR measures are given disproportionate weight and, in a case of the tail wagging the dog, are driving the priorities of teachers, school leaders and education departments.

### Overall academic achievement is slipping by national and international standards

Although school education is privileging academic achievement over the development of broader capabilities, this approach is not succeeding in lifting academic results nor is it adequately preparing young people for the future. A succession of data sources have demonstrated that Australia’s achievement is flat lining.

NAPLAN results, at the national level and across year levels, indicate no significant improvements in 2016 from the year before (Australian Curriculum, 2016).

Programme for International Student Assessment (PISA) results show that Australian students’ performance declined in reading and scientific literacy between 2006 and 2015, and mathematical literacy declined between 2012 and 2015 (Thomson, De Bortoli, & Underwood, 2016). Similar patterns are evident in other international assessments, such as the Trends in International Mathematics and Science Study (TIMSS) and Progress in International Reading Literacy Study (PIRLS).

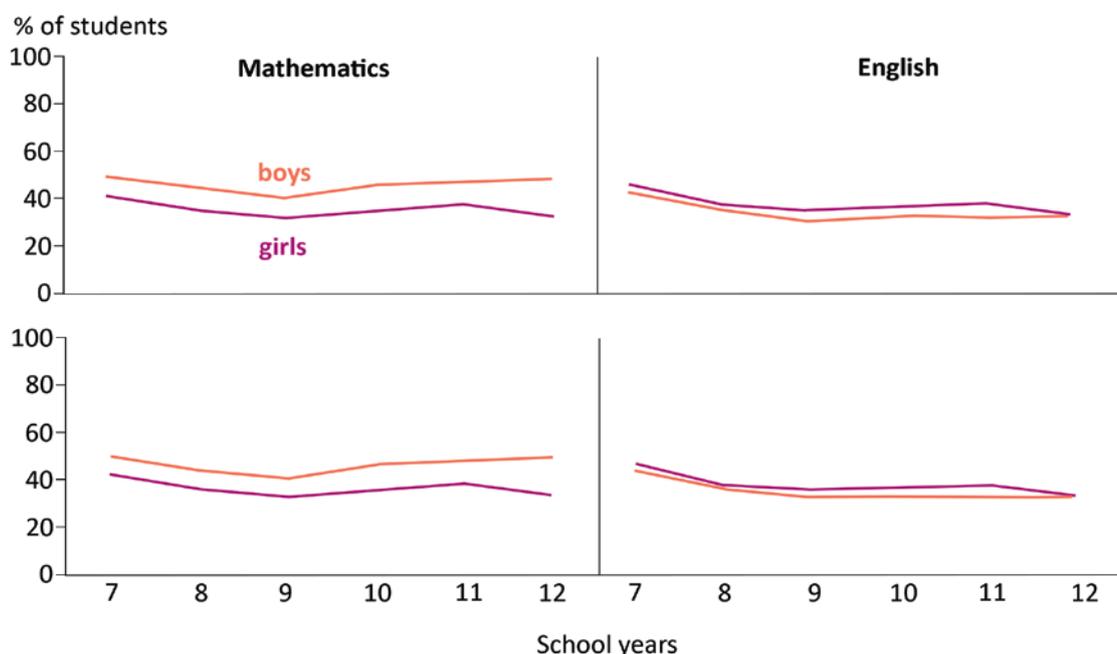
### Many school students are disengaging from learning

We are not providing learning environments that are meaningful or engaging for a large cohort of students. Australia’s PISA results show below-average levels of cognitive, emotional and behavioural engagement, and each year over a quarter of young people – at least 80,000 students – do not complete year 12 or equivalent by age 19 (Lamb et al., 2015).

Engagement in learning is low and declines sharply as students progress through school. These patterns are observed across the country, for example:

- In New South Wales a 2013 survey of 78,600 students from 172 government secondary schools shows low levels of effort and interest and motivation in Maths and English (NSW Centre for Education Statistics and Evaluation, 2015) (Figure 4)
- In Victoria students’ confidence in their own learning is low, declines rapidly as they progress through school and is especially low for Aboriginal and Torres Strait Islander students (Victorian Department of Education and Training, 2016)
- In South Australia, a 2014 study found that more than 60 per cent of teachers in low socioeconomic status (SES) areas reported disruptive behaviour in classrooms several times a day (Goss & Sonnemann, 2017)

**Figure 4: Percentage of students with high levels of interest and effort, NSW government schools**



Source: *Student engagement and wellbeing in NSW*, NSW Centre for Education Statistics and Evaluation (2015)

### The VET sector is in decline, reducing access to meaningful educational pathways for many young people

A high quality VET system is essential for providing pathways to skilled employment in many industries, and to equip the workforce with the technical skills needed to drive economic growth. A university education is not a good fit for all young people, and not necessary for all jobs.

