



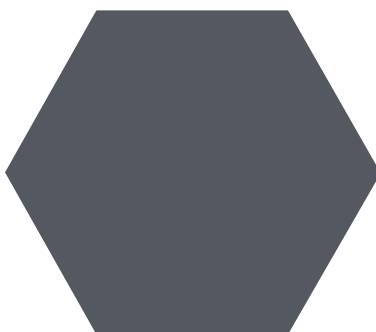
LOOKING TO THE FUTURE

REPORT OF THE REVIEW OF SENIOR SECONDARY PATHWAYS INTO WORK, FURTHER EDUCATION AND TRAINING

JUNE 2020

The world is moving at a tremendous rate; going no one knows where. We must prepare our children, not for the world of the past, not for our world, but for their world – the world of the future.

John Dewey, radio broadcast, early 1940s.



Education
 **Council**

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INTO WORK, FURTHER EDUCATION AND TRAINING

JUNE 2020

Review Panel: Professor Peter Shergold AC (Chair), Professor Tom Calma AO, Ms Sarina Russo,
Ms Patrea Walton PSM, Ms Jennifer Westacott AO, Dr Don Zoellner, Mr Patrick O'Reilly.

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LETTER FROM THE CHAIR

Dear Ministers

On behalf of my fellow panel members, I am pleased to submit the *Report of the Review of Senior Secondary Pathways into Work, Further Education and Training*. This review, as you are aware, is one of eight national policy initiatives under the National School Reform Agreement. It is informed by an explicit recommendation from the 2018 report, *Through Growth to Achievement: Report of the Review to Achieve Educational Excellence in Australian Schools*.

Borrowing a quote from the eminent American philosopher and educator, John Dewey, we have entitled our report *Looking to the Future*. The Panel's view is that we have to design our education system to prepare young people for their future rather than for our past. The interests of our students must be front and centre. We need to reconceive how they can best be prepared for employability in a fast-changing labour market and for active citizenship in a democratic society.

Our deliberations have been informed by reading over 200 submissions and meeting over 700 people at consultations. We have listened carefully to experts but learned even more from talking directly to students and their teachers. We discern a mood for transformation that presents COAG Education Council with an impetus for national reform. There is a need for the council's collaborative leadership to drive change, while ensuring that educational jurisdictions and school authorities each have the level of autonomy necessary to respond in particular ways that can take account of place, circumstance and context.

The present transition pathways presented to young adults at school are too often framed in a manner that they perceive to narrow choice. The dominance of a ranking score, the Australian Tertiary Admission Rank (ATAR), privileges academic capability over the value of vocational education and training. Many students believe that those headed for university are accorded higher status at school than those who prefer to pursue a trade apprenticeship or traineeship.

More profoundly, the heavy focus on scholastic performance is seen by students to pay too little regard to the other skills and attributes that they require for successful adulthood. The general characteristics of students need to be given greater weight in the final years at school. The ATAR should be regarded as just one important measure of success. We need to educate for and assess the diverse learnings that make the whole person. We need to open doors, not narrow pathways.

This imperative is increasingly recognised by governments, schools and industry bodies. The panel has been inspired by many great demonstrations of how senior secondary education can be delivered differently. We have captured some of those innovative approaches in our case studies. Education Council can now give greater impetus to such creativity by authorising and encouraging new approaches to vocational learning, career guidance, broader assessment of educational achievement and stronger partnerships with employers.

As our afterword emphasises, it is the Panel's strong view that the disruptive impact of COVID-19 on education in recent months makes our recommendations even more relevant. We do not believe that consideration of our proposals should be deferred 'until the crisis is over'. Rather, we argue that both the need and the opportunity for significant change is now even greater. Reform can become part of the 'new normal'. Schools, principals and teachers have exhibited their extraordinary capacity for flexibility and resilience. They are up for the challenge.

The Panel believes that Education Council might usefully oversee a separate study on the impact of coronavirus on education. If so, we hope that our recommendations will help to inform that exercise. At a time when the employment opportunities for senior secondary students are likely to be limited by the consequences of severe economic downturn, and their career prospects challenged by the relentless impact of automation and digitisation, there is increasing acknowledgement that we need to look afresh at the transition years from school. We have a responsibility to ensure that students have learned how to keep on learning through life.

Let me conclude by paying respect to the contribution made by my fellow panel members, Tom Calma, Patrick O'Reilly, Sarina Russo, Patrea Walton, Jennifer Westacott and Don Zoellner. We have been ably supported by an enthusiastic secretariat team, led by Margaret Leggett and Natalie Barr. Our review is very much a collective effort.

Yours

A handwritten signature in black ink, appearing to read 'Peter Shergold', with a horizontal line underneath the name.

Professor Peter Shergold AC

Panel Chair

TERMS OF REFERENCE

Context

Research shows that students who complete senior secondary education have a greater likelihood of continuing with further study, entering into the workforce, and improved living conditions. Today's students, however, face a range of challenges due to technological change, globalisation and automation. Senior secondary graduates will need a broader and different mix of skills compared to previous generations, including stronger problem solving, communication and digital skills, as well as critical and creative thinking. They will also need the skills to navigate an increasingly complex range of options and pathways into further education and training.

In recognition of the important role senior secondary education plays in preparing students for the rapidly changing world beyond school, *Through Growth to Achievement: Report of the Review to Achieve Educational Excellence in Australian Schools* recommended establishing an independent inquiry into senior secondary schooling. The recommendation has been formalised in the national school reform agreement as a national policy initiative *to review senior secondary pathways into work, further education and training* (the Review).

The Review will report to Education Council as outlined in the National School Reform Agreement 2019-2023.

Responsibility for senior secondary pathways into work, further education and training fall across levels of government, from the schooling system to vocational and higher education sectors as well as employers and industry. While the review will report to the COAG Education Council, which has responsibility for schooling, the recommendations may have broader systemic implications and will need to be considered in this policy context.

Purpose

The Review will provide Education Council with advice and recommendations on how senior secondary students can better understand and be enabled to choose the most appropriate pathway to support their transition into work, further education and/or training. In undertaking the review the expert panel will give consideration to the different contexts faced by disadvantaged students, including students with disability, those in regional, rural and remote areas, and Aboriginal and Torres Strait Islander students.

The expert panel will:

1. Explore the efficacy of senior secondary education in preparing young people for diverse pathways to further learning and work, including:
 - a. identifying from existing curriculum frameworks and relevant research, the essential knowledge, skills and values needed for diverse pathways to life long learning, work and effective participation in civic life.
 - b. identifying the skills and knowledge students, employers, vocational education and training (VET) providers, and higher education institutions perceive are essential for successful post school transitions.
 - c. clarifying the roles and responsibilities of key stakeholders, such as schools, students, parents, VET providers, higher education institutions, and employers, in supporting inclusion and preparing school leavers for life beyond school, whatever pathway they choose.
2. Investigate whether current certification and university entry requirements, including other credentials such as the International Baccalaureate, assist in allowing students to make the study choices that are right for them to develop the skills and knowledge they need to access the most appropriate pathway into work, further education and/or training.
3. Investigate barriers to students being able to equitably access all pathways, particularly for students in rural, regional and remote areas, Aboriginal and Torres Strait Islander students, students with disability, those who struggle to make transitions to work, further education and training, and potential early school leavers.

4. Identify best practice in flexible delivery options, transition and engagement support arrangements for students transitioning from Year 10 to Year 11, as well as from Year 12 to post-school destinations including:
 - a. career education and awareness that supports inclusion and includes information linked to labour market outcomes for all pathways, to support students to make informed decisions about their study, training and career options, as well as develop career management skills
 - b. the role and impact of teachers, school leaders, and different models of schooling, such as alternate education settings for disengaged students, distance education and/or home education, in successful transitions
 - c. vocational education and training delivered to secondary students that leads to strong transitions
 - d. work-based learning and industry partnerships
 - e. higher education
 - f. the role of student wellbeing on their ability to engage in different types of learning, including VET, academic and work-based learning, to facilitate completion of year 12 and transition to successful pathways.
5. Investigate what, when and how data should be collected to capture experiences, identify pathways and measure the impact of delivery options, subject choice (including academic and VET) on student outcomes and destinations, to ensure continuous improvement.

Related Reviews

The Review will have regard to relevant findings and recommendations of:

1. *Through Growth to Achievement: Report of the Review to Achieve Educational Excellence in Australian Schools*, 2018, chaired by Mr David Gonski
2. *National Career Education Strategy*, 2019, Department of Education and Training
3. *Optimising STEM Industry-School Partnerships*, 2018, chaired by Dr Alan Finkel, AO
4. *The Independent Review into Rural, Regional and Remote Education*, 2017, chaired by Emeritus Professor John Halsey
5. *National Aboriginal and Torres Strait Islander Education Strategy*, 2015, Education Council
6. *Australia 2030: Prosperity through Innovation*, 2017, Innovation and Science Australia
7. *Australian Qualifications Framework Review*, 2019, Department of Education and Training
8. Higher Education Standards Panel reports: *Improving the Transparency of Higher Education Admissions (2016) and Improving Retention, Completion and Success in Higher Education (2017)* and the associated Australian Government responses.
9. *Expert Review of Australia's Vocational Education and Training System*, 2019, Prime Minister and Cabinet
10. *One Teaching Profession: Teacher Registration in Australia, September 2018*, the Australian Institute of Teaching and School Leadership
11. *Unique Individuals, Broad Skills, Inquiry into school to work transition*, 2018, House of Representatives Standing Committee on Employment, Education and Training
12. Curriculum reviews undertaken by states and territories, including the NSW Curriculum Review, TAS Year 9-12 Curriculum Review, SA Review of SACE Stage 2, VIC Review of Years 11-12 literacy and numeracy standards, and QLD Review of Queensland Certificate of Education.
13. Submissions by state and territory Departments of Education to the above reviews.

Roles and responsibilities

In order to address the terms of reference the panel will:

1. call for written submissions and undertake face to face consultations with experts and key stakeholders across Australia, including young people, parents, employers, and representatives from the schooling, vocational education and training and higher education sectors
2. ensure the review identifies and supports inclusive practices and considers the circumstances and particular needs of students with disability, those from rural, regional and remote areas, students from low socio-economic status backgrounds, Aboriginal and Torres Strait Islander students, and other students at risk of not making successful transitions from school to work or further education or training
3. commission independent research relevant to the Terms of Reference, if required, to ensure the review is underpinned by a sound evidence base
4. provide a final report to the Council of Australian Governments (COAG) Education Council in 2020.

Membership

The Review will be undertaken by a panel including a Chair and six members. The panel brings together expertise in one or more of the following areas: school operations; employers; vocational education and training; university entry requirements; expertise in the delivery of secondary education to disadvantaged students; and student engagement and wellbeing.



Education Council has agreed the following panel members based on their expertise to satisfy these Terms of Reference:

Member	Expertise
Professor Peter Shergold AC (Chair) Chancellor Western Sydney University	Public service governance and administration, higher education, vocational education and training, Aboriginal and Torres Strait Islander education, regional, rural and remote education
Ms Sarina Russo Founder and Managing Director, Sarina Russo Group	Vocational education and training, particularly apprenticeships, assisting jobseekers, employment
Professor Tom Calma AO Chancellor, University of Canberra	Higher education, Aboriginal and Torres Strait Islander education, regional, rural and remote education, equity and social justice
Ms Patrea Walton PSM Former Deputy Director-General for State Schools, QLD	Public education, senior secondary education, school transitions, closing the gap on Year 12 attainment, equity and social justice, students with disabilities
Ms Jennifer Westacott AO Chief Executive, Business Council of Australia	Employment, industry-school engagement, skills and education, labour market policy, Aboriginal and Torres Strait Islander engagement
Dr Don Zoellner University Fellow, Charles Darwin University	Vocational education and training, senior secondary education, higher education, career education, Aboriginal and Torres Strait Islander education, regional, rural and remote education
Mr Patrick O'Reilly Principal, Southern Cross Catholic Vocational College	Senior secondary education, vocational education and training, career education, student engagement

Secretariat

Secretariat support for the Board will be provided by the Australian Government. This will include support for the Chair, organisation of meetings and consultations and analysis of written submissions.

Timing

The Review will report to Education Council in June 2020.

EXECUTIVE SUMMARY

Education must prepare young people both for active citizenship in a democratic society and for purposeful engagement with the labour market. This is vital at a time when trust in democratic governance and institutions is at a low level and cognitive technologies are transforming the future of work.

Young people are increasingly anxious about the uncertainty of their futures. The profound disruptions of COVID-19 have heightened that unease. They sense that normal life is unlikely to be fully restored. Economic recovery is likely to be slow and patchy. Working remotely, from homes or hubs, has shown the potential benefits and weaknesses embedded in how administrative and professional staff undertake their work.

School leavers do not just need to be employable. They need to be adaptable, flexible and confident. Education must provide students with the essential attributes they require for lifelong learning in whatever fields of endeavour they may choose. The professional and applied skills they need will change significantly over their lives. The jobs they do will be transformed. Some, driven by entrepreneurial ambition, will want to set up their own businesses. Most will switch careers.

To achieve this – for all young Australians – profound challenges need to be overcome.

Substantive change is needed, but there is no easy solution. There is no national panacea. Different communities, places, groups of people and school systems have distinctly different needs. Changes need to be responsive to context.

For that reason, this report is not intended to provide a highly prescriptive dictum.

Rather, it seeks to signal a bold shift in direction. It proposes a coherent package of initiatives that are intended to inform, influence and accelerate broader reform processes.

The necessary elements of change are clear. But the manner of their implementation must be determined by state and territory governments and education authorities for public, Catholic and independent schools. There needs to be a national response but it must be responsive to place-based expectations and local needs.

Australia's federal system of government has the proven capacity to generate a valuable diversity of ideas and approaches. Each jurisdiction is well placed to work out how best to take these actions forward. The conduct of the recently established National Cabinet has shown the value of Australian governments setting directions in a collaborative manner but with each state and territory implementing decisions in their own ways, responsive to their own particular circumstances.

Reform processes are already underway. In every state and territory, we have come across innovative schools finding new ways to educate and develop their students. Many teachers are frustrated by the focus on a single number, the Australian Tertiary Admission Rank (ATAR). They feel it is narrowing their ability to serve the best interests of all students. They perceive that their role as educators, career guides and pastoral carers is being narrowed and distorted by a ranking score.

Academic achievement is important but not the sole reason for schooling. We need to focus more on preparing the whole person, no matter what career path they choose. The final years of schooling are an important part of the learning entitlement of all young Australians. Many senior secondary students enjoy school. Some, for a variety of reasons, just want to leave as soon as possible. Both groups need to be supported by more flexible learning.

We have found many instances of innovation. Yet much that is creative still sits at the periphery of education. Innovation needs to be embedded systemically in the senior secondary years. New approaches need to be trialled and, if successful, scaled up. Demonstration projects need to have greater influence on the traditional core of how we measure educational success.

This review presents an opportunity to exhibit genuine cross-jurisdictional collaborative leadership. The package of recommendations we are proposing offers a chance to take a new national approach to senior secondary education. We need to recognise and spread good practice in order to generate broader change. We sense that what we propose will garner widespread support across the community.

So what would success look like? In essence, eight key outcomes will be achieved:

1) All students will leave with essential skills

Senior secondary schooling will prepare young people for their future roles in the workforce and as active and engaged members of civil society. They will have the capabilities and enthusiasm to keep on learning throughout their lives.

Senior secondary schooling will include a focus on:

- learning areas (selected by students on the basis of their interests and passions)
- foundational skills development (literacy, numeracy, digital literacy)
- capability development, personal growth and ethical responsibilities
- career education and work exploration activities.

Literacy, numeracy and digital literacy will be recognised as essential skills for every student. At a time of technological transformation, when the future of work is uncertain, these attributes are more important than ever. Students must be supported to attain capability in these areas before they finish school. Every young person who leaves without them is having their economic and social future short-changed.

Young people transitioning into senior secondary schooling will have benefited from explicit pathway discussions with their teachers. So, too, will any student contemplating whether to leave school before the end of Year 12. They will use these conversations to identify their current capabilities and aspirations. They will participate in the development of a plan to build, evidence and articulate these capabilities prior to leaving school. They will have gained the discipline of planning for life.

Schools will ensure all school leavers can communicate and evidence their learning to employers and education institutions. Students will be helped to understand the various ways they have developed as individuals. They will be assured that they can show how they have acquired and applied their skills. They will be confident in their abilities but aware of how much they still have to learn.

2) All students will leave with a Learner Profile

Students will leave school with a Learner Profile, identifying the range of their skills, knowledge and experiences. It will include learning and experiences gained inside and outside of school. Students will be guided to recognise the attributes they have acquired through study in the classroom as well as from work experience, volunteering and personal achievement.

It is likely that the ATAR will continue to play a role in university selection processes, although many education providers now wish to also assess a student's performance in a range of subject disciplines. But this ranking score will increasingly be enhanced by a greater recognition of the value of the broader set of skills, capabilities and experience that a student has gained by the time they leave school. Senior secondary students will be seen as young people, not numbers. This will change the way in which students see themselves and the manner in which they will want to present their educational achievements to others.

3) All pathways will be equally respected

The workforce of the future will require a range of skills and people with different types of qualifications. All students will be encouraged to pursue excellence and follow their passions and interests when selecting their subjects for Years 11 and 12 and considering post-school pathways.

All students will be given the opportunity to participate in meaningful career education and work exploration activities. This will allow them to acquire the skills to be work-ready. It will broaden their understanding of the employment opportunities available to them. They will be provided with assistance to navigate options and make well-informed decisions.

All school pathways will be delivered to the same high standard. While higher education will remain an aspiration for many young people, academic pathways will no longer enjoy more privileged access to school resources than apprenticeships, traineeships or other forms of vocational education and training.

4) All students will benefit from informed decision-making

Quality career guidance will be provided through a well-functioning system that extends beyond the school.

A career guidance ecosystem will provide reliable and targeted information and resources for students, parents, careers advisers, educators and employers. It will draw together schools, community career hubs and real-time industry advice. Efforts will be coordinated and overseen by the National Careers Institute.

Schools will either have teachers who specialise in career education or they will be able to draw upon support from a network of career guidance professionals.

Students and their parents will have access to earlier, more regular and intensive career advice. It will be informed by knowledge of the future labour market. It will be delivered both face to face and online.

5) All schools will have strong partnerships with industry

Meaningful, productive and mutually agreed engagement between industry and schools will be central to the education of senior secondary students. Appropriate governance arrangements will be in place to facilitate school–industry partnerships. There will be a strong focus on collaboration with local employers.

Industry-led organisations will provide a focal point for engagement between industry and education, providing up-to-date advice on skills needs. They will collaborate in developing and adapting qualifications in a fast and flexible manner. This will ensure the quality and relevance of training. A focus on responsiveness to future industry need will help ensure students graduate with relevant certifications and informed expectations.

6) All students will start to prepare their Education Passport

An Education Passport – aligned with the attributes set out in the Learner Profile – will assist individuals to communicate their qualifications, learnings and experience as they move between pathways and change career directions throughout their working lives. Its preparation will begin at school.

Students will be empowered. They will be fully engaged in the curation and demonstration of their skills, both within school and outside of it. They will be prepared to record their working lives, education and learnings.

All senior secondary students will be fully aware that Australia has an increasingly flexible structure for continued education and training when they leave school. Young people will be prepared to move between higher education and vocational training providers. They will understand the value of work-based learning. All these learning experiences will be progressively added to their Education Passport.

7) All students will be provided with equal opportunities for success

Education will remain the foundation of a 'fair go' Australia. Senior secondary students from disadvantaged backgrounds will be supported to ensure that they can follow the same pathways available to others at school, opening greater access to employment and education when they leave.

Genuine equality of opportunity will be achieved through responsive education that meets the needs of all students. There will be targeted interventions to support those at risk of disengagement, at all points in their learning. A culture of putting students at the centre will sit at the core of education delivery.

Accessible alternative education settings and innovative flexible learning approaches will be actively trialled, evaluated and scaled up to ensure that vulnerable and at-risk students can benefit from education settings and approaches that are tailored to their individual interests and goals. Young people will be encouraged to stay in school until they have completed Year 12. Students who decide to leave school early will have a plan for accessing training, developing their work skills and continuing their education later.

8) Government policies will be informed by evidence

The rhetoric of evidence-based policy will become reality. Nationally consistent data collection arrangements will provide a coherent and seamless picture of how people move through and between education and employment pathways. Behavioural psychology will help governments to understand how, why and when young people make decisions.

Big data integration and analysis – across schooling, tertiary education and training, and the labour market – will provide insights into the exercise of individual choice over time. It will help policymakers to understand why students begin education and training courses and why, too often, they decide to drop out. It will help ensure that spending on education gets the biggest bang for its buck. It will help us to prepare senior secondary students for their futures by getting the public policy settings right.

The Unique Student Identifier will play a key role in facilitating these developments. While protecting individual privacy, it will provide a much greater understanding of the pathways taken by young people as they transition from school, the reasons they choose them, and the extent to which they meet the changing needs of the Australian economy. Governments will increasingly understand the decisions that young people make and know better how to nudge them in the right direction.