Yet current VET and higher education investment levels are not sufficient to ensure the system has capacity to meet future tertiary level education and training needs (Noonan, 2016b).

The VET sector has been plagued by issues with quality, access, affordability and poor outcomes. Recent performance indicators suggest this trend continues:

- The number of VET qualification completions fell 16.9% between 2014 and 2015 and the participation rate of 15-64 year olds in government funded VET was 7.6 per cent in 2015, down from 9.9% in 2012 (Australian Government Productivity Commission, 2017)
- VET outcomes are declining, with a significant drop in the proportion of graduates indicating their VET course had improved their employment outcomes (66.8 per cent in 2006 down to 58.2 in 2015), decreasing post-training employment rates (59.1 per cent in 2006 down to 44.3 per cent in 2015) and a reduction in employer satisfaction (84.6 per cent in 2011 down to 76.2 per cent in 2015) (Australian Government Productivity Commission, 2017)

In general, we have successfully boosted educational attainment, but Australia’s education system is not succeeding at excellence, engagement, equity or equipping young people for the future.

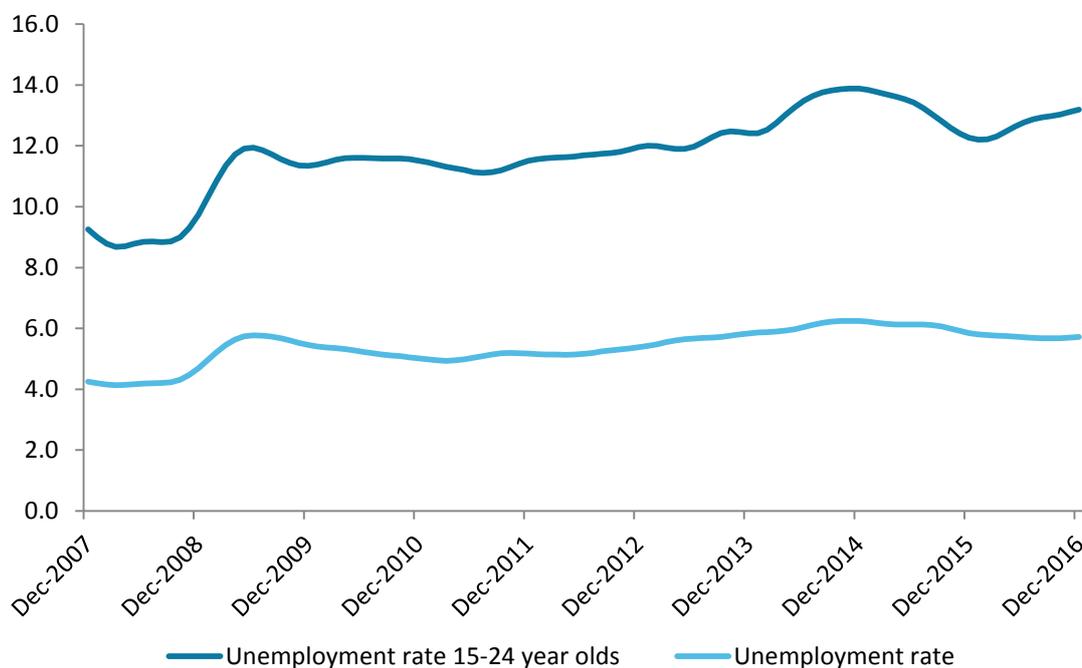
### 1.3 Transitions to employment

The impact of the structural changes in the economy, and the challenge our education systems are facing in meeting the needs of young people, are already evident.

Despite improving education attainment, many young people are not faring well in the current labour market – with particularly high rates of unemployment in some regions, and particular groups facing much greater challenges finding and sustaining employment (Australian Bureau of Statistics, 2016a; Brotherhood of St Laurence, 2016; The Smith Family, 2014). Young people tend to be disproportionately impacted in tough labour markets, as has been the case globally since the global financial crisis (OECD, 2016b), but there are fears that youth unemployment is not bouncing back and that structural changes in the economy may leave young people behind.

In 2016, unemployment continued to trend upwards for young people, with over 260,000 15-24 year olds categorised as unemployed. The unemployment rate for 15-24 year olds was 12.7 per cent while the overall unemployment rate in Australia was 5.7 per cent, and trend unemployment data highlights growing divergence between unemployment rates for young people and older workers (Figure 5).

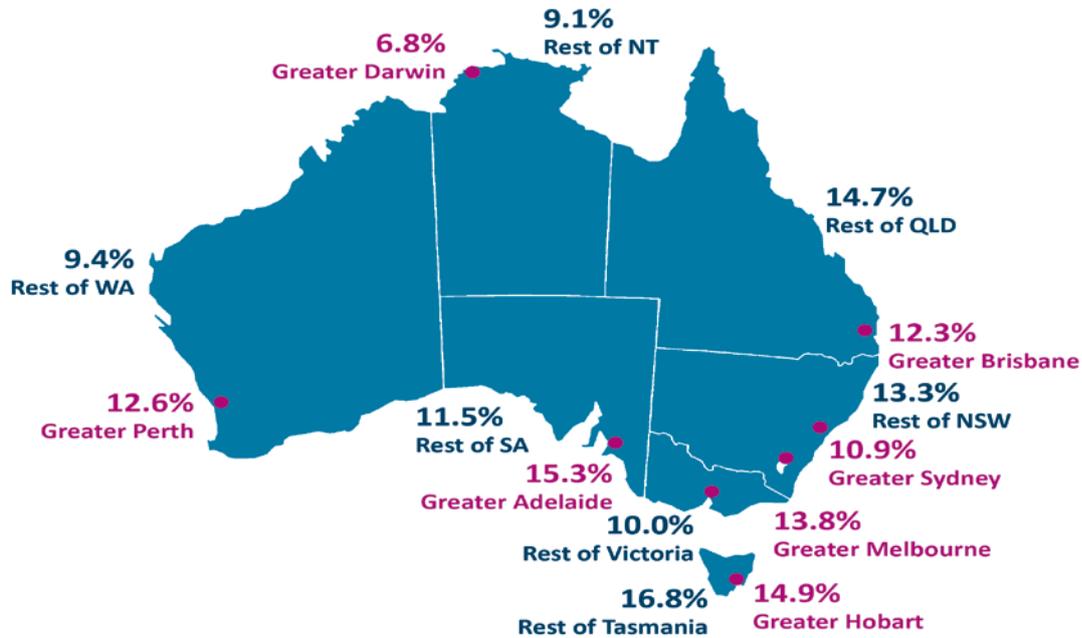
**Figure 5: Unemployment patterns of young people**



Source: Catalogue 6202.0 - Labour Force, Australia, Dec 2016 Labour force status for 15-24 year olds by Sex - Trend, Seasonally adjusted and Original, and Labour force status by Sex, Australia - Trend, Seasonally adjusted and Original, Australian Bureau of Statistics (2016a)

Unemployment rates for young people have remained at persistently high levels in some regions across the country (Figure 6).

**Figure 6: Unemployment rates of young people (15-24) across Australia in 2016**



Source: Catalogue 6291.0.55.001, RM1 - Labour force status by Age, Australian Bureau of Statistics (2016c)