COAG Education Council leadership

Together, these eight outcomes represent a new approach to how senior secondary students are prepared for life. Figure 1 illustrates what the student pathways planning journey might look like in the future, covering the whole life cycle from primary and early secondary schooling through to early and later career stages. It incorporates improvements that are already underway and that, pursued with greater vigour and coherence, can become the basis for better lifetime outcomes for students.

But change needs leadership. Governments need not just to authorise new approaches but to actively encourage them. COAG Education Council can provide the national impetus to drive the changes, implemented in accordance with the particular circumstances of each state and territory but delivered collaboratively by school authorities committed to the same goals.

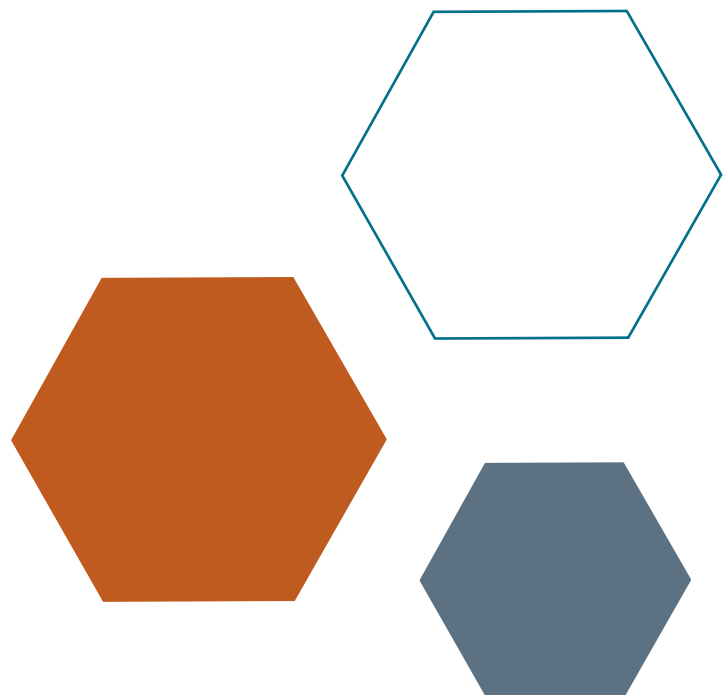
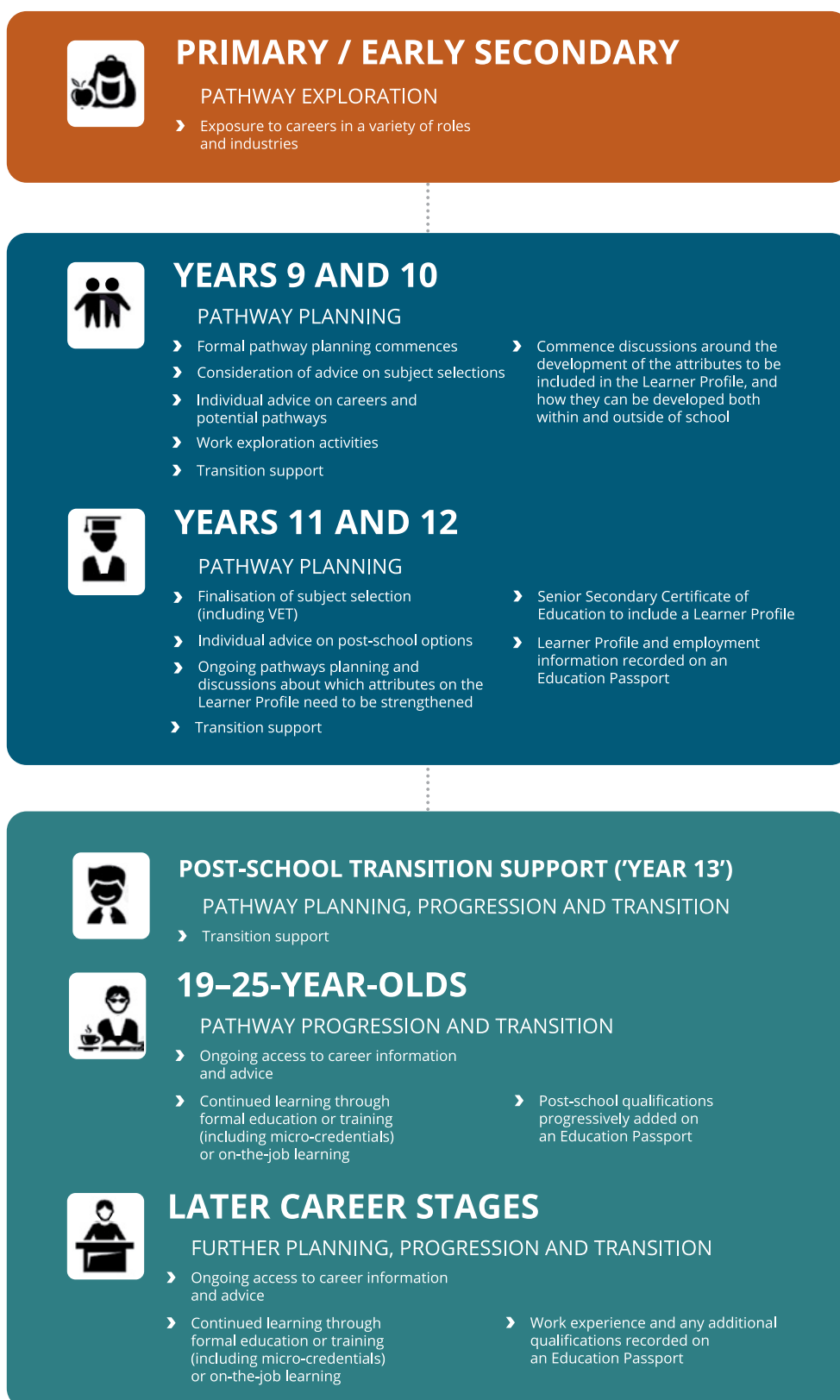


Figure 1: What the future student pathways journey would look like across a life cycle



FINDINGS

As a review panel, we met with experts from around the country on the challenges facing senior secondary education. We listened to how those challenges might be overcome. We had discussions with ministers, advisers and senior officials in every jurisdiction. Most importantly, we participated in structured discussions with groups of school students and their teachers and parents. We considered over 200 submissions.

Collectively, this is what we heard:

Essential skills

- 1.1** All young Australians should be given equitable access and opportunity to become confident and creative individuals, successful lifelong learners, and active and informed members of the community.
- 1.2** Literacy and numeracy remain essential competencies: all students should leave school with sufficient proficiency in English and mathematics to allow them to fully participate in the labour market and the community.
- 1.3** Digital literacy should be considered alongside literacy and numeracy as a new essential competency. Digital literacy includes not just an ability to use social media, but a capacity to use hardware and software effectively in the workplace, an awareness of cybersecurity issues, and the ability to use and evaluate digital information.
- 1.4** Young people will need a broad base of skills, values and knowledge to become successful lifelong learners. Students also need to leave school with the essential life attributes to become productive members of the community. These include employability skills, creativity and entrepreneurial capabilities, financial literacy, interpersonal skills and civic understanding. Our senior secondary schooling system must continue to adapt to fulfil this modern role.
- 1.5** It is likely that, for the foreseeable future, many universities will continue to use the ATAR as one mechanism to rank students for entry. It will therefore continue to be a focus of senior secondary students who wish to pursue higher education. But it cannot continue to dominate the educational experience of senior secondary students.
- 1.6** While some level of stress is important in preparing students for the realities of life and supporting them to develop motivation, resilience and time management skills, the design of the senior secondary school system, and its focus on the ATAR, should not place unnecessary mental pressure on young people.
- 1.7** Many of the attributes that young people need are acquired not just from academic study or vocational education but also from experiences outside the classroom. They can learn much from part-time work, volunteering, hobbies or sport.
- 1.8** Changing the outcomes we measure and value in senior secondary school will help to level the playing field for all students. The challenges faced by disadvantaged students should not be seen just through the lens of social deprivation: rather, their capacity to overcome the barriers should be recognised as a positive attribute when assessing their learning capabilities.
- 1.9** The certificate of achievement with which students leave school should record and verify the full range of their knowledge and attributes, including academic and non-academic skills, to provide a more wide-ranging view of student achievement, and a more reliable measure of the whole person.

Exercising informed choice

- 2.1** All students should be in a position to take advantage of the wide range of educational and training pathways that are available after they leave school.
- 2.2** All students (and their parents) should have access to professional career guidance at school. Parents and families have the greatest influence on students' career-related decisions at the senior secondary level. They must be engaged, fully informed and supported in the advice they provide to their children.

- 2.3** At present, the vocational education and training (VET) pathway is not seen as equal to or complementary to a university one. Many students are not provided with information or encouragement to undertake VET either in Years 11 and 12, or as a post-school pathway. All students should be encouraged to excel and follow their passions and strengths, be made to feel that their educational preference or their choice of career is legitimate, and that whatever career path they choose, they have an important role to play in a well-functioning society.
- 2.4** Undue focus on the ATAR has a distortionary impact on educational expectations, in which a preference for vocational education and training is perceived as 'second class'. This is reinforced by the parameters around the Senior Secondary Certificate of Education and ATAR restricting the type and number of subjects students are undertaking in senior secondary schooling, particularly in VET. More flexibility is needed in designing and constructing learning structures that do not privilege particular pathways.
- 2.5** School systems must cater for the needs of all their students and encourage them to pursue excellence in their areas of interest. Students who aspire to higher education should be encouraged and supported to pursue this goal. The senior secondary schooling system must, however, provide and support the full range of pathways for all students. At present, those who are more interested in pursuing vocational learning or structured workplace learning often feel that they are inferior or their decisions are less valid.
- 2.6** Career advice nationally is inadequate, despite individual pockets of best practice. Unsurprisingly, many teachers have limited career education knowledge, especially on non-university or blended pathways. Significant improvements need to be made to increase information on the future labour market, apply new models to decision-making, and employ the right people to work face to face with students. It is unreasonable to expect that every school is able to independently provide this. They need support.
- 2.7** Individualised career guidance should be provided before senior secondary school, and should extend beyond the end of Year 12. Online information has the capacity to improve decision-making, if it is made available to all students, parents and school staff in a centralised, trusted, up-to-date and easy-to-use repository. The experience of COVID-19 has shown the value of students being able to access information remotely.

VET and the world of work

- 3.1** All students should be encouraged to undertake career education and work exploration activities, regardless of their chosen pathway or locality. They need to be provided with individualised, objective, unbiased and up-to-date career information.
- 3.2** VET delivered to senior secondary students is of inconsistent quality, difficult to navigate, and not well integrated into senior secondary studies. VET qualifications delivered in schools need to meet clearly defined standards and deliver or contribute to credentials that are accepted in the labour market.
- 3.3** Upfront expenses associated with undertaking VET are not equitable. Costs can act as a disincentive for students to study VET in both Years 11 and 12 or as a post-school pathway.

Building school-industry partnerships

- 4.1** One of the important goals of schooling is to provide a foundation that prepares young people for the world of work. Industry has an essential role to play in supporting schools to achieve this. While there are notable exceptions at the school level, effective partnerships with industry have proven hard to establish and are not adequately embedded in education systems. Industry collaboration needs to be accorded more weight and pursued with greater vigour.
- 4.2** It is essential that schools and industry engage more systematically with employers in order to help senior secondary students gain an understanding of the world of work, undertake effective career planning, and access opportunities for employment and training. Programs that support school-industry partnerships at scale, such as hubs and brokerage arrangements, should be put in place to increase the quality and longevity of school-industry partnerships.

Building more flexible pathways from school

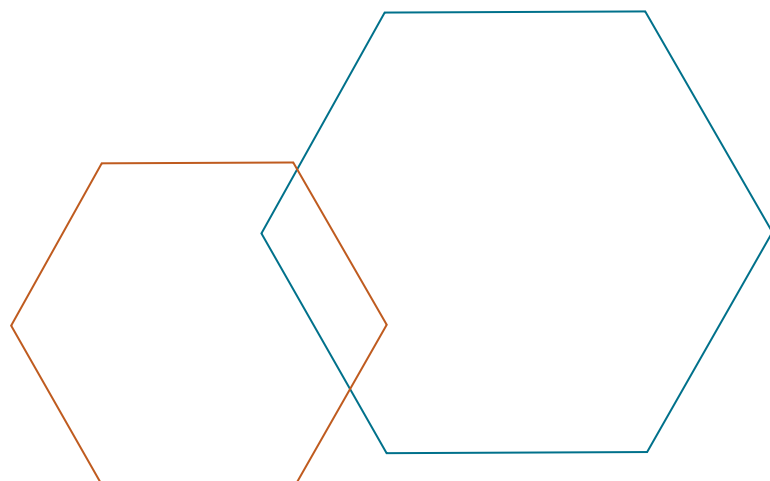
- 5.1** A 'one size fits all' traditional learning environment cannot bring out the best in all young people. Students who complete Year 12 and attain a Senior Secondary Certificate of Education have a stronger foundation to achieve future success in their working lives and they should be encouraged to stay the course. However, the costs to a young person of remaining in a learning environment that is unsuited to them are also apparent. School systems should have multiple education settings and flexible learning programs so that all young people are given the opportunity to thrive.
- 5.2** School does not suit everyone. Legislation exists in states and territories enabling some young people to leave school to transition to secure employment or undertake further study. It is important that such a choice is not seen as a failure. Rather, through Years 9 and 10, young people need to be supported to develop their work skills, have a plan for accessing training, and be provided with a clear pathway back to further education or training in the future. They must be encouraged to achieve a qualification equivalent to the senior secondary certificate, through an apprenticeship or traineeship, certificated VET courses, or combinations of VET and workplace learning.
- 5.3** School students need support to access the great potential of short online courses. Micro-credentials can help them to explore their passions. The Senior Secondary Certificate of Education, ATAR or senior secondary end-of-year assessments need to have sufficient flexibility to credit microcredentials and other learning options. This will ensure that all forms of credential are measurable, verifiable, certifiable and transferable.
- 5.4** Education should be recognised as a lifelong, but not linear, journey. The skills students need and the careers they follow are likely to change over time. If young people are to become productive workers and active citizens, they need to leave school with the capability and enthusiasm to keep on learning throughout their lives.

Ensuring all students have an equal chance of success

- 6.1** Education is a key to offering economic opportunity and social mobility to all young Australians, no matter what their background or circumstances. Students should have equitable access to high-quality schooling that offers them the best prospect for leading successful lives. Education should be acknowledged as the stepping stone to a fair society.
- 6.2** Students who do not transition to further education, training or employment cannot be left to flounder. They need increased support and guidance in the year after finishing senior secondary school. Supporting the rates of youth senior secondary achievement or equivalent, both within and outside of traditional schooling models, will have positive benefits for individuals and society.

Creating evidenced-based policy

- 7.1** Governments need to make much better use of big data in order to properly understand the choices that students make as they transition from school into training, further education and work. Quantitative research can improve their capacity to formulate evidence-based policy responses.
- 7.2** Data integration projects across sectors and states and territories should be leveraged to gain greater insight into how people move through different parts of the education system and labour market across their lifetimes.
- 7.3** Education Council should accelerate the development of a Unique Student Identifier that allows senior secondary schooling to be linked with VET and higher education, while protecting the privacy of individuals. It can benefit not only governments but individuals and training providers.



RECOMMENDATIONS

The Panel recommends:

Recommendation 1

All students should expect that they will be supported to meet the minimum literacy, numeracy and digital literacy proficiency standards, which are the foundation for success beyond school.

- a) Students should be supported to meet the requirements and have them recognised by the end of Year 10.
- b) Students still requiring additional assistance to meet those standards should be provided with targeted interventions in Years 11 and 12.
- c) If, despite this supplementary support, students leave school without meeting these standards, they should be given ample opportunity and support to achieve these proficiency standards later.

Recommendation 2

There should be agreement on a common language across the entire education and training system for what are variously described across sectors as general capabilities, employability skills, soft skills or graduate capabilities.

Recommendation 3

Once the common language is agreed across sectors and jurisdictions, appropriate standards should be developed to allow the evidencing, within the schooling sector, of the capabilities necessary for employment and active citizenship, building on the Foundation to Year 10 capabilities, but focused particularly on Years 11 and 12.

Recommendation 4

Students should leave school with a Learner Profile that incorporates not only their ATAR score (where relevant) together with their individual subject results, but that also captures the broader range of evidenced capabilities necessary for employment and active citizenship that they have acquired in senior secondary schooling.

Recommendation 5

Senior secondary certification requirements and the way learning is packaged should be restructured so that students are not presented with a binary choice between vocational or higher education pathways.

Recommendation 6

Career guidance within and outside of schools should be strengthened significantly and accorded higher status.

- a) The newly established National Careers Institute should provide a free and comprehensive digital platform for career information for students and their teachers, with a focus on making its considerable data sources easy to navigate.
- b) Schools should be supported by a network of career hubs that provide a connected system of individualised career guidance that schools, students and their parents can access, with an initial focus on regional and remote areas.
- c) Schools should be encouraged to provide wide-ranging career guidance as the basis of pathway planning.
- d) Those students who choose to leave school before the end of Year 12 need to be given greater advice and support.
- e) All those who provide career guidance both in and outside of schools should be expected to have certificated professional qualifications.

Recommendation 7

All students – including those seeking university entry – should be supported to undertake career education and work exploration at school, through workplace learning, work skills courses, and/or undertaking applied subjects such as design and technology.

Recommendation 8

Vocational education and training (VET) should only be provided at school where it can be done in a high-quality way as demonstrated through the explicit endorsement of local employers or industry bodies, and if schools are unable to meet these requirements, they should support their students to undertake VET at an external registered training organisation.

Recommendation 9

When undertaking a formal VET qualification or school-based apprenticeship or traineeship, the allocation of time spent by students at school, with a registered training organisation, or in the workplace should be based upon what is in their best interests, rather than upon funding arrangements or administrative convenience.

Recommendation 10

In collaboration with the Skills Council, Education Council should co-design with industry a national strategy on vocational education and training in schools that promotes the quality of VET, including by addressing the following elements.

- a) The interests of the student must be at the centre of the strategy.
- b) All students must meet the minimum standards in literacy, numeracy and digital literacy.
- c) All students leaving school should have had exposure to professional career education and work exploration activities.
- d) Formal VET qualifications delivered in schools must be of a quality that is valued by industry and match the quality of VET delivered outside schools.
- e) Where schools cannot deliver high-quality, formal VET qualifications, they should encourage students to study through reputable external registered training organisations.
- f) The Preparing Secondary Students for Work framework, formulated in 2014, should be updated with a much greater focus on quality and implementation.
- g) School-based apprenticeships and traineeships should be more actively promoted and made easier to undertake for both students and employers.
- h) The VET undertaken should be responsive to existing and emerging skills needs, including at the local level.

Recommendation 11

Education authorities and industry bodies should formalise their working relationship in order to facilitate the engagement of industry in senior secondary schooling in a systematic and comprehensive manner.

Recommendation 12

Education authorities need to facilitate and encourage partnerships between schools and employers at the local level in order to help students to make choices and gain experience in the diverse career pathways that different industries can offer.

Recommendation 13

Governments should provide access to free education or training to 16- to 20-year-olds who have left school without obtaining a Senior Secondary Certificate of Education in order to allow them to attain a Senior Secondary Certificate of Education or equivalent, and to attain minimum standards of literacy, numeracy and digital literacy.

Recommendation 14

Education Council should develop a national approach to the use of microcredentialing in schools that encourages senior secondary students to access high-quality, relevant courses developed by tertiary education and training providers, industry groups or employers.

Recommendation 15

In collaboration with industry, and VET and higher education providers, Education Council should codesign a digital Education Passport for lifelong learning – a living document that allows young people to capture progressively their education and training qualifications and workplace experience.

Recommendation 16

Education Council should ensure that the cultural competencies and experiences of Aboriginal and Torres Strait Islander students can be recognised as a key part of their Learner Profiles.

Recommendation 17

All senior secondary students with disability should have access to work exploration in school and, in collaboration with disability support groups, have an individual post-school transition plan put in place prior to leaving school.

Recommendation 18

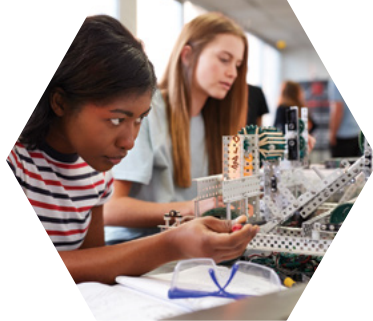
Education Council should establish a national Transition from School Program that, through a range of collaborative demonstration projects, would trial and evaluate new approaches to supporting vulnerable and at-risk students as they prepare to leave school.

Recommendation 19

Education policy needs to be based on evidence about the pathways from school taken by young people and, for that reason, governments should continue to invest in longitudinal studies, such as the Longitudinal Surveys of Australian Youth (LSAY), the Longitudinal Study of Indigenous Children (LSIC) and the Household, Income and Labour Dynamics in Australia (HILDA) Survey.