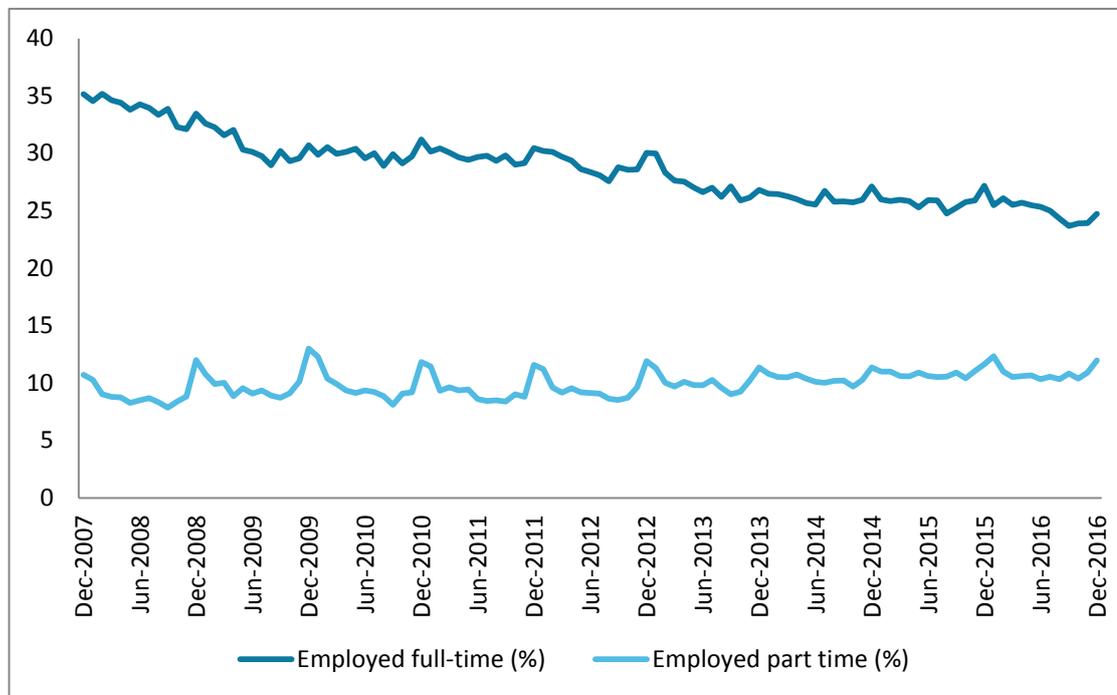
A notable shift in employment patterns of young people in recent years has been the growing number of young people in part-time or casual employment and fewer young people with full time jobs (Figure 7):

- In 2016, of the young people (15-24) not in full-time education, on average around 787,000 were in full-time employment (25 per cent), while ten years earlier in 2007 there were 981,000 employed full-time (34 per cent) (Australian Bureau of Statistics, 2016a)
- In November 2007, of the 15-24 year olds not in full-time education, 252,000 worked part-time (9 per cent). This grew to 343,000 in 2016 (11 per cent) (Australian Bureau of Statistics, 2016a)

Casual employment can offer flexibility for young people looking to balance study with work and family, and for those looking to improve their work-life balance. However, it can also be associated with underemployment, unpredictable working hours and pay, and lack of employment security which can be particularly detrimental to vulnerable young people.

The impact of this ‘precarity’ or uncertainty on young people goes beyond security at work and has flow-on effects on their wellbeing, family formation and housing (Cuervo et al., 2013).

**Figure 7: Employment status of 15-24 year olds who are not in full-time education ('000s)**

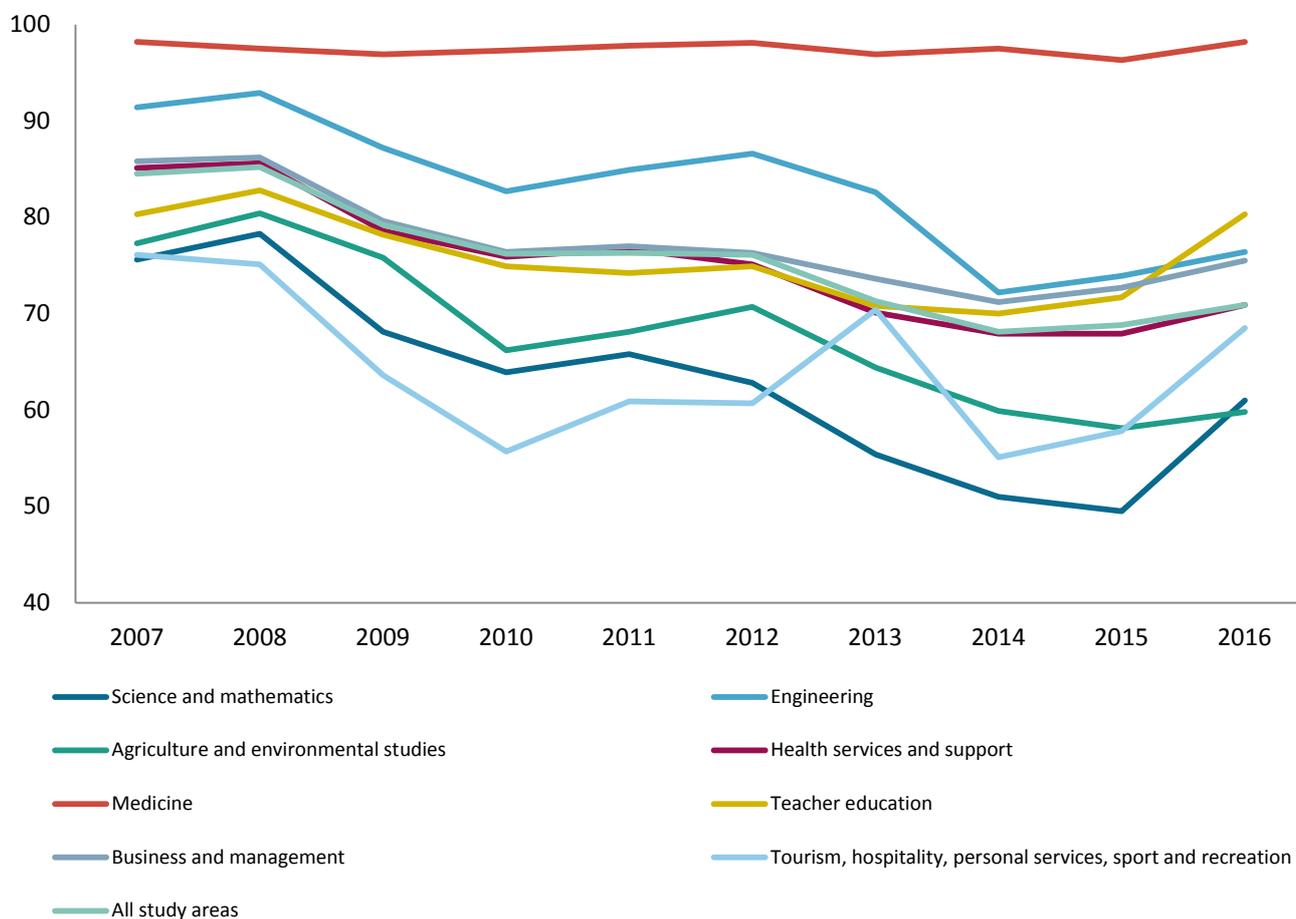


Source: *Labour force status for 15-24 year olds by Educational attendance, Australian Bureau of Statistics (2016a)*

Many young people use further study to improve their credentials as a pathway to finding long-term employment, permanent roles or secure incomes. But in the current economy, these pathways are not as reliable as they once were. For instance, in 2016, the full-time employment rate for bachelor graduates was 71 per cent, compared to 85 per cent in 2007 (Quality Indicators for Learning and Teaching (QILT), 2016).

Areas of study that have a more vocational focus – whether studied through VET or university – tend to lead to better employment outcomes. Fewer students in generalised courses, such as computing and information systems, humanities, culture and social sciences, agriculture and environmental studies, find employment after graduation (Figure 8).

**Figure 8: Undergraduate full-time employment rates, selected study areas, 2006–2016 (%)**



Source: 2016 Graduate Outcomes Survey National Report, Quality Indicators for Learning and Teaching (QILT) (2016)

Training models strongly based in employment, such as apprenticeships and traineeships, offered better job prospects:

- In 2016, 92 per cent of trade apprentice and trainee graduates were employed after training (National Centre for Vocational Education Research, 2016b)
- Employer satisfaction with VET was higher for Apprenticeship and Traineeship employers. In 2015, 81.7 per cent of employers engaged with apprenticeships or traineeships were satisfied that the training met the skill needs, while 76.2 per cent of employers were satisfied where VET was a formal requirement for the job (Australian Government Productivity Commission, 2017)

Of the almost 1 million new jobs to be created in Australia between 2016 and 2020, around 483,000 of these jobs will require a bachelor degree or higher and around 438,000 will require a VET qualification (Figure 9) (Australian Government Department of Employment, 2016).

However, the decline in investment and quality of the VET sector means that young people will not be adequately skilled or equipped to take advantage of the growth in the economy.

**Figure 9: Projected employment growth to November 2020 by skill level ('000)**



*Source: 2016 Employment Projections, Australian Government Department of Employment (2016)*

## Key findings

The clear implication of this data is that there is a disconnect between the structure and focus of our education systems, and the needs of young people and the economy. Although progress is being made on embedding the capabilities young people will need into the curriculum, and there are some sites of world-leading practice in Australia, there is more to be done to ensure all young people are adequately equipped for the future.

## 2. Mitchell Institute Roundtable

Our education system can better meet the needs of young people navigating a complex future. Pursuing the kind of systemic change we need will not be easy. It involves a number of fundamental changes to the way we conceptualise and deliver learning opportunities to young people. However, there are a number of practical and achievable pathways to change.

While there is no silver bullet solution to Australia’s educational challenges, exploring innovative ideas and approaches is an important starting point. The ideas discussed here relate to:

- The later years of secondary school, as they are a time when many young people test, explore and develop their interests and make decisions about future career pathways.
- New approaches to apprenticeships, as they have provided an important and effective labour market entry point for generations of young people.