Recommendation 20

Data integration projects across sectors and states and territories should be leveraged to provide insights into how and why people move through different parts of the education system and labour market across their lifetimes and, to this end, Education Council should accelerate the development of a Unique Student Identifier to understand better the routes by which students, from Year 10 onwards, move into tertiary education, training and employment.



INTRODUCTION: THE EDUCATION AND EMPLOYMENT CONTEXT OF THIS REPORT

The world young people are entering is changing dramatically and rapidly in terms of the skills and capabilities required for the occupations and challenges of the future. A fourth industrial revolution is underway as we see technological advances blurring the boundaries between the physical, the digital and the biological.¹ Jobs, both trade and professional, are likely to change profoundly. Some will disappear. Others will emerge. Cognitive technology will likely require more people with understanding of robotics, but, paradoxically, also more care workers.

This uncertain future contributes to today's educational dilemmas. The Organisation for Economic Cooperation and Development (OECD) has identified a number of trends shaping the future of education, including a shift in the global balance of economic power towards Asia, an expanding global middle class, general reduction in voter turnout numbers, rising inequality within countries, climate change, increasing digitalisation, and lengthening life expectancies.²

What is certain is that workplace skills in demand will change, careers will shift direction and Australians will need to leave school with the capability to keep on learning. It is clear that the ways in which young people access and undertake education and training will be very different to the ways their parents and teachers have done so in the past.

We have seen remarkable agility in education systems through the dramatic speed and breadth of changes to how schooling is delivered as a result of the coronavirus disease 2019 (COVID-19) global pandemic. Educational structures have changed far faster than any of us could have imagined six months ago. Students have had to adjust to remote learning. Teachers have shown themselves to be adaptable and resilient under pressure. All of this is extraordinarily positive. But, as we slowly recover, the crisis must not be wasted. As we return to a new post-virus 'normalcy', it is easy to imagine that school education will become a greater blend of face-to-face and online learning, with social media increasingly perceived by young people as the default means of accessing information.

Educational attainment

Some long-term trends are likely to continue. Educational attainment has been increasing in Australia for several decades, encouraged by government policies. The demand for higher levels of education has grown within the labour market.

The Australian Government agreed to establish the Compact with Young Australians in 2009, requiring young Australians to participate in full-time education, training or employment until they reach the age of 17. The Council of Australian Governments (COAG) also set a target to lift the Year 12 (or equivalent) attainment rate for 20- to 24-year-olds to 90 per cent by 2020. In 1990, the apparent Year 12 retention rate was 64 per cent.³ By 2013, the number of young people completing senior secondary schooling had risen to 81.6 per cent.⁴ By 2019, it was sitting at 84 per cent.⁵

Young people are not a homogeneous group. Some – by virtue of their location, race, ethnicity, parental income or disability – have less opportunity to benefit from education. Different groups of young people are more or less likely to disengage from school or leave prior to completing their Senior Secondary Certificate of Education (SSCE). For example, Aboriginal and Torres Strait Islander students have a lower retention rate than their non-Indigenous peers, at 58.7 per cent.⁶ For students with disability, only around 32 per cent complete Year 12.⁷

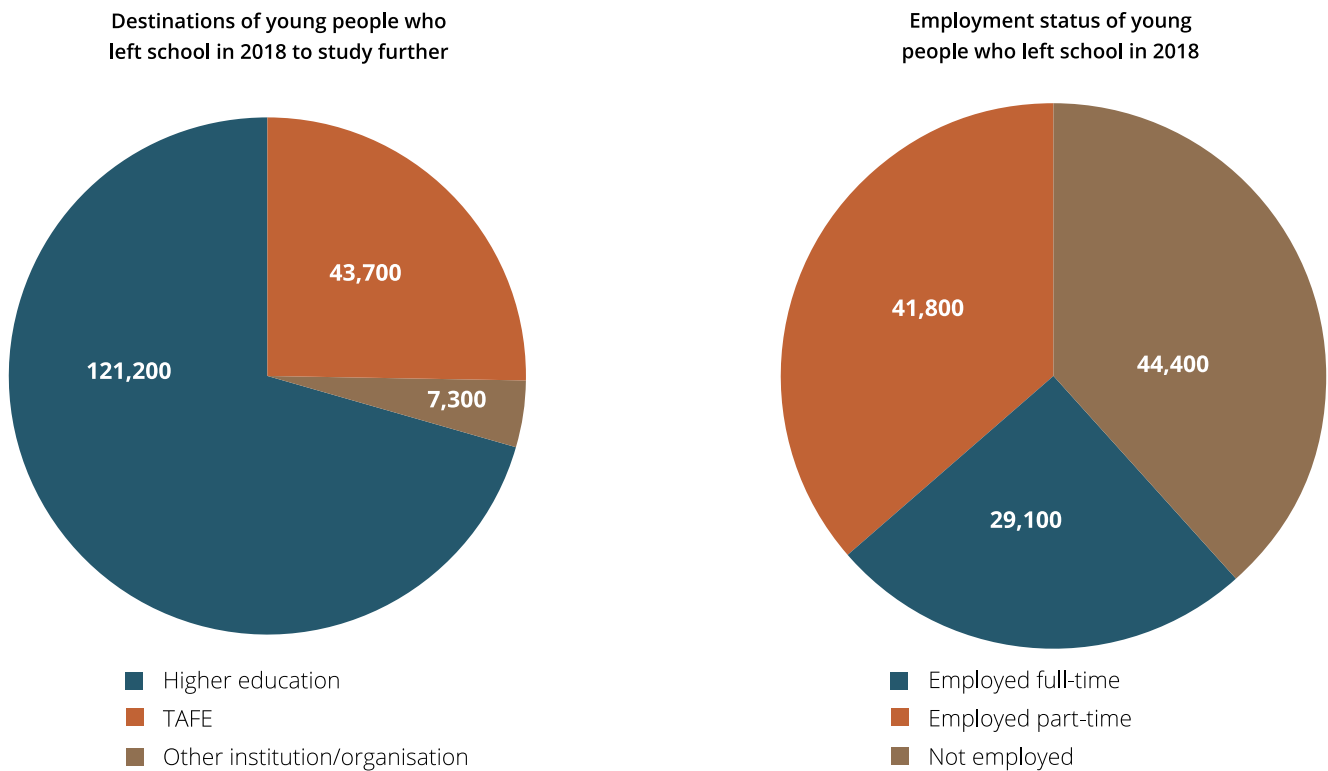
- 1 Schwab, K. (2016), 'The Fourth Industrial Revolution: What it means, how to respond', World Economic Forum, 14 January 2016, <https://www.weforum.org/agenda/2016/01/the-fourth-industrial-revolution-what-it-means-and-how-to-respond>.
- 2 Organisation for Economic Co-operation and Development (2019b), *Trends Shaping Education 2019*, summary, p. 2, https://www.oecd-ilibrary.org/education/trends-shaping-education-2019_trends_edu-2019-en.
- 3 Australian Bureau of Statistics (1991), *Schools, Australia, 1990*, cat. no. 4221.0, p. 55, <https://www.abs.gov.au/AUSSTATS/abs@.nsf/allprimarymainfeatures/1A6958EE78EA4DAACA257441001B8B29?opendocument>.
- 4 Australian Bureau of Statistics (2014b), *Schools, Australia, 2013: Students*, cat. no. 4221.0, <https://www.abs.gov.au/ausstats/abs@.nsf/Lookup/4221.0main+features42013>.
- 5 Australian Bureau of Statistics (2020b), *Schools, Australia, 2019: Key statistics*, cat. no. 4221.0, <https://www.abs.gov.au/ausstats/abs@.nsf/mf/4221.0>.
- 6 Australian Bureau of Statistics (2020a), *Schools, Australia, 2019: Aboriginal and Torres Strait Islander students*, cat. no. 4221.0, <https://www.abs.gov.au/ausstats/abs@.nsf/Latestproducts/4221.0Main%20Features102019?opendocument&tabname=Summary&prodno=4221.0&issue=2019&num=&view=>.
- 7 Australian Institute of Health and Welfare (2019a), *People with Disability in Australia 2019: In brief*, p. 16, <https://www.aihw.gov.au/getmedia/3bc5f549-216e-4199-9a82-fba1bba9208f/aihw-dis-74.pdf.aspx?inline=true>.

Post-school destinations

Destinations of school leavers are also evolving. Between 1988 and 1998, school leavers shifted towards tertiary education. By 1998, the proportion of school leavers who chose to continue their studies increased from 43 per cent to 58 per cent over this period.⁸ Higher education in particular increased its share of school leavers from 18 per cent to around 30 per cent.⁹ Another 24 per cent of school leavers attended TAFE colleges. Some 5 per cent studied at other education institutions.¹⁰ The remaining 42 per cent of school leavers were not attending an education institution, though a small number had deferred such an offer.¹¹

How dramatically the situation has changed. In the latest generation, the level of education to which students aspire has risen significantly. In May 2019, 121,200 school leavers were enrolled in higher education, 43,700 were enrolled in TAFE, and 7,300 were enrolled in other institutions/organisations (Figure 2).

Figure 2: Post-school destinations, May 2019



Note: These figures are estimates from the Australian Bureau of Statistics.

Source: Australian Bureau of Statistics (2019b), *Education and Work, Australia, May 2019*, cat. no. 6227.0, Table 17.

This transformation has occurred in response both to government policies and labour market demand. In terms of the relative benefits of different post-school pathways, Figure 3 illustrates that those with a qualification at Certificate III/IV or diploma or higher have the strongest labour force participation.

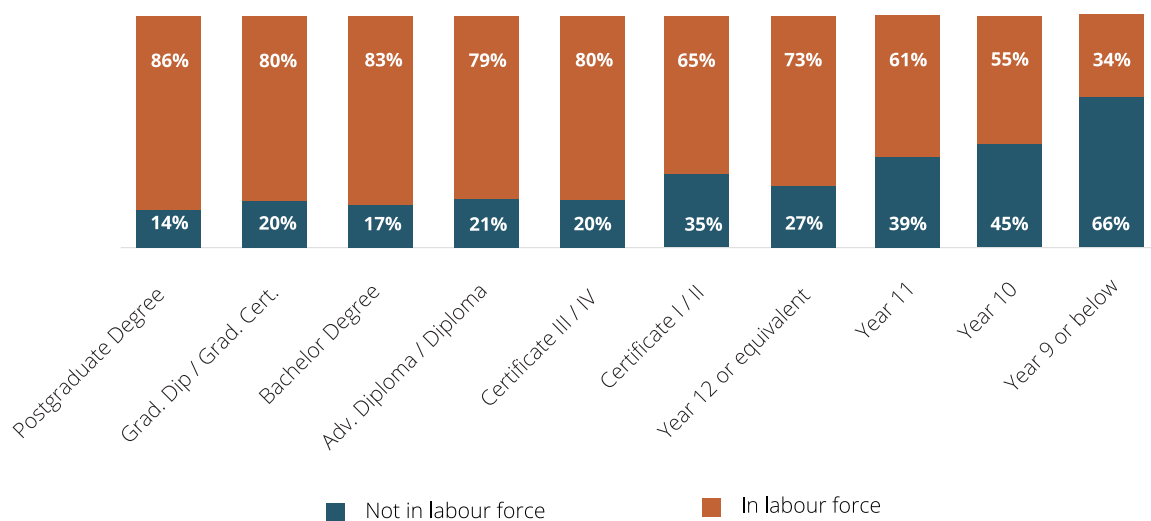
8 Australian Bureau of Statistics (1999), *Australian Social Trends, 1999: Participation in education – Destinations of school leavers*, cat. no. 4102.0, <https://www.abs.gov.au/AUSSTATS/abs@.nsf/2f762f95845417aeca25706c00834efa/2f3f76f60abec87aca2570ec00112c40!OpenDocument>.

9 Ibid.

10 Ibid.

11 Ibid.

Figure 3: Labour force participation rates by highest qualification level, May 2019 (persons aged 15-74)



Note: *The Education and Work, Australia* collection is a sample survey and may encounter sampling errors, which may impact on the result of the statistics.

Source: Australian Bureau of Statistics (2019b), *Education and Work, Australia, May 2019*, cat. no. 6227.0, Table 10.

In 2019, 83 per cent of 15- to 74-year-olds with a bachelor degree were in the labour force, compared to 80 per cent of those with certificates at the III/IV level, and 73 per cent of those with Year 12 as their highest educational attainment. Young people with a qualification level of Year 11 or below had the lowest labour force participation rates. Education, it is clear, represents the pathway to gaining meaningful employment.

In terms of graduate income, vocational education and training (VET) graduates earn higher wages immediately following graduation. University graduates have the ability to earn higher wages over a lifetime. For example, in 2017, at the age of 21, university graduate fortnightly wages exceeded school leaver wages by approximately 25 per cent, while VET graduate wages exceeded school leaver wages by approximately 50 per cent. Once the graduates reached the age of 24, this trend was reversed, with university graduates earning more than VET graduates thereafter.¹²

Wages, or lifetime income, is a good indicator of economic success in life. But it can be much more than that: greater success in employment often goes hand in hand with more stable family life and greater levels of civic engagement. At a time when trust in democratic governance and other institutions is declining in Australia, education can play a key role in creating an informed and participatory citizenry and maintaining a cohesive and harmonious society. Education counters ignorance and fear and promotes tolerance and understanding.

¹² Group of Eight (2014), *Policy Note: Graduate skills and national productivity*, March 2014, p. 4, https://go8.edu.au/files/docs/publications/graduate_skills_and_national_productivity.pdf.

The labour market of the future

The workforce is also undergoing severe disruption. Following the global financial crisis in 2008, we saw employment prospects for young people become much more limited under tight labour market conditions. Employers preferred to keep their skilled and experienced staff over hiring young people with fewer skills and less experience.¹³ This situation is likely to be seen once again following the COVID19 pandemic.

For young people entering into employment either straight from school or after further education and training, the landscape of the world of work has inexorably shifted from that experienced by preceding generations.

“... the average Australian worker will likely change jobs 2.4 times over the next two decades. By 2040, 9 out of 10 Australians between 21 to 65 years are expected to have changed occupations at least once. Most of these people will require some reskilling to successfully switch from one job to the next ... workers who stay in their roles will need to frequently refresh their skills to navigate changes in the way they do their jobs.”

AlphaBeta¹⁴

Australian workers are already spending less time on routine and manual tasks and more time on complex activities that require a high degree of creative thinking, decision-making, problem-solving, interpretation of information, and personal interaction.¹⁵ Current estimates show that 96 per cent of Australian jobs require time management and organisational skills, 97 per cent require customer service skills, 70 per cent require verbal communication skills, and 87 per cent require digital literacy skills.¹⁶

As shown in Figure 4, projected employment growth is strongest in skill level 1 and skill level 4 occupations. Skill level 1 occupations (bachelor degree or higher qualification) are projected to grow by 484,600 or 11.8 per cent, and skill level 4 occupations (Certificate II or III) by 276,000 or 8.1 per cent over the five years to May 2024. This highlights the importance of tertiary education in the labour market.

The employment growth at skill level 1 can be attributed to occupations within the professionals category, such as registered nurses, and software and applications programmers. Employment growth in skill level 4 occupations can be attributed to the community and personal service workers group. Three of the six occupations projected to have the largest increase in employment in this group are aged and disability carers (up by 45,100 or 25 per cent), child carers (30,200 or 20 per cent) and education aides (23,200 or 21 per cent).¹⁷

13 Parliamentary Library (2016), 'Developments in the youth labour market since the GFC', Parliament of Australia, Research Paper Series, 2016-17, 31 August 2016, p. 3, https://parlinfo.aph.gov.au/parlInfo/download/library/prspub/4789032/upload_binary/4789032.pdf.

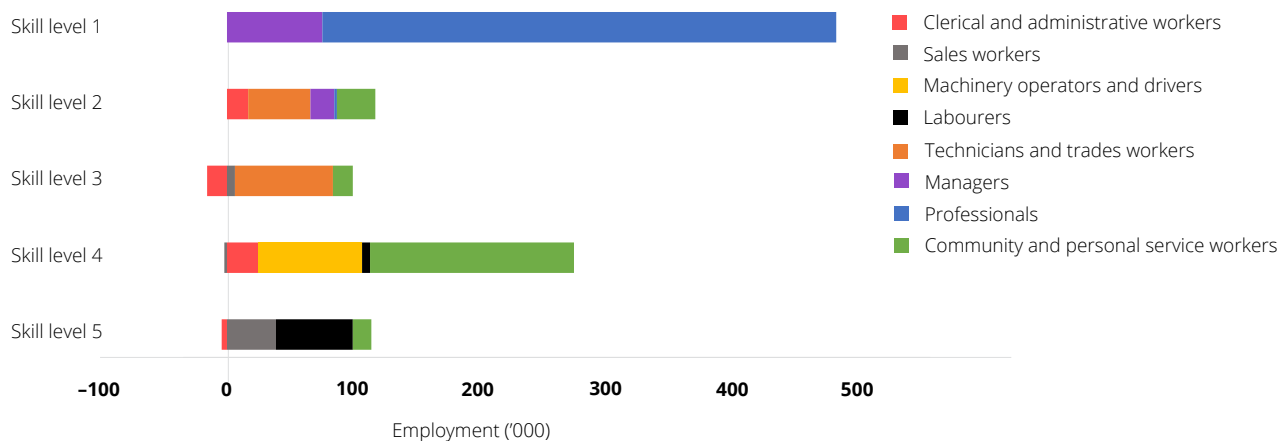
14 AlphaBeta (2018), *Future Skills*, p. 7, <https://www.alphabeta.com/wp-content/uploads/2019/01/google-skills-report.pdf>.

15 AlphaBeta (2017), *The Automation Advantage*, p. 11, <https://www.alphabeta.com/wp-content/uploads/2017/08/The-Automation-Advantage.pdf>.

16 Deloitte Australia (2019), *The Path to Prosperity: Why the future of work is human*, p. 21, <https://www2.deloitte.com/au/en/pages/building-lucky-country/articles/path-prosperity-future-work.html>.

17 Commonwealth Department of Employment, Skills, Small and Family Business (2019a), *Employment Outlook to May 2024*, p. 9, <https://cica.org.au/wp-content/uploads/employment-outlook-to-may-2024.pdf>.

Figure 4: Projected employment growth to May 2024, by skill level and occupation



Source: Commonwealth Department of Employment, Skills, Small and Family Business (2019a), *Employment Outlook to May 2024*, p. 10.

Given the considerable uncertainty around the changing world of education, training and work, it is clear that students will need to be able to apply their knowledge in unknown and evolving circumstances. They will be required to navigate increasingly complex pathways and unclear futures. Young people will need a broad base of skills, values and knowledge to become successful lifelong learners.

Our senior secondary schooling system must continue to adapt to fulfil this modern role.



CHAPTER 1: ESSENTIAL SKILLS

CHAPTER FINDINGS

- 1.1 All young Australians should be given equitable access and opportunity to become confident and creative individuals, successful lifelong learners, and active and informed members of the community.
- 1.2 Literacy and numeracy remain essential competencies: all students should leave school with sufficient proficiency in English and mathematics to allow them to fully participate in the labour market and the community.
- 1.3 Digital literacy should be considered alongside literacy and numeracy as a new essential competency. Digital literacy includes not just an ability to use social media, but a capacity to use hardware and software effectively in the workplace, an awareness of cybersecurity issues, and the ability to use and evaluate digital information.
- 1.4 Young people will need a broad base of skills, values and knowledge to become successful lifelong learners. Students also need to leave school with the essential life attributes to become productive members of the community. These include employability skills, creativity and entrepreneurial capabilities, financial literacy, interpersonal skills and civic understanding. Our senior secondary schooling system must continue to adapt to fulfil this modern role.
- 1.5 It is likely that, for the foreseeable future, many universities will continue to use the ATAR as one mechanism to rank students for entry. It will therefore continue to be a focus of senior secondary students who wish to pursue higher education. But it cannot continue to dominate the educational experience of senior secondary students.
- 1.6 While some level of stress is important in preparing students for the realities of life and supporting them to develop motivation, resilience and time management skills, the design of the senior secondary school system, and its focus on the ATAR, should not place unnecessary mental pressure on young people.
- 1.7 Many of the attributes that young people need can be acquired not just from academic study or vocational education but also from experiences outside the classroom. They can learn much from part-time work, volunteering, hobbies or sport.
- 1.8 Changing the outcomes we measure and value in senior secondary school will help to level the playing field for all students. The challenges faced by disadvantaged students should not be seen just through the lens of social deprivation: rather, their capacity to overcome the barriers should be recognised as a positive attribute when assessing their learning capabilities.
- 1.9 The certificate of achievement with which students leave school should record and verify the full range of their knowledge and attributes, including academic and non-academic skills, to provide a more wide-ranging view of student achievement, and a more reliable measure of the whole person.

In a world in which change is occurring rapidly and the future of education and work remains uncertain, one thing that is clear is the ongoing importance of literacy and numeracy skills. Yet, disconcertingly, the results of Australian young people in literacy and numeracy are stagnating. The National Assessment Program – Literacy and Numeracy (NAPLAN) 2019 national results revealed that Year 9 reading achievement has been static from 2008 to 2019, while numeracy mean achievement has shown no improvement over the same period.¹⁸

¹⁸ Australian Curriculum, Assessment and Reporting Authority (2019b), *National Assessment Program – Literacy and Numeracy: Achievement in Reading, Writing, Language Conventions and Numeracy: National report for 2019*, pp. 302–303, <https://nap.edu.au/docs/default-source/resources/naplan-2019-national-report.pdf>.