Both of these education and training models hold significant potential for renewal, to meet the changing needs of young people and the economy.

The summary of the Roundtable discussion provided below explores these ideas in greater depth, and brings to light the potential for vocational learning to be used as a platform for developing the capabilities needed for future jobs.

### 2.1 Reforming the model for senior secondary education

#### 2.1.1 The issue

There was a strong appetite at the Roundtable for changes to senior secondary education in Australia, and a shared belief in the importance of a model of education that embraces real world and applied learning for all students.

The Roundtable identified a number of additional significant challenges with the model of separating academic and vocational pathways:

#### **The separation of academic and vocational learning**

- All young people – irrespective of whether they pursue a trade, service or professional career – need a foundation in broader capabilities such as problem solving, communication and collaboration, as well as deep knowledge, technical skills, and literacy and numeracy. Yet, while school students have the option of studying both academic and VET subjects, the two streams of learning are rarely interlinked, meaning students will learn either academic content-based knowledge or vocational technical skills, but rarely engage with both content and application.
- The separation between vocational or academic streams may also be exacerbating inequality, given students from disadvantaged backgrounds are more likely to be encouraged to pursue vocational pathways. This has been found to be the case for Indigenous students in some regions where “cohorts of students are directed toward these

options on assumptions about their culture or SES backgrounds” (Luke, Cazden, & Coopes, 2013). A key qualifier here is that vocational pathways may be lower quality, and afforded less importance, than academic pathways. In other countries, where vocational pathways have prestige, the issue of streaming is less problematic as either pathway is high quality.

### Community preference for academic pathways over VET qualifications

- There is a persistent tendency for many parents, students and schools to view VET as a much less prestigious and valuable pathway, compared to the academic pathway that leads to university. Devaluing vocational learning can unfairly stigmatise young people undertaking vocational qualifications, and can lead to young people pursuing an ATAR instead of a pathway that may suit their interests and learning needs better.
- Given that school funding levels are driven by enrolment numbers, schools may feel they must prioritise academic achievement over providing quality VET opportunities in order to attract and retain enrolments.

### Limitations of the current VET framework in schools

- Using the national VET framework in the school system, under current settings, does not meet the needs of many students. National VET qualifications focus on developing the technical competence for specific tasks in the workplace, with training packages largely oriented around very specific fields of work. However, most school students do not use the VET qualifications they obtain at school to go directly in to a job, and most do not continue on to higher level qualifications in the same area.
- The training package model is not sufficiently flexible to provide vocational learning opportunities which deliver transferrable skills and prepare young people for a broad range of occupations.
- Students could benefit from gaining the capabilities that underpin employment in multiple fields or across job clusters (such as resilience, collaboration, lifelong learning, problem solving, entrepreneurial skills) (FYA 2016). A strong grounding in these core capabilities will better enable them to navigate multiple careers as well as continue with their learning if this is a chosen path

### 2.1.2 Potential solutions

A range of possible reforms and solutions were raised at the forum. The four key priority areas identified are:

1. **Prioritising building young people’s capabilities:** Supporting and equipping educators to cultivate young people’s capabilities within both academic and vocational learning streams. This would involve recognising the capacity of both streams to equip young people with technical and academic knowledge and the mindsets and characteristics they need to navigate a changing workforce.
2. **Valuing vocational education:** Shifting community perceptions about different and valued pathways, including the value of VET and limitations of focussing only on academic learning. However, to achieve a shift in the narrative about the value of vocational education, it will be necessary to improve the quality of VET across the whole system, and respond to the reputational damage that has occurred. Part of this includes a focus on the VET workforce – teacher training receives much focus on the government agenda but the capacity of the VET workforce, particularly with regards to educating young people, is rarely addressed.
3. **Navigating employment:** Improving career exploration and career guidance options for school students to expand young people’s understanding of the variety of pathways available, the core skills and attributes needed within various job clusters, and a focus on developing young people’s ability to identify their strengths and interests. This will equip them to more effectively match their strengths with study and employment opportunities and successfully navigate career opportunities.

4. **Meaningful vocational education:** Reforming VET in Schools policy by expanding the framework through which VET in Schools is taught and assessed is a necessary reform. In particular, greater flexibility is needed so that schools are not wedded to the national training packages and can better meet the needs of young learners.