The importance of developing non-academic skills through education has also been gaining more attention from policymakers in recent years.¹⁹ COAG Education Council has led the way. In Australia, the Alice Springs (Mparntwe) Education Declaration, agreed by all education ministers in December 2019, emphasises that:

As a foundation for further learning and adult life, the curriculum includes practical skills development in areas such as [information and communications technology], critical and creative thinking, intercultural understanding and problem solving. These skills support imagination, discovery, innovation, empathy and developing creative solutions to complex problems. They are central to contributing to Australia's knowledge-based economy.²⁰

Literacy, numeracy and digital literacy

In Victorian times, the ability to read, write and do arithmetic was seen as an essential skill set that should be taught and learned at school. Today, in a digital age, those skills remain the foundation of educational success. What students learn in mathematics, reading and writing is essential. It will underpin their success in both learning and work.²¹ It is therefore vital to our future prosperity and productivity that no young person should enter the workforce without attaining proficiency in these critical areas. That some young people still leave school without these basic skills is an indictment of society. We need to prevent this occurring.

While the truth of this is generally recognised in society, it is employers who have argued most strongly that students are leaving senior secondary school without the literacy and numeracy skills they need to engage successfully in the workplace. There is no doubt that some employers are dissatisfied with the capacity of the students that they employ.

"Twenty-nine per cent of employers report low satisfaction with school leavers' numeracy; and 22 per cent expressed low satisfaction with school leavers' literacy."

Australian Industry Group submission

Minimum standards of literacy and numeracy are already in place as a condition of qualifying for a Senior Secondary Certificate of Education (SSCE). However, these standards vary across the country. Some states and territories allow the requirements to be met through subject choice, while in other jurisdictions, such as Western Australia, students must pass an online test.

19 Organisation for Economic Co-operation and Development (2017), *Social and Emotional Skills: Well-being, connectedness and success*, p. 3, [https://www.oecd.org/education/school/UPDATED%20Social%20and%20Emotional%20skills%20-%20Well-being,%20connectedness%20and%20success.pdf%20\(website\).pdf](https://www.oecd.org/education/school/UPDATED%20Social%20and%20Emotional%20skills%20-%20Well-being,%20connectedness%20and%20success.pdf%20(website).pdf).

20 Council of Australian Governments Education Council (2019), *Alice Springs (Mparntwe) Education Declaration*, December 2019, p. 15, https://docs.education.gov.au/system/files/doc/other/final_-_alice_springs_declaration_-_17_february_2020_security_removed.pdf.

21 Ithaca Group (2016), *Everybody's Core Business: Research into the non-technical capabilities needed for successful participation in work or further study: Final report*, August 2016, p. 6, https://docs.education.gov.au/system/files/doc/other/everybodys_core_business_-_research_report.pdf.

While literacy and numeracy have always been important, the value of digital literacy is also becoming increasingly recognised. Sometimes a crisis reveals starkly what is already becoming evident. The changes implemented at speed by education providers and businesses in response to the COVID-19 pandemic have amplified the need for digital literacy. Yet, even before coronavirus took hold around the world, there was a growing acknowledgement that digital literacy was an essential skill for students to develop in their senior secondary years. It was a matter highlighted in around one-third of the 200 submissions we received.

“Beyond language, literacy and numeracy skills, senior secondary schools should provide students with strong digital literacy skills. Advances in technology are going to require students to understand the concepts of coding, if not a particular coding language, logic, as well as quality assurance and fault finding.”

Naval Shipbuilding College submission

According to the Business Council of Australia, the five digital capabilities that people will require in the modern workforce include:

- Digital operation: using hardware, digital devices, software (including apps) and platforms to carry out digital tasks
- Digital identity and development: awareness of cybersecurity issues and developing and maintaining a digital identity and a commitment to learning and development
- Digital information and analysis: using technology to access, manage and evaluate digital information, including data
- Digital communication: communicating effectively through a variety of digital technology channels
- Digital innovation and creation: using technology to identify new ideas, solutions and opportunities (including process improvements) and creating new digital products.²²

Schools and systems will need to meet this demand, and consider how the attainment of these skills can be prioritised and measured. The increased dependence of schools on remote learning during the COVID-19 crisis has highlighted the disadvantage experienced by students less able to show their digital competence.²³

It is hoped that digital capabilities will not just be taught to students to prepare them for their future workplace, but will increasingly be incorporated into the means by which they access information, undertake assignments, and assess their capabilities while at school. COVID-19 has provided schools and systems with the capability to make digital literacy a natural part of students' learning.

²² Business Council of Australia (2020), *The Modern Worker: A guide to what employers want*, pp. 9–11.

²³ Rapid Research Information Forum (2020), 'Differential learning outcomes for online versus in-class education', brief, 1 May 2020, <https://www.chiefscientist.gov.au/sites/default/files/2020-05/COVID-19%20online%20learning.pdf>.

Recommendation 1

All students should expect that they will be supported to meet the minimum literacy, numeracy and digital literacy proficiency standards, which are the foundation for success beyond school.

- a) Students should be supported to meet the requirements and have them recognised by the end of Year 10.
- b) Students still requiring additional assistance to meet those standards should be provided with targeted interventions in Years 11 and 12.
- c) If, despite this supplementary support, students leave school without meeting these standards, they should be given ample opportunity and support to achieve these proficiency standards later.

Implementation guidance

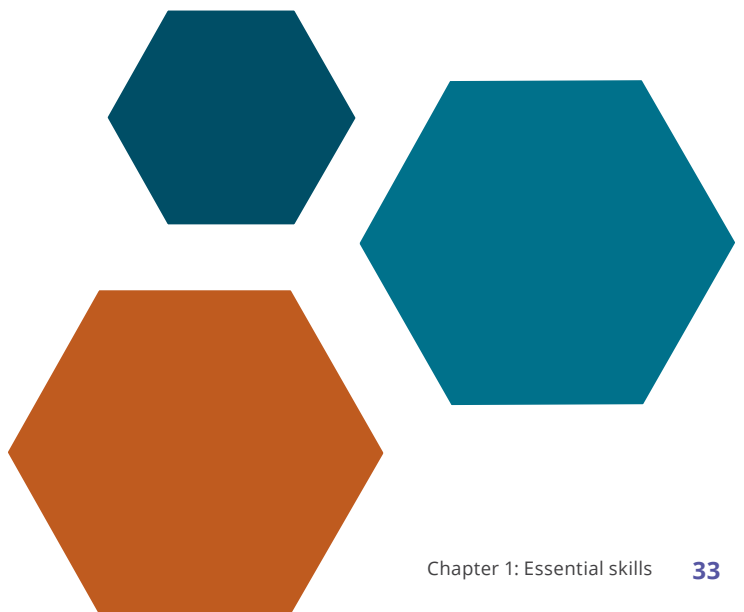
All states and territories already set their own literacy and numeracy standards. These could be used as the basis for measuring proficiency, although there needs to be a focus not just on minimum standards, but on helping students aspire to excellence.

Jurisdictions should develop minimum digital literacy standards. Education Council may wish to consider whether there would be value in moving toward a national approach to digital literacy proficiency.

The achievement of minimum standards in the three foundational skills should not be left until the final months, if they represent an end-of-schooling qualifying hurdle. By then, it is too late to remediate and offer support to those students who require it. Rather, students should be provided with the opportunity to meet minimum standards in literacy, numeracy and digital literacy during Years 9 and 10.

There are a variety of reasons students may not reach these standards prior to the completion of Year 10. Whatever the reason, specialist support strategies and targeted interventions should be put in place to ensure students are able to reach the standard prior to completing Year 12 or equivalent. If not, they are likely to find it far more difficult to find permanent work, access training or undertake further education.

In the unfortunate circumstance that students do leave school without having met those standards, it is important that no financial barriers or disincentives stand in the way of them achieving the standards in the future. All efforts should be spent on helping them get back on track and allowing them to benefit from the multiple pathways into the workforce that are available to others.



CASE STUDY: ONLINE LITERACY AND NUMERACY ASSESSMENT, WESTERN AUSTRALIA

The Online Literacy and Numeracy Assessment (OLNA) is designed to enable students to successfully demonstrate the Western Australian Certificate of Education (WACE) minimum standard of literacy and numeracy. The standard covers the range of skills regarded as essential to meet the demands of everyday life and work. These skills are described in Level 3 of the Australian Core Skills Framework (ACSF).

Two opportunities are provided each year – in March and September – for students to sit the OLNA from Year 10, until they have demonstrated the required standard. Students have a total of up to six opportunities before the end of Year 12 to demonstrate the minimum literacy and numeracy requirement.

Students who have achieved Band 8 or higher in any of the three components of reading, writing and numeracy in their Year 9 NAPLAN are acknowledged as having demonstrated proficiency in using a range of ACSF Level 3 skills in that component, and are not required to sit the OLNA.

Students who have not been able to demonstrate the minimum standard of literacy and numeracy before Year 11, and are unlikely to do so before the end of Year 12 without significant levels of teacher support,

can enrol in foundation courses in Years 11 and 12. Foundation courses are designed to assist students to meet the minimum standard in literacy and numeracy. Teachers will focus learning on those skills needed by the student to achieve the standard.

Students who do not meet the required standard before they leave Year 12 will still receive a Western Australian Statement of Student Achievement (WASSA), which provides a formal record of what they have achieved during their secondary schooling. The WA School Curriculum and Standards Authority will provide opportunities for these students to sit the relevant components during any future rounds of the OLNA. When students have demonstrated the standards and they have met all the other requirements of the WACE in that year, they will be awarded a WACE.

Students may sit the OLNA at TAFE admissions and have their result contribute towards achievement of the literacy and numeracy standard. However, when a student sits the OLNA at TAFE admissions, it counts towards the limit of six opportunities to sit each component that students are permitted to have before the end of Year 12.

Source: Western Australian School Curriculum and Standards Authority (WA SCSA), 'OLNA', webpage (accessed 30 April 2020), <https://senior-secondary.scsa.wa.edu.au/assessment/olna>; and WA SCSA, 'Students, parents and carers', webpage (accessed 30 April 2020), <https://senior-secondary.scsa.wa.edu.au/assessment/olna/students-parents-carers>.

Essential skills

In 2018, the Gonski report of the Review to Achieve Educational Excellence in Australian Schools noted that the senior secondary education system focuses mainly on academic disciplines. Learning is generally more theoretical than applied, with assessment and reporting geared towards university entrance. This focus on academic disciplines in senior secondary schooling tends to crowd out broader educational outcomes.²⁴

The Australian Curriculum currently includes the teaching of a range of important general capabilities from Foundation to Year 10. Yet, ironically, this focus on attributes that are seen as important by employers is not made explicit within the senior secondary years. Rather, the greater focus is on scholastic achievement in the form of subject scores and, most particularly, the Australian Tertiary Admission Rank (ATAR).

“... current senior secondary curriculum assessment and certification systems in Australia do not support the recording of a broad range of capabilities such as communication, collaboration and creativity. Senior secondary education reform is needed because the measures of success as senior secondary permeate through secondary schooling, resulting in a narrowing to improve Year 12 results.”

*Australian Learning Lecture*²⁵

While SSCEs in all states and territories embed the teaching of transferable skills (variously described as general capabilities, 21st-century skills and employability skills) within their subject syllabuses, the extent to which individual students acquire these skills in school will vary depending on the subjects they study. The perceived de-emphasis of non-academic skills has contributed to 68 per cent of young people believing that high school did not adequately prepare them for success in the ‘real world’.²⁶ It helps explain why 37 per cent of undergraduate students are unsatisfied with their development of work-related knowledge and skills.²⁷

“I can write an essay in under an hour, but I didn’t understand my first pay slip.”

Anonymous student submission

Many employers also have strong concerns about the inadequacy of school leavers’ capabilities, including their lack of self-management, planning and organisational skills (45 per cent of employers); and problem-solving, initiative and enterprise skills (41 per cent of employers).²⁸

There are many variations of the essential skills that are seen to be needed for the workforce of the future. Students, parents, school systems, jurisdictions, tertiary institutions and employers often have slightly different perspectives. Nevertheless, there are strong common themes concerning capabilities that different groups expect young people to gain through their senior secondary schooling, although they are expressed using a variety of terminologies. This can be seen in Figure 5.

24 Australian Government (2018), *Through Growth to Achievement: Report of the Review to Achieve Educational Excellence in Australian Schools*, March 2018, p. 49, https://docs.education.gov.au/system/files/doc/other/662684_tgta_accessible_final_0.pdf.

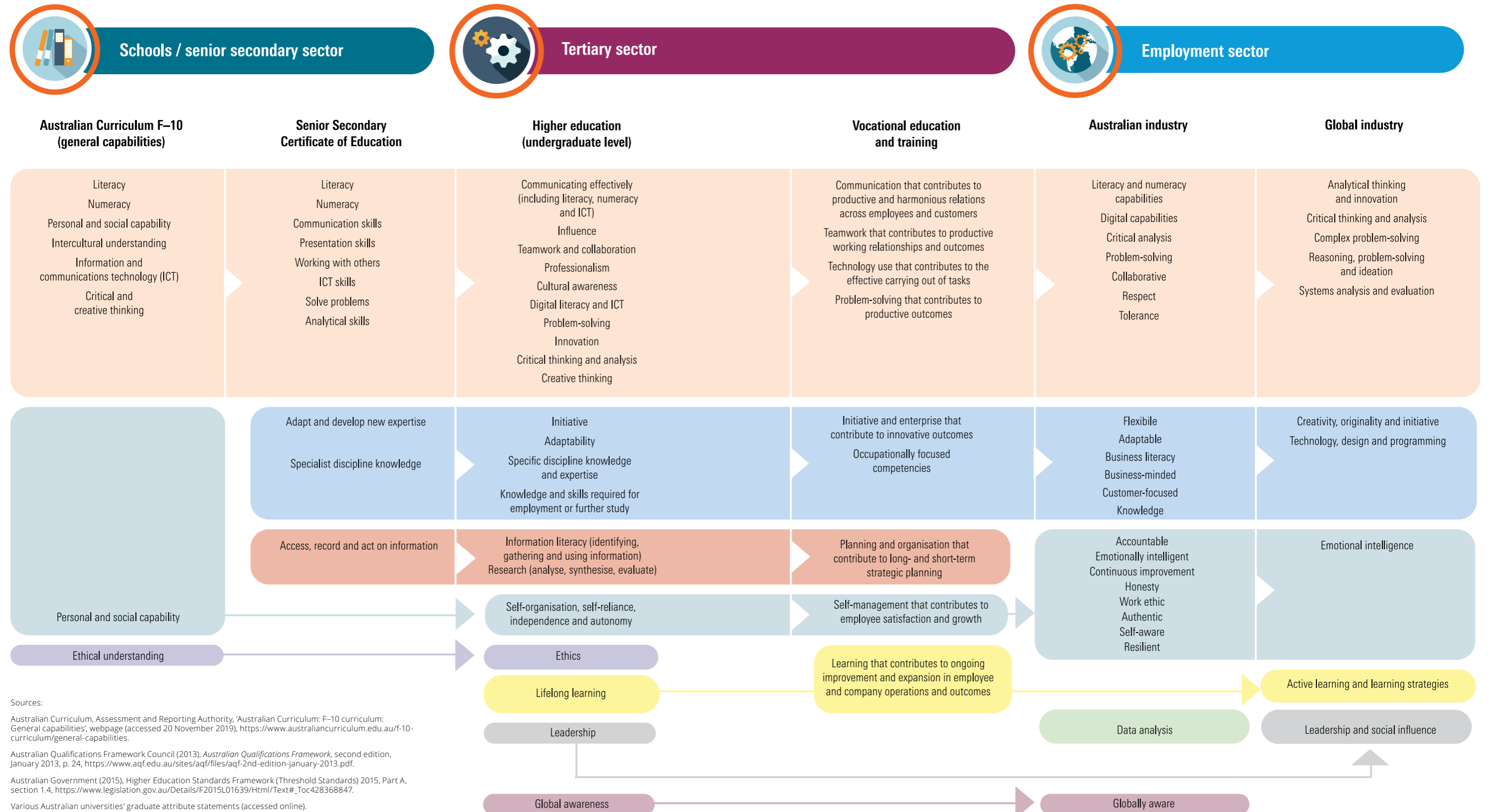
25 O’Connell, M., Milligan, S. and Bentley, T. (2019), *Beyond ATAR: A proposal for change*, Australian Learning Lecture position paper, September 2019, p. 7, https://www.all-learning.org.au/sites/default/files/resources/beyond_atar_proposal_for_change_all.pdf.

26 Shipley, B. and Stubley, W. (2018), *After the ATAR II: Understanding how Gen Z makes decisions about their future*, Year13 and YouthSense, p. 35, <https://youthsense.com.au/research/after-the-atar-ii>.

27 Quality Indicators for Learning and Teaching (2019a), *2018 Student Experience Survey: National report*, March 2019, p. 94, <https://www.qilt.edu.au/ocs/default-source/default-document-library/2018-ses-national-report.pdf>.

28 Australian Industry Group (2018), *Skilling: A national imperative*, Workforce Development Needs Survey report, p. 19, https://cdn.aigroup.com.au/Reports/2018/Survey_Report_WFDNeeds_Skilling_Sept2018.pdf.

Figure 5: Capability descriptions across education and employment sectors



Sources:

Australian Curriculum, Assessment and Reporting Authority, 'Australian Curriculum: F–10 curriculum: General capabilities', webpage (accessed 20 November 2019), <https://www.australiancurriculum.edu.au/f-10-curriculum/general-capabilities>.

Australian Qualifications Framework Council (2013), *Australian Qualifications Framework*, second edition, January 2013, p. 24, <https://www.aqf.edu.au/sites/aqf/files/aqf-2nd-edition-january-2013.pdf>.

Australian Government (2015), Higher Education Standards Framework (Threshold Standards) 2015, Part A, section 1.4, https://www.legislation.gov.au/Details/F2015L01639/Html/Text#_Toc428368847.

Various Australian universities' graduate attribute statements (accessed online).

Snell, D. and Gekara, V. (2016), *Examining the transferability of skills developed within the Australian vocational education and training system: Support document 2*, National Centre for Vocational Education Research, pp. 15–18.

Business Council of Australia (2020), *The Modern Worker: A guide to what employers want*.

World Economic Forum (2018), *The Future of Jobs Report 2018*, http://www3.weforum.org/docs/WEF_Future_of_Jobs_2018.pdf.

We do not seek to be overly prescriptive about the development of specific skills. Each jurisdiction, different schooling authorities and even individual schools may wish to articulate these skills in their own manner. We do need to ensure, however, that a common language is employed across sectors.

Establishing consistency of terminology and understanding is critical to allow for measurement.

*RAND Corporation*²⁹

Throughout this report, we refer to these capabilities as **'capabilities for employment and active citizenship'**. This reflects the Panel's unanimous view that, at a systemic level, we need to recognise the important role of senior secondary education in preparing young people for work, active citizenship and, most importantly, lifelong learning. The attributes need to be made explicit so that teachers can help guide and evidence student learning.

Recommendation 2

There should be agreement on a common language across the entire education and training system for what are variously described across sectors as general capabilities, employability skills, soft skills or graduate capabilities.

Implementation guidance

Education Council should work with the COAG Skills Council, the tertiary education sectors, and industry bodies to develop a common language regarding capabilities for employment and active citizenship.

There is no need for this work to start from scratch. As indicated in Figure 5, a lot of existing effort in this space can be drawn upon:

- The Business Council of Australia uses the categories of business literacy, critical analysis, data analysis, digital technology, literacy, numeracy, problem-solving and technical skills.³⁰
- The World Economic Forum identifies a variety of skills that it believes will be increasingly significant by 2022.³¹ They are active learning and learning strategies; creativity, originality and initiative; technology design and programming; critical thinking and analysis; complex problem-solving; leadership and social influence; emotional intelligence; reasoning, problem-solving and ideation; and systems analysis and evaluation.
- As part of the Jobs and Education Data Infrastructure (JEDI) project, the Australian Government has developed a data-driven Australian skills classification, which suggests that 10 core competencies are common to every occupation in the labour market: digital literacy, oral communication, reading, writing, numeracy, learning, initiative and innovation, planning and organisation, problem-solving, and teamwork.
- The Australian Qualifications Framework (AQF) Review also called for an update to the general capabilities.³² In response to the review, a joint national working group is providing advice for skills and education ministers on what general capabilities can be expected from AQF qualifications.

²⁹ Soland, J., Hamilton, L. and Stecher, B. (2013), *Measuring 21st-Century Competencies: Guidance for educators*, RAND Corporation and Asia Society, Global Cities Education Network report, November 2013, p. 4, <http://asiasociety.org/files/gcen-measuring21cskills.pdf>.

³⁰ Business Council of Australia (2016), *Being Work Ready: A guide to what employers want*, https://www.bca.com.au/being_work_ready_a_guide_to_what_employers_want.