## 2.2 Expanding the apprenticeships model

### 2.2.1 The issue

Apprenticeships have a long and successful history of providing young people with highly effective work-integrated learning and secure employment pathways. They have traditionally been confined to specific industries and trades, but hold enormous potential for other sectors.

The Roundtable discussed the idea of expanding apprenticeships to more industries and for different types of qualifications. This would involve building on the success of current apprenticeship models by, for instance, exploring bachelor degree-level apprenticeships, or apprenticeships in emerging and growth industries such as the caring industry and professional services.

Apprenticeships provide a model of learning that is highly embedded in the workplace and combines skill and knowledge development. Apprenticeships enable young people to get the benefit of off-the-job institution-based training and qualifications, as well as directly developing and applying their skills in paid employment. The trend towards more young people doing unpaid work in order to gain workplace experience, as explored in Oliver et al. (2016), suggests that education models that provide workplace experience can offer real benefits in the contemporary youth labour market.

Traditionally, apprenticeships provided a starting point in the labour market for young people not going beyond the compulsory years of school. The apprenticeship model has been primarily used to train workers in traditional trade professions – such as electricians, plumbers and builders. Apprenticeships usually take 3-4 years to complete, and are predominantly undertaken at the Certificate III and IV qualification level. In 2015, there were approximately 278,600 apprentices and trainees in training, representing 2.3 per cent of Australian workers (National Centre for Vocational Education Research, 2015).

Traineeships were introduced in Australia in 1985 and apply the same model but to non-trade occupations such as retail and service jobs. Traineeships are generally shorter in length and completed at lower certificate levels. The removal of incentives paid to employers in traineeship occupations, along with generally poor quality and low completions rates have plagued the traineeship model (Noonan, 2016a). Burke (2016) notes that traineeship commencements fell 50 per cent between 2012 and 2014, indicating the importance of getting policy settings right.

The UK is experimenting with degree apprenticeships in non-traditional areas such as digital and technology, banking and engineering. In this model, employers, universities and professional bodies co-design new degrees combining a full bachelor's or master's degree with employment. 'Trailblazer Apprenticeships' have also been introduced in the UK, radically changing the traditional design of apprenticeships by enabling groups of employers to create apprenticeships that suit their needs (Delebarre, 2015). These models are well established and highly effective in parts of Europe (Universities and Colleges Admissions Service (UCAS), 2017).

Roundtable participants raised a number of challenges and opportunities:

- **Current apprenticeship numbers are in decline** – fewer young people are starting apprenticeships, which may indicate that the current model is no longer meeting the needs of young people or employers effectively.
- **Apprenticeships are not being widely adopted in areas of employment growth** – some of the traditional apprenticeship occupations are declining and so apprenticeship numbers are falling too. Attempts to use shorter

length traineeship models in the non-trade industries has not developed as a successful platform for the high-skill occupations, in part because of issues with quality.

- **Narrow definition of apprenticeships** – it could be difficult to separate the concept of apprenticeship as a ‘job with a lot of learning’ from the current framework and context of apprenticeships in Australia. Australian Apprenticeship programs are well established in particular industries and involve training and employment contracts formalised in workplace relations frameworks. Applying this same model to different industries would be complex and may carry some risks.

### 2.2.2 Potential solutions

The apprenticeship concept – a job that integrates a high degree of hands-on and accredited learning – offers a strong value proposition for young people today and in the future. In order to expand innovative apprenticeship-like models in Australia, it was discussed that further work would be required in the following areas:

1. Further research into different forms of apprenticeship models and the key design features that underpin success, including learning from past challenges with other models, such as traineeships.
2. Engaging new industry players to co-design, trial and evaluate different types of apprenticeship-like models, to build evidence, confirm proof-of-concept and guide scale-up.
3. Careers advice and career navigation support that enables a wider cohort of young people to explore apprenticeships as an alternative pathway to employment.

### 3. The next step: strengthening capabilities

Of all the priority areas raised in the roundtable, prioritising capabilities is the most pressing, and the most ‘ready’ solution. Strengthening capabilities can help bridge the academic and vocational divide. Governments need to prioritise the teaching, testing and reporting of achievement in capabilities alongside core curriculum. For capabilities to count they need to be measured and reported at a national level, assessed in schools and communicated to parents and considered alongside or contribute to ATAR.

While capabilities are gaining traction locally and internationally (Schleicher, 2015), they have featured in policy documents for more than a decade to little effect. Further work is needed to build parent and community understanding.