³¹ World Economic Forum (2018), *The Future of Jobs Report 2018*, p. ix, http://www3.weforum.org/docs/WEF_Future_of_Jobs_2018.pdf.

³² Expert Panel for the Review of the Australian Qualifications Framework (2019), *Review of the Australian Qualifications Framework: Final report*, October 2019, https://docs.education.gov.au/system/files/doc/other/aqf_review_2019_0.pdf.

As a starting point, based upon the consultations conducted and submissions received, the Panel has identified 12 essential skills categories that should be developed in every Australian young person throughout their schooling:

LITERACY AND NUMERACY

DIGITAL LITERACY

LIFE SKILLS

INTERPERSONAL SKILLS AND COMMUNICATION

CRITICAL ANALYSIS AND EVALUATION

TEAMWORK AND COLLABORATION

PROBLEM-SOLVING

RESILIENCE AND SELF-CARE

PLANNING, ORGANISATION AND ACCOUNTABILITY

WORKPLACE INITIATIVE

ENTREPRENEURIAL SKILLS AND INNOVATION

ACTIVE CITIZENSHIP

Recommendation 3

Once the common language is agreed across sectors and jurisdictions, appropriate standards should be developed to allow the evidencing, within the schooling sector, of the capabilities necessary for employment and active citizenship, building on the Foundation to Year 10 capabilities, but focused particularly on Years 11 and 12.

Implementation guidance

There is no doubt that the abovementioned capabilities for employment and active citizenship are what employers are looking for in the modern worker. Teachers with whom we have spoken often articulate similar attributes. Indeed, some at the school level are already explicitly assessing students against these capabilities. In our structured discussions with young people, the Panel has been encouraged by the fact that so many recognise the importance of these skills and express frustration that academic study does not always adequately address them. We would provide young people with a distinct advantage if we developed and evidenced their range of skills during the senior secondary years.

This is a bold proposition but it does not require revolutionary change. The capabilities can, to a significant extent, be taught within the current academic landscape. In fact, many are already explicitly included as general capabilities within the Australian Curriculum up to Year 10. But what is insufficiently recognised is that these attributes can also be acquired from experiences outside of the classroom, including not just sporting achievement and volunteering, but from the discipline of part-time work.

These capabilities should be specifically discussed as part of a pathways conversation between teachers and students from Year 9. Students need to be encouraged to articulate their own capabilities and understand how they can enhance them both at school and through their outside activities and interests.

There are many pockets of innovation and best practice across the country that we can draw on. While some innovative schools seek to explicitly assess these capabilities, there is no common framework for evidencing them. Often they are not visible to employers. Better ways to identify and evidence these capabilities should be developed. Schools and teachers should be supported to structure their thinking around the skills development students require for the future. Options for implementation could include the development of frameworks, achievement standards, and structured opportunities to identify, articulate and evidence the skills that students have acquired. The focus should be reliability, validity and fairness.

Changing the outcomes we measure and value in senior secondary school will help to level the playing field for all young people. That profound change needs to be predicated upon the belief that essential skills can be gained and exhibited just as much through vocational education and training as more academic courses; and that the attributes can reflect the lived experiences of students in diverse circumstances. The experiences gained by a young Indigenous person in a remote community through their rite of passage; the learning that comes from a school student having to take on caring responsibilities for a disabled parent; or the discipline gained from volunteering for a community organisation – all can be of significant value in demonstrating capabilities.

It is this diversity of skills, attributes and experiences that employers are looking for in selecting job applicants to work for them. It is this range of interests and passions that is needed to sustain Australia's civil society and volunteer culture. It is these capabilities that young people require in order to arrange their personal affairs, build relationships and form families.

This is the education for life that schools can provide. It is what many teachers would like to focus on. Yet the current education system tends to direct senior secondary students towards a single number – the ATAR. It is, as we heard first hand from the students we consulted, a very poor guide to the quality of the whole person.





CASE STUDY:

UNIVERSITIES ADMISSIONS CENTRE AND DEAKINCO FRAMEWORK FOR MEASURING SKILLS




The Universities Admissions Centre (UAC) acknowledges widespread agreement about the need to consider all aspects of a student, especially in the context of the skills needed for the future of work.

While this has traditionally been seen as difficult to quantify, UAC is currently working with DeakinCo to adopt a Tertiary Education Quality and Standards Agency (TEQSA)-approved framework to define and measure different skills, such as problem-solving, communication, digital literacy, leadership, critical thinking, teamwork and innovation, at the foundational/Certificate III level right through to Level 9/masters.

The DeakinCo framework involves a four-step process:

-  **1. Reflect on experience and gather evidence of capabilities**
-  **2. Submit testimony and evidence**
-  **3. Answer questions about skills and knowledge**
-  **4. Have submission assessed and receive credential**

The UAC/DeakinCo methodology follows this framework. For Year 12 students, it will involve gathering evidence from Year 12 students through:

-  **Documents from within and outside school**
-  **Written reflective testimony**
-  **Video testimony**

Adding this rigour to the assessment of skills is a game changer and will give not only universities but other providers and employers the ability to consider the whole student in a comprehensive, transparent and equitable way.

Source: Universities Admissions Centre submission.

Australian Tertiary Admission Rank

There were few issues within the scope of the review that elicited more passionate views from participants and contributors than the Australian Tertiary Admission Rank (ATAR).

While tertiary institutions and the Universities Admissions Centre advocate a balanced approach to the use of the ATAR, this is not the message being heard by young people, their families or their teachers.

“The problem is not how the ATAR works, but how people think it works.”

Universities Australia submission

The ATAR, or at least the manner in which it is perceived, dominates senior secondary education. It drives expectations. Many students and their parents see the ATAR as a single number that sums up a person's 13 years of schooling and their likelihood of future success in life. Yet the real purpose of the ATAR is to provide a method of ranking. Quite simply, it compares the achievement of students who have completed different combinations of subjects, for the purpose of entry to university.

The ATAR is not a measure of performance in senior secondary school. It is not a mark or grade. It is not an indicator of school or university quality. It is a ranking system that provides a relative measure of a student's academic achievement across the senior secondary years relative to all other students in the same year. The ATAR (or its predecessors) has been used by higher education institutions since the 1970s, either on its own or in conjunction with other criteria, to rank and select school leavers for an offer of admission. It is a very Australian approach: there are few education systems around the world that depend on a single score to define academic achievement. Yet here it continues to hold sway: indeed, Queensland will from this year join other jurisdictions in calculating ATAR scores for students.

In 2018, 28 per cent of all university offers made were for those with an ATAR of at least 70.05.³³ This translates to 77,417 students obtaining entry on the basis of their ATAR score.³⁴ It provides an efficient if simplistic mechanism for universities to make comparisons.

There is some evidence that the ATAR functions as a predictor of success for students entering university, at least at the extremes:

[S]tudents with a higher ATAR are more likely to do well at university. Over the past decade, more than one in 10 students with an ATAR lower than 60 failed all their subjects in the first semester. The failure rate for students with an ATAR of 90 or more was less than a fifth of that.³⁵

33 Commonwealth Department of Education (2019c), *Undergraduate Applications, Offers and Acceptances 2019*, October 2019, https://docs.education.gov.au/system/files/doc/other/dept_of_education_-_undergraduate_applicationoffers_and_acceptances_2019.pdf.

34 *Ibid.*, pp. 6 and 8.

35 Cherastidtham, I. (2018), 'University admission: ATAR best guide to student performance', *The Australian*, 30 May 2018. Also published by the Grattan Institute, <https://grattan.edu.au/news/university-admission-atar-best-guide-to-student-performance>.

Yet, while the ATAR may act as a broadbrush predictor of success, it is not as significant as other factors in predicting university performance or degree completion, such as type of attendance or age.³⁶

Whatever the value of an ATAR to university selection, a misunderstanding of the purpose and application of the ATAR is having negative consequences. It is leading to a narrow view of 'success' and the goals of schooling in the senior secondary years.

This has a profound impact on the manner in which success at school is perceived. Undue emphasis on the ATAR diminishes the value attached to the importance of vocational education pathways, often determines the allocation of school resources, and places additional mental stress on students who think that their lives will be dependent on how they perform in the end-of-Year-12 examinations that significantly influence the ATAR score.

"The whole of Year 11 and Year 12 is about the ATAR, at the expense of other important learning opportunities necessary for lifelong learning and a successful transition to post-secondary life."

Catholic Education WA submission

Although the ATAR has its place when it comes to university admissions, the senior secondary education system in most states and territories remains geared towards achieving an ATAR at the expense of broader skills and other pathways. Many senior secondary teachers with whom we have spoken are frustrated at what they are asked to prioritise and teach in Years 11 and 12. They have told us that the essential capabilities are often relegated, as they do not contribute to the ATAR. VET pathways are often seen as 'second tier' to an ATAR pathway. This view is reinforced by the inconsistent way that VET is counted toward the ATAR across jurisdictions.

Schools are often promoted as being 'successful' based on the ATAR scores of their school leaver cohorts. Students who perform excellently are promoted in newspapers. The media use the measure to construct league tables of educational performance. This places additional pressure on systems, schools, students and teachers to maximise student ATARs. A Year 13 survey in 2017 found that 55 per cent of those surveyed felt their school cared more about their ATAR than it did about them.³⁷ Ironically, the ATAR does not even promote academic excellence. The Panel has heard evidence from students that they were persuaded not to undertake advanced subjects for fear of lowering their ATAR.

This intense focus on the ATAR ignores achievement in other areas. It sends a clear message to students about what the school, the system and the public value most. The Parliament of Victoria found in 2018 that:

the media's publication of ATARs and first-round university offers distorts the community's view of the value of VET and university. The Government should consider different ways of publishing destination data so that the community places less emphasis on how many students enter university as a measure of a school's success.³⁸

The Panel agrees whole-heartedly.

36 Higher Education Standards Panel (2016), *Improving the Transparency of Higher Education Admissions: Final report*, October 2016, p. 43, https://docs.education.gov.au/system/files/doc/other/revised_20161115_pm_final_accessibility_version_hesp_admissions_transparency_report.pdf.

37 Bisson, R. and Stublely, W. (2017), *After the ATAR: Understanding how Gen Z transition into further education and employment*, Year 13 and YouthSense, p. 17, <https://youthsense.com.au/research/after-the-atar-i>.

38 Economic, Education, Jobs and Skills Committee (2018), *Inquiry into Career Advice Activities in Victorian Schools*, Parliament of Victoria, p. xi, <https://www.parliament.vic.gov.au/925-eejsc/inquiry-into-career-advice-activities-in-victorian-schools>.

“The pressure on students to get a high ATAR also has undesirable consequences, with young persons seeing the Year 12 ATAR score as a critical point in their life, when we know that post-school outcomes are more important.”

Professor Tom Karmel, personal submission

The pressure many students feel in senior secondary school to maximise their ATAR can also lead to mental health distress. The Year 13 survey found that the fear of failure surrounding the ATAR is the cause of immense stress for young people. Around 51 per cent of respondents currently see, or feel that they ought to see, a mental health professional.³⁹ Participants in a youth forum held by the Panel also indicated that many students feel anxiety both from the pressure of exams and content-heavy coursework.⁴⁰

Those students who do achieve a high ATAR face continued pressure to ‘use their ATAR’ or ‘not waste their number’. That may lead students to study a course with a higher entrance mark, rather than lower-entry courses, which are seen as less prestigious but may be more suitable, more in tune with their aspirations or offer greater employability prospects. Some young people reported they felt pressured to pursue a ‘good’ university degree instead of being encouraged to follow their interests.⁴¹

While each jurisdiction calculates the ATAR differently based on their own assessment and certification requirements, Queensland’s introduction of the ATAR system in 2020 for the first time provides an opportunity to observe the effect of variations to the system for the broader Australian context.

The new Queensland ATAR will include a broad range of student learning, with options to combine applied subjects and VET qualifications along with general subjects. The ATAR will be based on a smaller number of assessments than students were required to undertake under the previous system, and a student’s internal assessment results will not be scaled against their external assessment in calculating the ATAR.⁴²

The interim report of the NSW Curriculum Review, released in 2019, also proposes a number of reforms in relation to the ATAR and course structure. It identifies the undue dominance the ATAR is having over teaching and learning in schools, and the distorting influence it is having on student subject choice. It recommends exploring the possibility of not calculating and reporting the ATAR, instead replacing it with course-by-course selection ranks.⁴³ It also proposes introducing a limited set of rigorous, high-quality, advanced courses, each of which incorporates both theory and application and is designed to develop knowledge, understandings, skills and attributes for further learning, life and work.⁴⁴

The impact of COVID-19 on senior secondary schooling in 2020 is forcing jurisdictions to make innovations and adjustments to the way the ATAR is calculated. Forced by necessity, this may turn out to be a good outcome of the crisis. These short-term approaches should be evaluated to see how they affect the overall outcomes of senior secondary schooling and whether additional, more flexible modes of student assessment might have long-term benefit.

39 Bisson and Stubble (2017), p. 9.

40 Social Deck (2020), *Wagga Wagga Youth Forum*, unpublished report, p. 7.

41 Ibid.

42 Queensland Government submission.

43 NSW Education Standards Authority (2019), *Nurturing Wonder and Igniting Passion: Designs for a future school curriculum: NSW Curriculum Review interim report*, October 2019, p. 101, <https://nswcurriculumreview.nesa.nsw.edu.au/pdfs/interimreport/chapters/NSW-Curriculum-Review-Interim-Report.pdf>.

44 Ibid., p. 95.

Alternative entry to universities

The ATAR, designed to rank students for university, is distorting senior secondary pathways. Yet, ironically, it has become progressively less important in achieving the purpose for which it was intended.

It is not generally understood that the ATAR alone is not the basis on which most students gain access to university. Indeed, only 31 per cent of students gaining entry to university in 2014 were selected on this basis. Many others secured entry on the basis of their vocational education and training, workplace experience, mature-age entry or alternative selection process.⁴⁵

Many institutions increasingly accept a range of evidence other than the ATAR for prospective students to demonstrate their readiness and capacity for higher education, including alternative entry schemes, portfolios and auditions, VET certificates, or diploma qualifications. A major problem at the moment is that senior secondary students are being required to choose between academic subjects for university or vocational education. Yet this is an unnecessarily binary demarcation. Once students leave school, they discover that vocational education and training is a good pathway to higher education, and, equally important, that certificated training is often a good complement to a university degree.



⁴⁵ Higher Education Standards Panel (2016), p. 5.

CASE STUDY:

AUSTRALIAN NATIONAL UNIVERSITY ENTRY CRITERIA

In Semester 1, 2020, the Australian National University (ANU) introduced a new admissions process for all undergraduate domestic school leaver places. As a compulsory condition of entry, students are now required to demonstrate their involvement in activities outside of the classroom from Year 10 to Year 12, such as sports, volunteering, internships, paid and unpaid employment and exchange opportunities. ANU states that the main reasons for this change are:

- to promote community engagement and well-roundedness
- to highlight skills that enhance employability outcomes of students
- to give students an opportunity to tell the ANU more about themselves and for this to be recognised.

SKILLS	CLUSTERS/ACTIVITIES
<p>There are seven skills that are acknowledged as part of the process:</p> <ol style="list-style-type: none"> 1. Community Engagement 2. Inclusion and Awareness of Diversity 3. Communication 4. Leadership 5. Personal Responsibility 6. Teamwork 7. Creative and Critical Thinking 	<p>These skills are matched against activities in the following clusters/activities:</p> <ul style="list-style-type: none"> - Academic Extension Activities - Educational and Scholastic Activities - Community and Service Activities - Employment - Creative and Performance Activities - Gaming, Sport and Fitness Activities

The new process does not competitively rank students by types of activity undertaken, change a student's entrance rank, or impact other entry requirements, such as specific subject prerequisites or portfolios.

The co-curricular or service requirement needs students to demonstrate that they meet the threshold of at least three of seven skills, which are matched against six clusters/activities (see above).

For example, a student can use volunteering experience (at least 40 hours over one year) to demonstrate having met skills such as community engagement, inclusion and awareness of diversity, communication, personal responsibility and teamwork.

A student can use paid or unpaid work experience (at least 75 hours in one year) to demonstrate skills such as personal responsibility, communication or teamwork.

Sources: Australian National University, 'Co-curricular or service requirement', webpage (accessed 20 May 2020), <https://www.anu.edu.au/study/apply/domestic-applications-anu-undergraduate/applying-to-anu-application-details/co>; O'Connell, M., Milligan, S. and Bentley, T. (2019), Beyond ATAR: A proposal for change, Australian Learning Lecture position paper; and Australian National University, 'Admissions process – domestic direct applications', webpage (accessed 15 October 2019), <https://www.anu.edu.au/study/apply/domestic-applications-anu-undergraduate/applying-to-anu-application-details/admission>.



For students, awareness of the different schemes for university entrance is mixed. The requirements are often institution specific, meaning students may be forced to go through multiple application processes.

“Universities have been quietly changing the ways in which school leavers can access undergraduate degrees for a decade in NSW but that message is not getting through.”

Principal, Year 11–12 metropolitan special assistance school, quoted in Association of Independent Schools of NSW submission

The Panel accepts that the ATAR has merit as a limited ranking device for the immediate future. For universities, the rise of direct admissions and early offer schemes often requires greater evidence, and can present challenges in both resourcing and transparency of assessment. ATAR is convenient.

The challenge with any process that complements or replaces the ATAR will be to maintain efficiency and transparency, while managing increasing complexity across a proliferation of entry pathways.

What the Panel does believe strongly is that the ATAR cannot continue to dominate the choices made by senior secondary students. Performance in a range of academic subjects needs to be assessed, but at the same time vocational education needs to be accorded higher status. And the wider range of skills necessary for a young person’s successful future needs to be framed, made explicit and assessed. It is clear that the ATAR, while useful for ranking students efficiently for university entry, cannot measure the full range of skills and attributes students have gained through their years of schooling. It distorts the broader goals of senior secondary education.

The Panel is not recommending that we get rid of the ATAR. In its absence, it is likely another mechanism would be introduced in its place. What we wish to emphasise is that the ATAR is not sufficient to measure the outcomes of 13 years of schooling. It does not provide a holistic view of each student’s capabilities or achievement. It suggests to capable students that they should direct their efforts to entering university even if they are attracted to vocational education, apprenticeships or training. It privileges academic achievement above the broad range of skills and attributes that are required for life.

So if not the ATAR, then what? The Panel is convinced that a much better approach is for senior secondary students to leave school with a document that captures the range of learning that they possess, some gained in school, some outside of it. It would record the ATAR (where relevant) and scholastic achievement but include much else besides. We call it the Learner Profile.

Learner Profiles

On completing their senior secondary schooling, students who meet eligibility requirements receive a Senior Secondary Certificate of Education (SSCE). In some states and territories, these eligibility requirements include demonstration that minimum literacy and numeracy requirements have been met. This is accompanied by a statement of achievement that lists the subjects, grades and scores for study that count toward the SSCE, which may include workplace learning or VET studies. Students who do not meet the eligibility requirements for a SSCE can still receive a statement of achievement.

The SSCE is intended to perform a range of functions to support students in their future pathways. Universities use the SSCE to confirm achievement in specific subjects that may be relevant for entry into the desired university course,⁴⁶ while VET providers use the SSCE to ascertain Year 12 attainment. Employers may use the SSCE to determine completion of Year 12, to assist in confirming literacy and numeracy skills, whether subjects studied in Years 11 and 12 are relevant to the workplace, and to assess any completed VET qualifications and units of competency.

⁴⁶ Australian Government, ‘What to do if you didn’t get the ATAR required for your course’, Job Jumpstart webpage (accessed 12 December 2019), <https://www.jobjumpstart.gov.au/article/what-do-if-you-didnt-get-atar-required-your-course>.

This is necessary but not sufficient. What the SSCE does not provide is a compelling and consistent way to depict the full range of an individual's strengths, capabilities and achievements. Consequently, it is not well utilised by tertiary institutions or employers.

"It is timely for educators to shift their focus away from easy-to-measure metrics that may not assess what is intended, or present an accurate reflection of student achievement."

Hassan Mekawy, personal submission

Some critics have argued that a singular focus on the ATAR means "young people may abandon their real interests, push aside extra-curricular activities and part-time employment to focus on achieving a score."⁴⁷ The Panel concurs with this judgement. Students have emphasised to us their wish that school could assess their qualities as a whole person. They were able to convey to us a remarkably clear understanding of the skills and attributes they have to develop, and a desire to be able to develop and communicate these to tertiary education institutions, training organisations, and employers.

Young people emphasised to the Panel the importance of social skills, emotional skills and personal attributes for future success. They indicated a strong desire for personalised support to attain and communicate the skills they need and will have to offer when entering their post-secondary pathways. They have suggested the need for a stronger focus on taking into account their extracurricular activities and passions as important attributes to be included in entry criteria for further education or employment.

To further these goals, the Panel undertook substantial consultation on the concept of a Learner Profile. We found general agreement with the proposal to measure and value experience that is outside the traditional 'academic' reporting for the purpose of creating a more rounded and nuanced student profile. In particular, participants at a specially convened youth forum were of the view that a Learner Profile that demonstrated the skills, capabilities and interests of students as they leave school would be significantly more useful than the current SSCE.⁴⁸ We also talked to educators and employers, who were equally attracted to the concept.

"The learner profile could broaden what is counted as school success which, at the moment, is constrained by systems like ATAR that only capture knowledge skills and not practical application. There is little visibility of the development of general capabilities, or qualities such as know-how, a good attitude or self-reliance. These attributes would be beneficial for students when accessing employment."

Catholic Education WA submission

A Learner Profile would bring a number of significant benefits. A broader view of student achievement will encourage subject selection that aligns with interests and skills, rather than choosing subjects in order to maximise an ATAR. Less reliance on academic scores will allow students to develop skills valued by employers, which in turn can lead to improved tertiary selection and employment outcomes. Focusing on assessing a broader range of attributes beyond the ATAR can help reduce the unnecessary pressure of Year 12 exams, and ill-founded perceptions that the ATAR will determine employment prospects for the rest of a student's life. It would send out a clear message to students and their parents about how society views success at school. It would help frame career-oriented conversations between students and their teachers. It would centre attention on a student's range of attributes and potential.

⁴⁷ O'Connell, Milligan and Bentley (2019), p. 7.

⁴⁸ Social Deck (2020), p. 6.

It is proposed that the Learner Profile include complementary academic and non-academic measures in order to provide a holistic view of each student's capabilities for employment and active citizenship. These should include:

- the ATAR (where relevant)
- individual subject results
- VET competencies and certificates
- minimum literacy, numeracy and digital literacy achievement
- broader capabilities (for example, employment experiences, caring responsibilities, sports achievements, interests and hobbies).

Students would be encouraged to use a Learner Profile to identify their strengths and weaknesses while they are still studying, and use these both to set goals and see how their profiles match up to potential pathways. Participants at youth forums expressed enthusiasm about the potential benefits of gaining and demonstrating their capabilities during and as they leave school.⁴⁹

The Learner Profile should be something that students could commence working on in Year 9 as part of a pathways planning process. The students should be given agency to identify their own capabilities and assisted to evidence and articulate these. It will be equally important that the Learner Profile does not lead to an additional burden on teachers, but is incorporated in the work they already undertake on assessing students' general capabilities. It should be seen as an essential element of career guidance and an important contributor to the provision of pastoral care.

Recommendation 4

Students should leave school with a Learner Profile that incorporates not only their ATAR score (where relevant) together with their individual subject results, but that also captures the broader range of evidenced capabilities necessary for employment and active citizenship that they have acquired in senior secondary schooling.

Implementation guidance

In developing this recommendation, the Panel has taken guidance from research, best practice and submissions, as well as extensive engagement and an initial co-design process with young people.

Again, introducing a Learner Profile is a bold step. But it is already underway and its benefits are being demonstrated. Work to implement a Learner Profile approach is being trialled in individual schools and in some school systems. There is a lot we can learn from their experiences. These efforts should be accelerated and expanded to implement a Learner Profile for all senior secondary students. What is innovative at the periphery of education should become part of the core of student assessment.

The Panel envisages that the Learner Profile would complement rather than replace the current SSCE. While the Learner Profile would not require the development of a single national model, there would be clear benefits to a level of consistency that would allow tertiary institutions and employers to navigate more easily the different state and territory profiles.

As a first step, Education Council should develop a national framework indicating the elements that should be included in the Learner Profile. It is unrealistic to expect prescriptive uniformity. Rather, the framework would provide guidance to local systems and certifying authorities, while still allowing Learner Profiles to be flexibly adapted for local implementation.

⁴⁹ Ibid.

Education Council could usefully sponsor the development of a number of Learner Profile prototypes (such as the example in Figure 6 on pages 52–53) for the purposes of testing and assessment. It is essential that both students and teachers be part of the design process of these reforms. The audience for a Learner Profile should be considered in the development phase and therefore governments, education authorities and industry associations all need to be involved.

There are a number of implementation issues and risks associated with the Learner Profile that will need to be carefully worked through. These include transparency, validity and reliability of information, teacher workload and the need to avoid disadvantaging vulnerable cohorts.

Equity was of particular concern to stakeholders, who were anxious to ensure due consideration was given to acknowledging the issues associated with where a person lives, cultural differences, disability and socioeconomic backgrounds. For instance, Australian Bureau of Statistics data from 2012 shows that close to half of all Australian children living in the most disadvantaged communities did not participate in either sport or cultural activities outside of school hours, compared to nearly one in 10 children living in the most advantaged communities.⁵⁰

It is for such reasons that the Panel strongly emphasises the need to incorporate in the Learner Profile the capabilities that students acquire from part-time work. Such skills, deemed on-the-job, have intrinsic value. But the inclusion of workplace experience also has the advantage that students from financially disadvantaged families are more likely to undertake part-time or casual work while at school. Recognition of the value of part-time work in acquiring competencies would help to address concerns that the elements set out in a Learner Profile would inadvertently advantage the children of higher-income and professional families.

If implemented thoughtfully, there is potential for the Learner Profile to also highlight the sorts of life skills that children facing more challenging circumstances gain through less traditional extracurricular experiences, such as caring for family members or acting as an interpreter for non-English-speaking parents. It is also possible that, in partnership with communities, the skills and attributes that Aboriginal and Torres Strait Islander students gain through undertaking traditional cultural experiences could be articulated and recognised.

The implementation of a Learner Profile needs to be verifiable, equitable, trustworthy, comparable and reliable. The most common challenge raised by educators was about how skills would be assessed in a school setting, and recorded consistently and equitably, particularly when learning took place outside the school. Educators noted the importance of ensuring that there is clear guidance and systems to help teachers know how to assess the extent to which the identified attributes have been gained and demonstrated over time.⁵¹

These issues will all require careful consideration during the implementation process. They should not deter Education Council beginning the process at once in a systematic manner. Each jurisdiction and school authority might be encouraged in a collaborative fashion to trial and pilot approaches. It is the Panel's belief that implementation issues can be overcome, and that the resulting benefits will lead to overall improvement of outcomes for senior secondary students, education systems, tertiary institutions and employers. We have included two case studies (see pages 51,54) in order to inform further discussion.

When senior secondary students can understand and articulate the full range of their capabilities, achievements and strengths, they are far better placed to make informed choices about their pathways beyond school. They will be much more prepared to find employment, gain acceptance by an education provider or undertake training. They will be more prepared for life. Perhaps, most importantly, they will have a greater appreciation of the purpose of school.

50 Data cited in Smith Family (2013), 'Sport, culture and the internet: Are Australian children participating?', research report, June 2013, p. 2, <https://www.thesmithfamily.com.au/-/media/files/research/reports/participation-research-report-june-2013.pdf>.

51 Social Deck (2020), p. 14.

CASE STUDY: THE ROOTY HILL HIGH SCHOOL LEARNING PORTFOLIO, NEW SOUTH WALES

Rooty Hill High School in Western Sydney is committed to student agency as a core platform of the school's commitment to ensuring every student is "known, valued and cared for". One of the key strategies by which students are encouraged to be active contributors and owners of their personalised learning experience is through the use of a Learning Portfolio called #MyLearningHub.

Each Rooty Hill High School student uses their Learning Portfolio from Year 7 to provide work samples demonstrating their progress towards or achievement of capabilities in the curriculum. Each individual portfolio and the uploaded documents are held electronically on the school's Google domain. Students are responsible for identifying specific work samples (from curricular, co-curricular and extracurricular learning as well as other community, business and learning contexts), which they then upload to the portfolio and annotate.

The annotation is a key step as students have to use the language of the capabilities and explain how their work samples provide evidence of progress or achievement. Each entry is validated by a teacher, peer, or community or business partner.

By using the Learning Portfolio, students learn over time to recognise that capabilities and dispositions are learned, demonstrated and deployed in a wide range of contexts. Student-led curation of their own learning enables them to see and make connections between their academic and non-academic activities, and the learning transfer to and from the real world of work and further study.

The Learning Portfolio supplements the traditional academic reports for students, parents, employers and tertiary partners. As a tool, it allows students to articulate and evidence their skills, capabilities and dispositions when making applications for scholarships, employment and tertiary entry programs. As a self-assessment task, it allows students to go beyond traditional teacher-driven assessment and feedback to a position where students can explain what they know about the ways of knowing, doing and being in each capability and in each subject.

Given the demography of the school community at Rooty Hill High School, building the capacity of students to self-assess, self-report and articulate their knowledge and capability is fundamental to their agency at and beyond school.



Source: Rooty Hill High School submission.

Figure 6: Example of a Learner Profile



LEARNER PROFILE (CONTINUED)

NAME:

USI:



DEMONSTRATION OF CAPABILITIES FOR EMPLOYMENT AND ACTIVE CITIZENSHIP

CAPABILITY	EVIDENCED THROUGH*	LEVEL
Communication	School-based learning/activities Home and community service Work experience	Developing
Critical and creative thinking	School-based learning/activities Home and community service Work experience	Some evidence
Personal and social capability	School-based learning/activities Home and community service Work experience	Range of evidence
Ethical understanding	School-based learning/activities Home and community service Work experience	Some evidence
Intercultural understanding	School-based learning/activities Home and community service Work experience	Range of evidence
Teamwork	School-based learning/activities Home and community service Work experience	Fully evidenced
Leadership	School-based learning/activities Home and community service Work experience	Fully evidenced
Entrepreneurial	School-based learning/activities Home and community service Work experience	Some evidence

* Area is in bold where the capability has been evidenced.

School-based learning/activities means demonstrated through classroom/school activities (such as sport and creative arts) and/or learning.

Home and community service means demonstrated in a range of situations, including sport, lived experiences such as caring responsibilities (care of siblings or older relatives, cooking for the family) or running fundraisers for a community event.

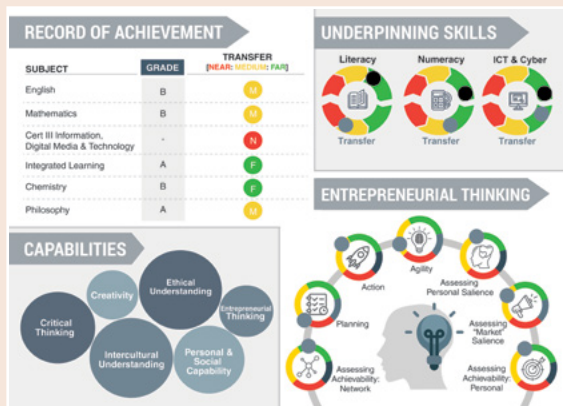
Work experience can be unpaid or paid part-time work, work within a family business, volunteer work or work experience organised in or outside of school.

CASE STUDY: A SOUTH AUSTRALIAN LEARNER PROFILE

The South Australian Certificate of Education (SACE) Board has been considering for some time how to transform the SACE certificate to a 'living document' that tells a more holistic story about the capabilities of the 21st-century student.

In 2019, SACE Board Chief Executive Professor Martin Westwell publicly introduced the concept of a 'learner profile' (pictured) that would go beyond the traditional reporting structure of grades to create a profile that a student can show to others, including employers, industry and universities, to say 'this is who I am as a learner and a person'.

"The flip side of this," Professor Westwell explains, "is that universities and employers get a much more nuanced view of the individual abilities and attributes of each student, which would more effectively match them to study pathways and career choices, and produce more positive and engaging outcomes for the student in the longer term.



"That's the learning entitlement of every student in the SACE - to discover and develop their own capabilities, strengths and aspirations - and to effectively show them to the world."

The learner profile concept featured nationally in the Australian Learning Lecture's 2019 paper titled 'Beyond ATAR: A proposal for change' and has since been the subject of significant discussion in the education community and media.

Educational leaders in South Australia are on board, with the state's Catholic and independent education sectors and the South Australian Secondary Principals' Association currently working together with the SACE Board on how to recognise complex competencies and developing a learner profile through a 'warranted recognition process'.

Similarly, the SACE Board has taken the first steps towards developing a learner profile at the senior secondary level, initiating key projects in 2020 to begin the challenging journey of implementing significant, transformational change.



These include developing an entrepreneurial thinking construct that would apply to the learner profile, and investigations into how student profile data could be captured, quality-assured and presented in a consistent, systemised way for thousands of students at the end of the school year.

"We are still in the early stages of development and we must work in partnership with our sectors and schools to successfully bring about major change," Professor Westwell said.

"We already have 375 teachers who are enthusiastic about the learner profile and want to work with us to turn this concept into reality".

Source: South Australian Certificate of Education Board; O'Connell, M., Milligan, S. and Bentley, T. (2019), *Beyond ATAR: A proposal for change*, Australian Learning Lecture position paper; South Australian Secondary Principals' Association; and *The Advertiser* newspaper.



CHAPTER 2: EXERCISING INFORMED CHOICE

CHAPTER FINDINGS

- 2.1 All students should be in a position to take advantage of the wide range of educational and training pathways that are available after they leave school.
- 2.2 All students (and their parents) should have access to professional career guidance at school. Parents and families have the greatest influence on students' career-related decisions at the senior secondary level. They must be engaged, fully informed and supported in the advice they provide to their children.
- 2.3 At present, the vocational education and training (VET) pathway is not seen as equal to or complementary to a university one. Many students are not provided with information or encouragement to undertake VET either in Years 11 and 12, or as a post-school pathway. All students should be encouraged to excel and follow their passions and strengths, be made to feel that their educational preference or their choice of career is legitimate, and that whatever career path they choose, they have an important role to play in a well-functioning society.
- 2.4 Undue focus on the ATAR has a distortionary impact on educational expectations, in which a preference for vocational education and training is perceived as 'second class'. This is reinforced by the parameters around the Senior Secondary Certificate of Education and ATAR restricting the type and number of subjects students are undertaking in senior secondary schooling, particularly in VET. More flexibility is needed in designing and constructing learning structures that do not privilege particular pathways.
- 2.5 School systems must cater for the needs of all their students and encourage them to pursue excellence in their areas of interest. Students who aspire to higher education should be encouraged and supported to pursue this goal. The senior secondary schooling system must, however, provide and support the full range of pathways for all students. At present, those who are more interested in pursuing vocational learning or structured workplace learning often feel that they are inferior or their decisions are less valid.
- 2.6 Career advice nationally is inadequate, despite individual pockets of best practice. Many teachers have limited career education knowledge, especially on non-university or blended pathways. Significant improvements need to be made to increase information on the future labour market, apply new models to decision-making, and employ the right people to work face to face with students. It is unreasonable to expect that every school is able to independently provide this. They need support.
- 2.7 Individualised career guidance should be provided before senior secondary school, and should extend beyond the end of Year 12. Online information has the capacity to improve decision-making, if it is made available to all students, parents and school staff in a centralised, trusted, up-to-date and easy-to-use repository. The experience of COVID-19 has shown the value of students being able to access information remotely.

The single biggest issue that emerged from submissions to the review was concern about the limited availability of high-quality career guidance generally available to students in schools. Throughout the consultations, stakeholders consistently echoed these concerns. It was put to us that school-based careers advisers were overly concerned with student subject choice rather than labour market opportunities. They tended to know more about university selection procedures than apprenticeship requirements. They were often inadequately resourced.

Young people need to know what to study to match their career ambitions to the future demand for skills. They will benefit from being exposed to how recruitment processes and contemporary workplaces operate.⁵² This will be especially important as the Australian economy undergoes a major transition following the impact of the COVID-19 pandemic, with greater uncertainty around where future employment demand will lie. Sectors that seemed to offer significant employment prospects three months ago – such as tourism, retail and education – will all face immediate challenges as Australia adapts to new economic circumstances. Physical distancing as the ‘new normal’ may well change the manner in which personal services are delivered.

Unemployment will remain at higher levels than has been experienced in the recent past. More jobseekers are likely to become discouraged from seeking to participate in the paid labour market. Employment may become less permanent. Senior secondary students graduating in the next few years will need much better guidance on how to prepare for these insecurities.

Career education is a key part of senior secondary schooling, as it prepares students for the transition into employment. Yet throughout our consultations, we often heard that in many senior secondary schools, career education reflects old paradigms of work. It predominantly focuses on identifying a linear pathway that suggests to students that they pursue a single career or profession. It often proposes a false dichotomy between the value and status of university education, trade training, apprenticeships and structured on-the-job experience. Too often advice is transactional, asking students to select specific subjects and courses, rather than encouraging them to take a broader career outlook.

In a world in which traditional employment models and occupations are rapidly evolving, narrow career education is unnecessarily limiting the employment potential of senior students.⁵³ Many students, particularly those interested in vocational careers, told the Panel that even structured pathway support at school was often desultory in nature: ‘tick-a-box’ was a term used by several students to describe the quality of the career advice that they had received.

Pathway influencers

There are a range of ways students make decisions and choices about the pathways that are right for them. They listen to parents and friends, access online information and receive varying levels of careers education in school.

“Young people, and people in general, do not always base their decision on a careful weighing of all the relevant information. Instead they make decisions via mental shortcuts. When it comes to secondary pathways, young people typically do not amass a large amount of information before making a decision. In general they won’t use any sources which are difficult or confusing to navigate. When collecting information, young people disproportionately seek out information which confirms rather than challenges their existing career preferences, and in making their decision, short-term considerations loom large ...”

Behavioural Insights Team⁵⁴

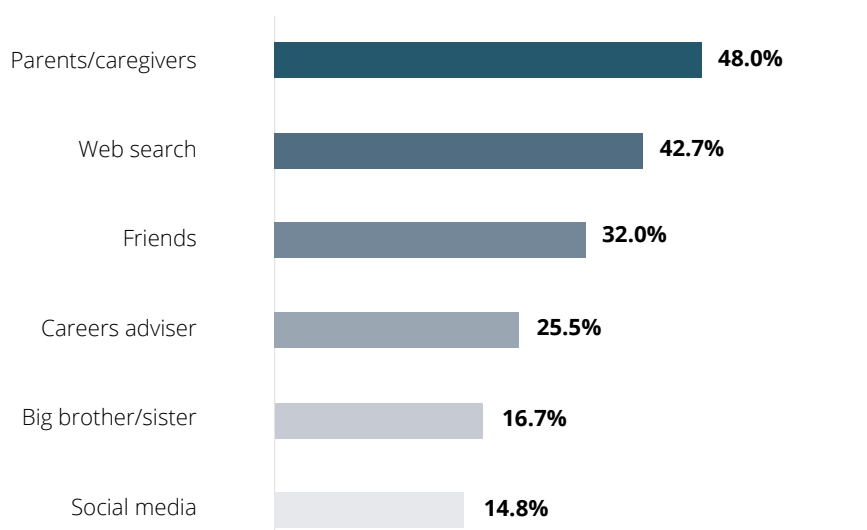
52 Mann, A., Rehill, J. and Kashefpakdel, E. (2018), *Employer Engagement in Education: Insights from international evidence for effective practice and future research*, Education and Employers Research, and Education Endowment Foundation, January 2018, p. 6, https://educationendowmentfoundation.org.uk/public/files/Employer_Engagement_in_Education.pdf.

53 PricewaterhouseCoopers (2017), *Career and Skills Pathways: Research into a whole-of-system approach to enhancing lifelong career support mechanisms for all Australians: Final report*, June 2017, p. 51, <https://cica.org.au/wp-content/uploads/Career-and-Skills-Pathways-Project-June-2017.pdf>.

54 Behavioural Insights Team (2020), *Perceptions of Apprenticeships: Behavioural insights evidence review*, unpublished report, p. 2.

A number of studies and surveys have found that the most trusted source of career advice for young people is their families. A Years 9 to 12 student survey of selected Western Australian schools, conducted in July and August 2016, found that 75 per cent of students ranked their parents as the number one influence on their career planning, followed by career practitioners at 54 per cent.⁵⁵ The knowledge of industry associations and employers was usually conveyed only through such intermediaries. A survey of Australian youth conducted by Year13 in 2017 yielded similar findings: young people trust their family over other sources of information (Figure 7).

Figure 7: Where do youth get their most trustworthy career advice from?



Source: Bisson, R. and Stubley, W. (2017), *After the ATAR: Understanding how Gen Z transition into further education and employment*, Year13 and YouthSense.

“Research has found parents and other family members have the most significant influence on school students’ career aspirations, and on their subject choices. They tend to shape students’ ideas, raise or lower their ambitions and push them in certain directions.”

National Career Education Strategy Working Group, quoted in Catholic School Parents Australia submission

Informal career guidance provided by family influencers and friends is generally limited by the person’s own values and assumptions. Such influencers often possess limited understanding of the labour market and how it is likely to develop. This can undermine the decisions of young people or lead them to work towards options that might align neither with their skills and passions nor the future needs of the workforce.

⁵⁵ Career Industry Council of Australia and McCrindle (2017), ‘As key influencers, school career practitioners need more time to assist students make well-informed decisions’, media release, 21 June 2017, <https://cica.org.au/wp-content/uploads/CICA-Media-Release-21-June-2017.pdf>.

Prompted in part by perceiving the ATAR as the most important indicator of educational success, there is a persistent tendency for many parents, students and teachers to view VET as a much less prestigious and valuable pathway, compared to the academic route that leads to university. This helps to explain why four in five parents would prefer their children to go to university after leaving school, rather than undertake a vocational training pathway.⁵⁶

“Parents have a bias toward university and school careers education needs to educate parents too.”