Overwhelming emphasis in education is on literacy and numeracy and whilst these are pivotal foundation stones, these underpinnings and content alone will not serve young people well. Evidence about how capabilities improve transitions, employability and life outcomes needs to be collected and shared with the broader community, including with teachers and principals.

More work is also needed to understand exactly how and where capabilities best develop, between home, work and school and within and across domains. Consideration of whether capabilities feature in their own right or across key subjects is necessary – are some subjects more likely to develop capabilities than others? Should senior years’ curriculum be amended to test and assess domain specific capabilities? Further work with schools implementing capabilities in the curriculum is likely to wield useful insights to answer these questions.

#### Learning from the past

Debates about capabilities are not new. Employability skills have been incorporated into training packages for over a decade. The development of non-technical skills, generic skills or employability skills has featured in various national vocational learning frameworks such as the Core Skills for Work Developmental Framework, Australian Core Skills Framework, and the Australian Blueprint for Career Development (Ithaca Group, 2016).

The Melbourne Declaration is eight years old, and spurred the inclusion of capabilities in the Australian Curriculum more than five years ago. However, whilst capabilities are included in the curriculum they are not being taught or assessed in any systematic manner.

#### New imperatives

There are new imperatives to focus on the capabilities. The capacity to gain employment that does not require tertiary education has diminished. University education is undertaken by the majority of young people but knowledge alone garnered through tertiary education is not sufficient for employment. Young people without capabilities to work in teams, solve problems and collaborate do not fare well in the labour market – a fate affecting around 40 per cent of science graduates.

A recent article cited that we can’t have the 4 c’s without the 3 r’s – implying that capabilities without basics are meaningless (Buckingham, 2017). This is true and the pedagogy for the cultivation of capabilities and character needs

to be explicit, and embedded in the teaching of individual subjects (Lucas, 2016). However, it is becoming equally apparent that the 3 r's without any c's are rendering young people unemployable in the modern, complex workforce. There is growing recognition across academia that capabilities can be taught – much like anyone can be a 'maths person' the same is true for a 'creative person'.

### Sites of good practice

Measuring capabilities is possible and we have been practising it for years. By the time a child starts school we use the Australian Early Development Census to assess how well children are developing across five domains: physical health and wellbeing, social competence, emotional maturity, language and cognitive skills and communication and general knowledge.

We know that children who start behind on one or more of these domains can struggle at school. Children who start school unable to manage their emotions consistent with others their age, to grasp a pen or share with their peers are likely to need extra support to succeed at school. So the census data is used to direct support to schools and communities where levels of vulnerability are greatest. However, after this early snapshot we tend to lose sight of these broader capabilities.

### Change underway

Work is underway to test and assess capabilities across the world through prototyping models. For example, the OECD is undertaking a cross country study on how countries explicitly assess critical and creative thinking, including developing an assessment tool to monitor acquisition, a pedagogical toolkit and a report assessing the effects of the activities on developing critical and creative thinking. This work will support the expansion of PISA learning outcomes.

In Victoria, work has commenced on teaching and assessing the capabilities. The capabilities feature in the Victorian Curriculum, and a group of trial schools have been working together to teach and assess them. This trial has challenged and rewarded teachers, who have gained confidence and noticed the increased capacity of their students when critical thinking is an explicit learning focus. Critical and creative thinking has been set as a government target, (as has resilience and physical activity) providing broader measures of school achievement than just literacy or numeracy.

The debate about whether capabilities are worthwhile and can be taught has shifted to acceptance of their worth and small scale trialling of how to teach and assess them.

### Recommendations

#### Focus on capabilities at school

Education needs to decentralise from one key outcome, the ATAR score, and instead develop and value the full range of capabilities young people require for a successful future.

Schools educate children for thirteen years, so have a prime role in developing the capabilities young people will need to thrive. Basics, such as literacy, numeracy and core subject knowledge, are important. But the senior secondary years need to go beyond this and provide young people with advanced capabilities within and across subject areas.

#### Support teachers to develop capabilities in students

The shift towards teaching capabilities also requires a major change in teacher education. In addition to articulating to teachers and principals the evidence behind teaching and assessing capabilities, teachers need support to assess students. Assessing capabilities is often not as simple as assessing literacy and numeracy, and may require a triangulated assessment strategy.

Further, given the newness of the capabilities space, there is little support material for teachers to draw upon, unlike subject specific textbooks. Developing resources to support teachers is imperative, as is examining how pre-service teaching and teacher professional development can support the teaching of capabilities.

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