Master Builders Australia submission

The post-school plans of a student’s peer group can also have a strong influence on pathway decisions. Students whose friends plan to attend university are nearly four times more likely to plan to attend university than their counterparts whose friends do not plan to attend university.⁵⁷

While, overall, influencers tend to encourage more students to go to university than pursue VET pathways,⁵⁸ some groups – regional, rural and remote students,⁵⁹ students with disability,⁶⁰ students from low socioeconomic status backgrounds⁶¹ and Indigenous students⁶² – are more likely to attend VET than higher education. Disadvantaged families often have a more limited understanding of the opportunities available to their children. Well-informed career advice is essential so that young people can choose the pathway that is right for them. Given their influence, it is also important for parents to receive this information, so they can understand and reinforce formal career advice.

56 Wyman, N., McCrindle, M., Whatmore, S., Gedge, J. and Edwards, T. (2017), *Perceptions Are No Reality: Myths, realities and the critical role of vocational education and training in Australia*, Skilling Australia Foundation, May 2017, p. 5, <https://2qean3b1jdd1s87812ool5ji-wpengine.netdna-ssl.com/wp-content/uploads/work/Skilling-Australia-Vocation-Education-Report.pdf>.

57 Gemic, S., Bednarz, A., Karmel, T. and Lim, P. (2014), *The Factors Affecting the Educational and Occupational Aspirations of Young Australians*, Longitudinal Surveys of Australian Youth Research Report no. 66, National Centre for Vocational Education Research, p. 17, <http://www.isay.edu.au/publications/2711.html>.

58 Shipley and Stuble (2018), p. 39

59 Cardak, B. et al. (2017), *Regional Student Participation and Migration: Analysis of factors influencing regional student participation and internal migration in Australian higher education*, National Centre for Student Equity in Higher Education: Curtin University, February 2017, p. v, <https://www.ncsehe.edu.au/wp-content/uploads/2017/02/Regional-Student-Participation-and-Migration-20170227-Final.pdf>; and Regional Education Expert Advisory Group (2019), *National Regional, Rural and Remote Tertiary Education Strategy: Final report*, Commonwealth Department of Education, p. 12, https://docs.education.gov.au/system/files/doc/other/national_regional_rural_and_remote_tertiary_education_strategy.pdf.

60 Koshy, P. (2019), *Equity Student Participation in Australian Higher Education: 2013–2018*, National Centre for Student Equity in Higher Education: Curtin University, p. 7, https://www.ncsehe.edu.au/wp-content/uploads/2020/04/NCSEHE-Equity-Student-Briefing-Note_2013-18_Accessible_Final_V2.pdf; and National Centre for Vocational Education Research (2019a), *Australian Vocational Education and Training Statistics: Total VET students and courses 2018*, p. 8, https://www.ncver.edu.au/_data/assets/pdf_file/0031/6925090/Total-VET-students-and-courses-2018.pdf.

61 Karmel, T. and Lim, P. (2013), *Socioeconomic Disadvantage and Participation in Tertiary Education: Preliminary thoughts*, National Centre for Vocational Education Research occasional paper, pp. 18–19, https://ncver.edu.au/_data/assets/file/0024/9393/socioeconomic-disadvantage-2612.pdf; and Czarnecki, K. (2017), ‘Less inequality through universal access? Socioeconomic background of tertiary entrants in Australia after the expansion of university participation’, *Higher Education*, vol. 76, p. 517, <https://link.springer.com/article/10.1007/s10734-017-0222-1>.

62 Pechenkina, K. and Anderson, I. (2011), *Consultation Paper on Indigenous Australian Higher Education: Trends, initiatives and policy implications*, Commonwealth Department of Education, Employment and Workplace Relations, September 2011, p. 6, https://docs.education.gov.au/system/files/doc/other/pechenkina_and_anderson_2011.pdf; and Ackehurst, M., Polvere, R., and Windley, G. (2017), *Indigenous Participation in VET: Understanding the research*, National Centre for Vocational Education Research, p. 3, https://www.ncver.edu.au/_data/assets/pdf_file/0029/484463/Indigenous-participation-in-VET.pdf.

Senior secondary subject choices

Students generally make their senior secondary subject choices in Year 10. The students choose from a variety of subjects which, when combined, give them the credit points they need to achieve a Senior Secondary Certificate of Education (SSCE).

The manner in which subject credits are counted towards the SSCE varies across states and territories. All states and territories allow VET to count towards the SSCE, although the amount of credit varies. Whether the VET counts towards a student's ATAR also varies. In addition, states and territories may offer courses that incorporate workplace learning, opportunities for industry and community engagement, and career education. These subjects may be beneficial for students but are often considered recreational and do not count towards the SSCE. As a result, students often end up having to choose subjects that are either based on an ATAR (academic) or non-ATAR (vocational) pathway. They find themselves 'streamed'.

As a result, in a system which is focused on academic disciplines, students are likely to select subjects to maximise their ATAR rather than subjects that will give them the skills and knowledge needed for the workforce. University becomes the default option. Vocational education and training classes are seen to be of inferior status. Too many students, discouraged, disengage from school and find unskilled work or become unemployed. Across Australia, in 2019, around 16,400 students dropped out of school without a senior secondary certificate and with no planned pathway into stable employment.⁶³

Even academically inclined students can be disadvantaged. In 2018, the STEM Partnerships Forum highlighted concerns over the decline in the proportion of senior secondary students choosing advanced mathematics and science subjects.⁶⁴ Their report noted that students might be making such decisions based on an incorrect belief that taking less challenging subjects will help to maximise their ATAR. These findings are backed up by survey findings, which found that 37 per cent of young people picked easier subjects in high school because they believed it would help them achieve a higher ATAR.⁶⁵ Paradoxically, students can be discouraged from pursuing excellence.

"Students should be able to choose the senior subjects they enjoy and not be stressed over how much their ATAR will be affected by their decision. A student who intends to be a painter should not be treated as 'less important' than one wanting to be a scientist."

Freya, Victorian school student, submission

Too often, selections by students in Year 10 require them to choose inflexible pathways either in an 'academic stream' or a 'vocational stream'. The binary decisions that senior secondary students are often forced to make between 'academic' or 'vocational' routes not only reinforce stereotypical assumptions about relative prestige, but give a false expectation of the world ahead: after school, students will discover young people increasingly move between universities, non-university higher education providers, TAFEs and other registered training providers in order to acquire the portfolio of skills and qualifications that employers require. This same flexible ethos needs to prevail in school. More students need to have a greater opportunity to combine academic and vocational education and training subjects at school if this best meets their aspirations.

63 Australian Bureau of Statistics (2019b), *Education and Work, Australia, May 2019*, cat. no. 6227.0, Table 17, <https://www.abs.gov.au/ausstats/abs@.nsf/Latestproducts/6227.0Main%20Features30May%202019?opendocument&tabname=Summary&prodno=6227.0&issue=May%202019&num=&view=>

64 Council of Australian Governments Education Council (2018b), *Optimising STEM Industry-School Partnerships: Inspiring Australia's next generation: Final report*, April 2018, p. 9, <http://www.educationcouncil.edu.au/site/DefaultSite/filesystem/documents/Reports%20and%20publications/Publications/Optimising%20STEM%20Industry-School%20Partnerships%20-%20Final%20Report.pdf>.

65 Shipley and Stubley (2018), p. 34.

“At present, once a [student] makes the decision to undertake vocational programs at the commencement of Year 11, it is assumed that they will not be taking a university pathway. This is often too early for many students to be making this type of decision and many hesitate about choosing vocational courses as they do not want to cut out the option of ATAR qualification/ university study.”

Principal, K-12 metropolitan school, quoted in Association of Independent Schools of NSW submission

With few exceptions, most senior secondary subjects are focused on meeting the requirements of a particular post-school destination, rather than providing every student with a broad education that prepares them for life beyond school. English and mathematics are as relevant for a student interested in a vocational pathway, such as an apprenticeship or traineeship, as work exposure activities are useful for a student interested in a university pathway. There is value in providing wider learning opportunities for all students.

The recent interim report of the NSW curriculum review, led by Professor Geoff Masters, notes that despite increasing numbers of students staying at school until Year 12, the senior secondary system still assumes most students will pursue academic pathways. The report states that “[t]he result was an increase in the number of students seeking an ATAR and admission to university and the continuing bifurcation of learning in the senior secondary years into academic and vocational studies.”⁶⁶

In considering the requirements for students to achieve an SSCE or an ATAR, the Panel supports the proposition in the interim report of the NSW curriculum review that systems should facilitate the choice of subjects that “develop students’ disciplinary knowledge, understandings, skills and attributes; integrate theory and practical application; set demanding and high expectations for every student’s learning; and include learning relevant to the world of work.”⁶⁷ In our view, it is those attributes that provide a firmer foundation for the lifelong learning that an uncertain future is going to require.

⁶⁶ NSW Education Standards Authority (2019), p. 94.

⁶⁷ Ibid.

CASE STUDY: HSC SMARTTRACK AT ST PHILIP'S CHRISTIAN COLLEGE, NEWCASTLE, NEW SOUTH WALES

St Philip's Christian College acknowledges the importance of vocational education and training, and of delivering a curriculum that meets market needs. In 2020, St Philip's introduced HSC SmartTrack, a practical alternative approach to Years 11 and 12, allowing students to complete the Higher School Certificate (non-ATAR) in an independent adult-learning environment.

According to the college, "[e]mployers want more than qualifications, they want employees with social intelligence, adaptive thinking, transdisciplinary and cross-cultural competence. SmartTrack aims to provide students the opportunity to develop these skills before finishing their HSC."¹

SmartTrack is delivered as an individual, tailored program that includes a layered curriculum approach for the core subjects of mathematics, English through enquiry-based learning, as well as vocational courses such as a Certificate III in Business and on-the-job training.

SmartTrack has a different approach to mainstream schooling, with an increased focus on practical learning, enterprise skills and work readiness. This method caters to all students and their individual learning styles, while afternoon and evening delivery of courses gives students the flexibility and opportunity to gain work experience and employment during core hours.

This approach seeks to provide students with new learning and employment opportunities beyond school to help inform their choices for future education and work. Through industry connections, practical training and academic growth, students gain the skills and qualifications employers want, and that are required for ever-changing work environments.

Source: St Philip's Christian College.

1. St Philip's Christian College, 'SmartTrack', webpage (accessed 20 May 2020), <https://www.spcc.nsw.edu.au/newcastle/our-school/senior-school/smarttrack-1>.



Pathways decisions

Young people have access to a variety of pathways during school. One of the key challenges they face is to navigate the information and influences available to them in deciding which pathway to choose. The world beyond school can be difficult to discern clearly.

For an increasing number of students, post-school pathways to work are no longer linear. The National Centre for Vocational Education Research (NCVER) released a report in 2019 that explored the school-to-work transitions of youth aged 16 to 25 based on the 2006 cohort of the Longitudinal Surveys of Australian Youth (LSAY). The study found that young people experience diverse and individualised school-to-work pathways. Five key pathways were identified:

- Pathway 1: Higher education and work – 60 per cent
- Pathway 2: Early entry through VET to full-time work – 23 per cent
- Pathway 3: Mix of higher education and VET – 8 per cent
- Pathway 4: Mixed and repeatedly disengaged – 5 per cent
- Pathway 5: Mostly working part-time – 4 per cent.⁶⁸

While there are many and varied pathways, it is crucial for young people to be equipped with the management skills that enable them to navigate and move in and out of multiple pathways. This capability will serve them well not just immediately after they leave school, but over their entire working lives.

“Being able and willing to learn throughout life must now be a central attribute for all school leavers.”

Francesca Beddie, personal submission

Students often start senior secondary schooling with limited understanding of the pathways available to them and the variety of entry points that exist. They often feel if they do not make the right choice, doors may be closed to them. It is important to emphasise to students that this is not the case. They need to understand that after school there will be many options available to them to increase their education, be trained and/or gain work experience. Schoolwork should be challenging but there is no need to increase stress on students by suggesting to them that the final years of school represent a once-in-a-lifetime opportunity based on a choice you make at 16. Senior secondary students should understand that, in planning for their futures, there are no wrong doors and – so long as they have the capacity to keep on learning – plenty of opportunities to change direction.

Although there is an abundance of information available, it is often confusing and of varying quality, leading to reduced usage and poor outcomes.⁶⁹ In a review of research undertaken for the Panel by NCVER, LSAY data identified issues including costs, the proximity of education or work, perceptions of the quality of education providers, and the standard of career advice as factors that influence the pathway decisions of young people.⁷⁰

In a second piece of research conducted for the Panel by the Behavioural Insights Team, they also identified that in making pathway decisions, young people take mental shortcuts. They usually look at sources that are easy to navigate and find, seek out information that tends to confirm their existing preferences, put short-term considerations first, and are influenced by real-life role models and experiences. In the absence of credible guidance, they tend to pursue default pathways involving university.⁷¹

68 Ranasinghe, R., Chew, E., Knight, G. and Siekmann, G. (2019), *School-to-Work Pathways*, National Centre for Vocational Education Research, pp. 6–8, https://www.ncver.edu.au/__data/assets/pdf_file/0029/6547412/School_to_work_pathways.pdf.

69 Shipley and Stubley (2018), p. 13.

70 National Centre for Vocational Education Research (2020a), *Longitudinal Surveys of Australian Youth (LSAY) Analysis: Literature review: Final report*, unpublished, February 2020, p. 8.

71 Behavioural Insights Team (2020), p. 2–3.

Results from a 2018 survey found that 49 per cent of students have a good to strong understanding of the university pathway, but only around 16 per cent of students have a good to strong understanding of other pathways such as VET, apprenticeships and traineeships.⁷² This asymmetrical access to information, combined with unconscious behavioural tendencies, helps to explain why so few students are attracted to apprenticeships, in spite of the fact that they often provide a good pathway to stable, well-paid employment and the opportunity to build their own small businesses.

“Despite a growth in the variety of jobs available, many young people are still not aware of the options available or what this means for them.”

South Australian Commissioner for Children and Young People

While fewer school students hold aspirations for VET than for university, there is actually a higher interest in VET-related jobs than in VET post-school pathways. This indicates a misalignment between students' occupational interests and their educational aspirations. It suggests a lack of understanding about the workplace value of vocational education.⁷³

It is clear to the Panel from talking to senior secondary students that for many of them, university is an exciting destination. It offers freedom and, for some, a chance to leave home. They know that in general, graduation offers better career outcomes. Far more needs to be done to promote the comparative benefits of traineeships, such as being part of a team, accumulating no income-contingent debt and having the opportunities to set up as an independent contractor or small business at a relatively young age. Guidance on career choices needs to incorporate greater understanding of the behavioural psychology of how people make decisions.

Let us be clear. University pathways do offer advantages in terms of salary and labour market outcomes. Students who aspire to university should be encouraged and supported to pursue their goal. A university pathway, however, will not suit all young people as they leave school, although many will see the value of acquiring a degree later in their lives. Nor will university education meet all the needs of Australia's economy. Research suggests that although two-thirds of students have aspirations of a professional or paraprofessional occupation by age 30, these types of positions only represent a third of available job opportunities.⁷⁴ This helps to explain why so many graduates later undertake vocational courses provided by TAFEs and other registered training organisations.

Just as VET pathways should not be seen as a lesser option, university pathways should not be seen as out of reach for disadvantaged students. Research shows that:

students with parents that expected university attendance, [who] had friends intending to complete university, and who experience positive student-teacher relations had a 90 per cent probability of planning to attend university ...⁷⁵

Students in priority equity cohorts do not lack capability: the evidence is clear that disadvantaged students who are able to overcome barriers to participation demonstrate that they are just as capable of succeeding in their chosen pathways as other students. But they need guidance that conveys to them that all opportunities can be accessed and that, if they choose a non-university pathway, it is not an admission of educational failure. Well-informed career advice, based on labour market outcomes, will allow all students to make informed choices about the pathway that best suits their skills, passions and aspirations.

⁷² Shipley and Stuble (2018), p. 38.

⁷³ Hargreaves, J. and Osborne, K. (2017), *Choosing VET: Aspirations, intentions and choice*, National Centre for Vocational Education Research, p. 2, https://www.ncver.edu.au/_data/assets/pdf_file/0024/1142691/Choosing-VET-aspirations-intentions-and-choice.pdf.

⁷⁴ National Centre for Vocational Education Research (2020a), p. 10.

⁷⁵ Ibid., pp. 9-10.

Recommendation 5

Senior secondary certification requirements and the way learning is packaged should be restructured so that students are not presented with a binary choice between vocational or higher education pathways.

Implementation guidance

The purpose of Years 11 and 12 should not be diminished to a process that simply directs students into a particular post-school pathway. Rather, the system should support students to continue to learn and grow in a way that does not close off particular routes.

The Panel identified a range of innovative projects that support integrated learning and flexible pathways across Australia. They need to be more widely emulated. The structures and requirements of senior secondary curriculum, assessment and certification that have evolved over time distort student perceptions of post-school pathways. A concerted effort needs to be made to right the balance.

As tertiary institutions increasingly look at more diverse ways to select students for their courses, the schooling system should also consider moving to more flexible packages of learning. While curriculum issues are out of scope of this review, the Panel believes that systems should consider carefully the design of subjects, the combination and number of subjects required to achieve an SSCE, and the combination of subjects and activities that contribute to the calculation of an ATAR. We believe this would give students greater freedom to explore their interests, develop their skills, strengthen their all-round capabilities, and be better prepared for lifelong learning.



CASE STUDY: AN ALTERNATIVE SCHOOLING MODEL AT RMIT URBAN SCHOOL, MELBOURNE, VICTORIA

The RMIT Urban School provides an alternative schooling model through its emphasis on education pathways and measures of success that go beyond the ATAR alone.

Students appreciate the independent learning environment and the breadth of focus on the whole learner rather than a narrow academic pursuit.

Students have the opportunity to shape their own learning by blending subjects from the Victorian Certificate of Education (VCE); vocational education (VE); higher education (HE); work-integrated learning modules and micro-credentials, alongside a recognition of life experiences, into one bespoke program over a two-year period.

RMIT Urban School has a 'no wrong door' approach, providing opportunities to explore skills, further develop strengths and test career options. Students try a range of subjects without the pressure to make finite career decisions too early. They are able to explore tertiary fields of study, build depth in specific skills and knowledge, and attempt the broadest possible range of courses to begin to refine and define the next stages of their life journey.

According to Ella Serle, a student:

"RMIT Urban School gives me the freedom to pursue my own learning path and the opportunity to be involved in all aspects of RMIT life. Studying Certificate and Diploma level courses as a complement to my VCE has allowed me to learn and grow in different ways, as well as experience life at university before finishing my VCE. It also teaches me practical skills for the real world."

The RMIT Urban School offers dedicated pathway advisers who can provide guidance on the wide range of programs and courses on offer. Students are also supported to build lifelong learning 'passports' that combine their interests and allow for flexibility in trialling new areas of content knowledge and skills application. Opportunities for work-integrated learning and community partnerships are provided, with timetable flexibility allowing students to pursue these activities alongside their studies.

Each year, RMIT Urban School attracts an average of 450 students to its VCE program from a wide range of educational and socioeconomic backgrounds. Graduates have gone on to a wide range of pathways, from finishing a degree in nursing commenced through a blended learning program in Year 11, to building on their work experience as a combined element of their academic program to develop a career in environmental management. Over 40 per cent of students go on to careers related to building thriving communities, with a focus on society and culture or health. Careers in the creative arts, sciences or management each attract 15 per cent of students.

Source: RMIT University submission and RMIT Urban School VCE Annual Report 2018.



High-quality career information

As part of the Panel's consultation process, the Foundation for Young Australians undertook a process to support deeper engagement with 50 young people, to identify their lived experience of secondary school pathways. The outcome was discouraging. Sixty-three per cent of these young people felt they did not have enough information about post-school options.⁷⁶

The impact of students and transitioning workers not having access to the best information on their education and training pathways can be considerable. It results in skills mismatches with labour market demand, inefficient use of taxpayer dollars in subsidies, and poorer outcomes for individuals.

While there is a wealth of useful material available to students transitioning to post-school life, it is difficult to navigate for the purpose of decision-making. To students, it appears "a confusing maze", making it difficult for them to find relevant and useful information.⁷⁷

Too many conversations about a young person's future start with 'what university do you want to go to?' While selecting a place to study is a very important decision for a young person, their future career aspirations should be the starting point. To help young people make informed decisions about their futures, we need a systemic shift in the approach to career advice. The starting point should involve consideration of a young person's strengths and interests, identification of different roles available across different industries that may suit them, and only then move on to consideration of particular courses or institutions.

The most effective career advice is industry informed, identifying emerging skills in demand by sector, as well as potential areas of job growth. It should also allow students to consider the full cost of courses, level of indebtedness, the availability of government support, as well as starting salaries and career prospects. In some instances, students will want to know about employment opportunities in their local area.

Students should leave school knowing how to apply for a job, prepare a resume and perform at interview. Young people think they are helped by talking to recent school leavers, undertaking incursions or excursions, gaining work experience or internships, developing a personal plan, and having school visits by professionals, guest speakers and employees from different industries. They look for assistance beyond the school gate.

Many of the stakeholders that we met with expect that the recently established National Careers Institute might provide a unified system for career development resources. They hope the institute will establish itself as a 'single source of truth' that can reduce the time career practitioners currently dedicate to searching for information. If students (and their parents) are taught how to use the institute's online resources, it could significantly complement face-to-face career guidance. But putting up yet another government website, without providing people with the proper assistance to use it effectively, will not be sufficient. The institute will need to deliver a high level of support to teachers, careers advisers and students about how to access its considerable resources.

A recommendation from the Expert Review of Australia's Vocational Education and Training System proposed that the National Careers Institute should provide:

- a single authoritative government source of career information, with a particular focus on marketing and promoting vocational careers
- online information on career pathways and skills, which will assist teachers and careers advisers to support students to plan, navigate and manage career learning, training and work pathways
- through the VET Information Strategy, communication and stakeholder engagement activities to elevate the status of VET as a career pathway
- funding support for projects that enhance career information and address service gaps by enhancing partnerships between industry, employers, schools and tertiary providers.⁷⁸

The Panel strongly supports these objectives.

⁷⁶ Foundation for Young Australians (2020), co-design report (unpublished), p. 11.

⁷⁷ Productivity Commission (2017), *Shifting the Dial: 5 year productivity review*, inquiry report no. 84, 3 August 2017, p. 116, <https://www.pc.gov.au/inquiries/completed/productivity-review/report/productivity-review.pdf>.

⁷⁸ Joyce, S. (2019), *Strengthening Skills: Expert Review of Australia's Vocational Education and Training System*, Department of the Prime Minister and Cabinet, March 2019, pp. 86–90, https://www.pmc.gov.au/sites/default/files/publications/strengthening-skills-independent-review-australia-vets_1.pdf.

CASE STUDY: COMPREHENSIVE AND UNIVERSAL CAREER SERVICES IN SCOTLAND

Skills Development Scotland (SDS), the national skills body, uses skills intelligence to support individuals to build their career management and work-based skills, and pathways from school into further education and employment. SDS works with employers and employer groups on a national, sectoral, regional, local and individual basis.

Scotland recognises career guidance as a distinct and specialist occupation that requires professional qualifications and mandated hours of continuing professional development. Careers advisers use a coaching approach to guidance, focused on helping people develop their career management skills. This person-centred approach recognises that some individuals require more support than others to successfully transition into work or further learning. SDS targets resources at individuals who require the most support, utilising a 'needs matrix' to suggest the level of support needed for each individual, and the corresponding service they then receive.

Support continues post-school through a network of local careers centres, where individuals can receive support to develop career management skills, access information and links to local employers, and undertake learning and training opportunities. SDS careers services are free for individuals of all ages, at any point of need. Multi-channel services, including support in schools, local face-to-face interventions in centres and local community partner venues, an award-winning website and a telephone helpline allow the system to reach a large number of individuals at various points of transition.

"Scott was really great at supporting me to take practical steps, starting with thinking about my strengths and what I liked to do... He encouraged me to contact a social worker to talk about what the job was like day to day, as well as supporting me with getting in touch with a college to look at course options for when I left school... Working with SDS has helped me to become more confident and to make informed decisions about what to do next to further my career."

Latasha Mein, Shetland Island

The universal school offer begins early (at the end of primary school) as young people are ready to transition to secondary school through group work activities and into one-to-one guidance interviews with pupils and parents/carers as they make their first subject choices. The targeted school offer to those pupils identified through the 'needs matrix' validation begins in 3rd year and follows through senior school through ongoing one-to-one engagements. Drop-in clinics and group work continues for the universal group throughout these year stages.

In 2018–19, SDS delivered face-to-face career guidance to 88 per cent of all senior secondary school students, and 95 per cent of targeted senior-phase pupils in secondary school received coaching guidance. In 2018, 94.4 per cent of school leavers surveyed were in a positive destination approximately three months after leaving school. SDS works to ensure individuals are equipped with the right skills and information to seize opportunities through its school careers service, post-school support and online web service, My World of Work.

Source:
Skills Development
Scotland.

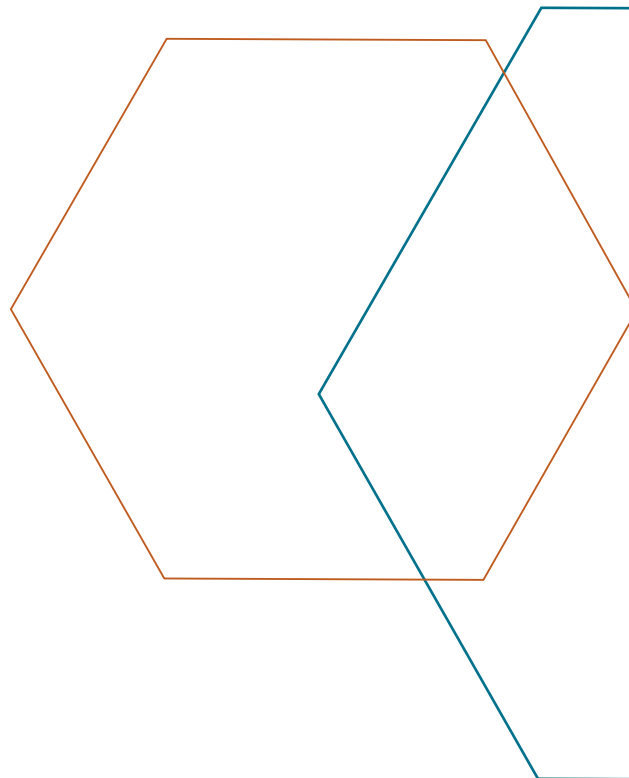


Career advice in schools

To be effective, school-based career guidance must do many things. It must be student-centred and tailored to individual needs, interests and circumstances of school students.⁷⁹ It should be responsive both to the current labour market and the skill needs of the future. It depends on supportive school leadership, teacher awareness, and the expertise of the career educator.⁸⁰

The Panel heard extensive criticism of the type and quality of career advice provided in schools. Unfortunately, we found a lack of data available to compare models of career education and provision of advice nationally. The Panel did identify pockets of effective action taking place across Australia. It's relatively rare. Too much good practice seems to depend on the enthusiasm of a particular school principal or teacher. Most students found that teachers were helpful in assisting them to select a university, but less confident or knowledgeable on how to become a plumber or train as an aged care worker. Access to workplace-oriented career advice for senior secondary students needs to become the rule, not the exception.

“There is clearly great need to improve the availability and currency of career advice and information available to school students across the board and in regional schools in particular.”
Regional Universities Network submission



⁷⁹ Commonwealth Department of Education and Training (2019), *Future Ready Career Education: A student focused national career education strategy*, p. 12, https://docs.education.gov.au/system/files/doc/other/future_ready_a_student_focused_national_career_education_strategy.pdf.

⁸⁰ Ithaca Group (2019), *Future Ready: Research on incorporating career education in Australian schools*, January 2019, p. 9, https://docs.education.gov.au/system/files/doc/other/future_ready_-_research_on_incorporating_career_education_in_the_australian_curriculum.pdf.

CASE STUDY: TRANSFORMING CAREER EDUCATION IN VICTORIA

Following a review of career education in Victorian government schools, the Victorian Government has refocused career education on commencing earlier (from Year 7 instead of Year 10), connecting students to the world of work in a more meaningful and practical way, and building the capacity of the system to make career education a priority.

According to James Merlino, Victorian Deputy Premier and Minister for Education, "Career education must connect today's learning with tomorrow's jobs. It must empower young people to seize the opportunities of a rapidly changing, globalised world, and be ready to work in Victoria's growing and high-demand industries."¹

A broad suite of initiatives spanning Years 7 to 12 have been introduced as part of this reform.

Teaching and learning resources

Teaching and learning resources help Years 7 and 8 students understand their interests, skills, values and aspirations, and explore the world of work through classroom activities and encounters with employers and industry. Additional advice and resources to map career education across the Victorian Curriculum F-10 and Years 11 and 12 help schools embed career education across every year level.

Online career planning tools

A careers advisory service is available for all government school students in Year 9. The first part of this comprises the Morrisby online career assessment tool that generates a report outlining the student's learning style, strengths and interests and suggests subject and career pathways that align with these. This is followed up with one-on-one career counselling by external accredited career practitioners. In its first year of implementation (2019),

97 per cent of mainstream government schools participated in this service, with an overwhelmingly positive response from students, schools and parents.

Better links with industry and work readiness

A key focus of the career education initiatives has been to provide additional services for socioeconomically disadvantaged students in Years 7 to 10, to ensure they have additional opportunities to gain exposure to a wide variety of industries and career pathways. This includes activities such as mentoring by employers, workplace visits, and supporting employers to ensure they provide safe, inclusive and meaningful work placement experiences for students. Additional enhanced work-readiness resources have been developed for students with disability, through strengthened education and planning resources and workplace health and safety resources.

Improving workforce capacity

The government has committed to building the capacity of the career education system by training and upskilling career practitioners in government secondary schools to undertake the graduate certificate in career education. An additional 400 career practitioners will be trained over four years, with 111 career practitioners having graduated to date.

Career education funding

Career education funding has been refocused for all government secondary schools to implement a broader range of career education activities to students from Years 7 to 12. The funding also allows schools to continue to provide additional support to students at risk of disengaging or of not making a successful transition to further education, training or secure employment.

Source: Victorian Government submission.

¹ Victorian Department of Education and Training (2018), *Transforming Career Education in Victorian Government Schools: Connecting today's learning with tomorrow's jobs*, minister's message, p. 1.



Career hubs

How can career advice in schools be improved? Throughout stakeholder consultations, experts spoke about the value of having dedicated careers advisers in all schools. Research shows that while full-time career practitioners have the greatest ability to implement effective career development strategies, less than half of Australia's school-based career practitioners are full time, and only 42 per cent of part-time career practitioners are able to devote all their time to career development. In fact, school career practitioners are twice as likely to have had their school-time allowance decreased rather than increased in the last three years.⁸¹

In 2019, the Regional Education Expert Advisory Group, led by Dr Denis Napthine, recommended improving career advice and strengthening regional, rural and remote schools to better prepare students for success. The advisory group suggested implementing a regionally based model for independent professional career advice, improving online career-related information and advice, and increasing the support available to teachers, principals and schools.⁸²

Building on this recommendation, the Panel believes there would be considerable merit in establishing a network of career hubs to support individuals (both school students and those who have already left school). It would provide a mechanism for schools and students to connect with employers, and a single point for industry to connect with local schools. This would provide connections to employers, labour market information, education and training information, and independent career advice.

A network of independent careers advisers could provide one-on-one support to students through career hubs that schools and students would be able to access in both urban and regional areas. Schools could decide if they wished to avail themselves of the service. Career advice would be provided in the context of employment opportunities across industries rather than through a focus on specific jobs or particular pathways. The careers advisers would need to be qualified and meet minimum professional standards as set out by the Career Industry Council of Australia.

Establishing a network of career hubs would support a rapid improvement in the quality and quantity of career advice available to young Australians without the challenges of placing a dedicated, qualified careers adviser in every school.

Career hubs could be delivered in a range of flexible ways. Jurisdictions could leverage existing regional facilities such as TAFE colleges or the newly established Regional Study Hubs. They would not seek to replace the role of school-based careers advisers, but rather to supplement and complement their efforts. The Panel recommends an initial focus on regional, rural and remote areas in line with the recommendations of the Regional Education Expert Advisory Group, given the challenges in delivering high-quality career advice in individual schools in these areas.

Together with the online resources of the National Careers Institute, the career hubs would work with school-based careers advisers and industry to create a more comprehensive career 'ecosystem', with clear roles and responsibilities (Figure 8 on page 73).

Students deserve to have access to professional help as they take school decisions that will guide their future working lives. The career guidance they need must be authoritative.

81 Career Industry Council of Australia and McCrindle (2017).

82 Regional Education Expert Advisory Group (2019), p. 65.

Recommendation 6

Career guidance within and outside of schools should be strengthened significantly and accorded higher status.

- a) The newly established National Careers Institute should provide a free and comprehensive digital platform for career information for students and their teachers, with a focus on making its considerable data sources easy to navigate.
- b) Schools should be supported by a network of career hubs that provide a connected system of individualised career guidance that schools, students and their parents can access, with an initial focus on regional and remote areas.
- c) Schools should be encouraged to provide wide-ranging career guidance as the basis of pathway planning.
- d) Those students who choose to leave school before the end of Year 12 need to be given greater advice and support.
- e) All those who provide career guidance both in and outside of schools should be expected to have certificated professional qualifications.

Implementation guidance

Although the terms of reference for our report focus on Years 11 and 12, the Panel heard many times that it is too late to begin conversations about career aspirations and pathways in senior secondary school. Discussions must begin earlier, and be used to develop effective pathways to student goals.

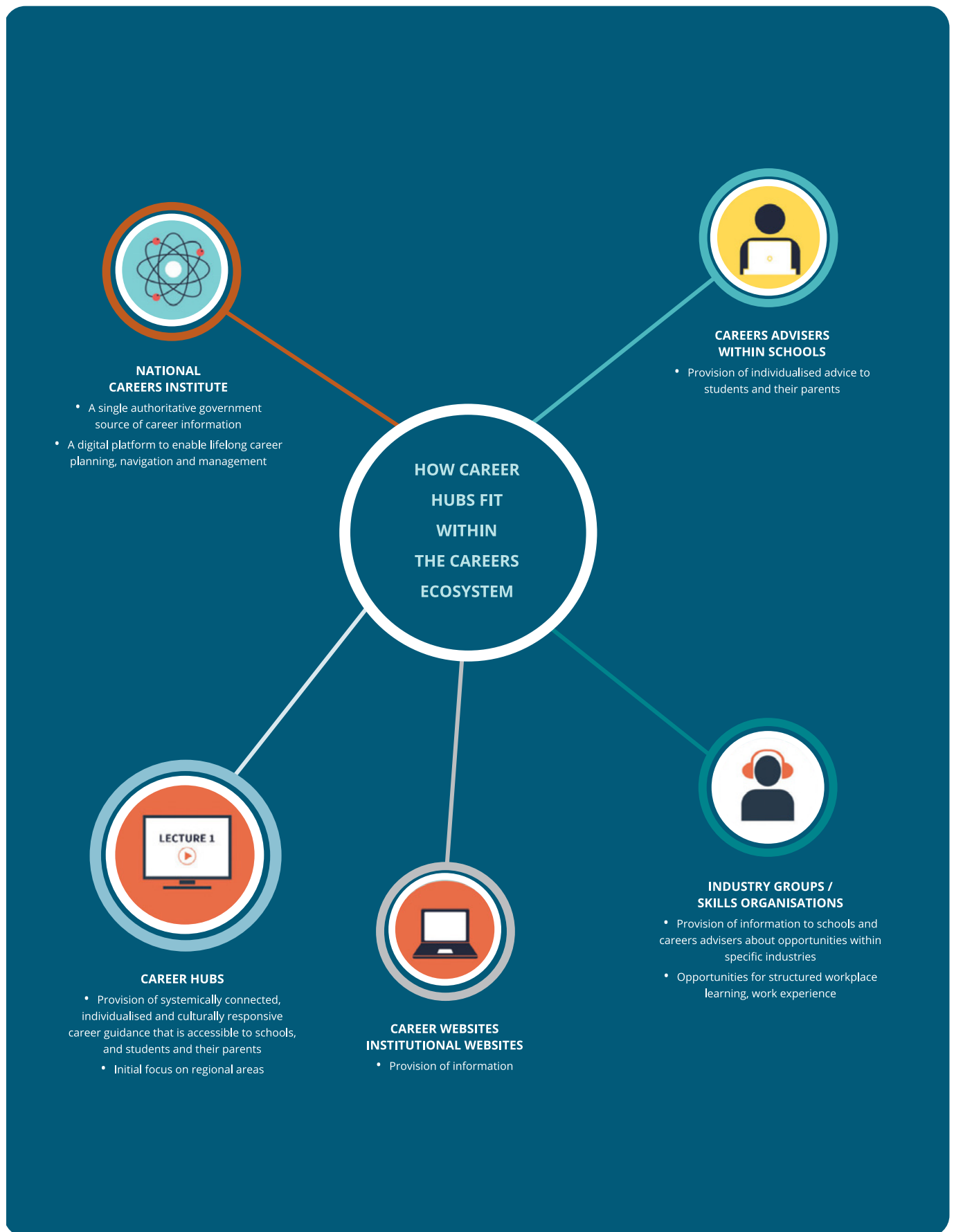
There is strong evidence to support the value of building career awareness throughout the primary years. This should be undertaken in conjunction with the exploration of students' individual passions, interests and talents. Students develop views about their careers and lives early⁸³ and can unwittingly narrow their choices if these explorations are not undertaken early enough. Years 7 and 8 are a key time for students to learn about themselves, and Year 9 is a critical time for career planning and decision-making. Self-awareness and decision-making skills of students need to be built in Years 7 to 9, so that they can make informed, confident course and career choices in Years 10 to 12 and beyond.⁸⁴

The Panel also believes that secondary schooling career advice should be the start of an ongoing process. Career services also need to extend beyond Year 12, as young people continue to need guidance after they leave school. Continuing access to career guidance needs to go hand in hand with lifelong learning. There is no reason why career hubs could not provide the help and assistance required by people of all ages.

83 Commonwealth Department of Education and Training (2019), pp. 22–23.

84 Ithaca Group (2019), p. 7.

Figure 8: Proposed career ecosystem







CHAPTER 3: VET AND THE WORLD OF WORK

CHAPTER FINDINGS

- 3.1 All students should be encouraged to undertake career education and work exploration activities, regardless of their chosen pathway or locality. They need to be provided with individualised, objective, unbiased and up-to-date career information.
- 3.2 VET delivered to senior secondary students is of inconsistent quality, difficult to navigate, and not well integrated into senior secondary studies. VET qualifications delivered in schools need to meet clearly defined standards and deliver or contribute to credentials that are accepted in the labour market.
- 3.3 Upfront expenses associated with undertaking VET are not equitable. Costs can act as a disincentive for students to study VET in both Years 11 and 12 or as a post-school pathway.

Australia's economy needs graduates from both the higher education and VET sectors. Many people misunderstand the breadth and depth of offerings in the VET sector, incorrectly assuming it is limited to trades training. In reality, it also encompasses emerging areas such as coding, cybersecurity and mechatronics.

While the impact of the COVID-19 pandemic on labour market demand is yet to play out, earlier predictions indicated the strongest employment growth over the next five years in Australia would occur not only for professionals but for community and personal service workers,⁸⁵ many of whom are vocationally trained. Addressing skills shortages across Australia will require people with a range of qualifications – including specialist managers, health professionals, trade workers from the automotive, construction, electrotechnology and food trades, and hairdressers.⁸⁶

For decades, Australia's VET system has successfully developed skilled workers for many occupations to support economic growth through labour force participation. Yet, in terms of post-school pathways, VET is now considered the poor cousin to university.⁸⁷ In 1996, there were 536,400 students studying at technical and further education, 203,800 students at 'other educational institutions', and 746,000 students at university;⁸⁸ by 2019, the number studying at technical and further education had dropped to 517,800, the number at 'other institutions/organisations' increased to 320,500, and there was a significant increase to 1.4 million at university.⁸⁹ Today in Australia, many workers have gained both VET and higher education qualifications. It is the combination that gives them the skills they need for the workplace. Yet in many parts of Australia, VET and academic learning are conceptualised and taught as very separate streams – academic learning focuses on knowledge acquisition in traditional learning areas, and VET programs focus on skills development for a particular occupation or trade.⁹⁰ It is difficult for secondary students to mix and match courses at school as readily as they can once they move into tertiary education.

The Panel identified good examples of VET delivered to secondary students. We also heard criticism that many VET certificates gained by students in school are not recognised as equivalent to post-school qualifications by industry and do not provide an effective pathway into a job. In addition, there are disparities in funding and the manner in which VET units of competency can count towards an SSCE across states and territories. These factors act as a disincentive for able students to choose to study VET in schools.

85 Commonwealth Department of Employment, Skills, Small and Family Business (2019a), p. 6.

86 Commonwealth Department of Employment, Skills, Small and Family Business (2019b), *Ratings Summary: Labour market analysis of skills occupations*, https://docs.employment.gov.au/system/files/doc/other/ratingssummary_june2019_0.pdf.

87 Skilling Australia Foundation and McCrindle (2017), *Perceptions Are Not Reality: Myths, realities and the critical role of vocational education and training in Australia*, May 2017, p. 5, <https://2qean3b1jdd1s87812ool5ji-wpengine.netdna-ssl.com/wp-content/uploads/work/Skilling-Australia-Vocation-Education-Report.pdf>.

88 Australian Bureau of Statistics (1996), *Transition from Education to Work, Australia, May 1996*, cat. no. 6227.0, p. 5, [https://www.ausstats.abs.gov.au/ausstats/free.nsf/0/A5D41B6DD31B7B4DCA25722500073702/\\$File/62270_1996.pdf](https://www.ausstats.abs.gov.au/ausstats/free.nsf/0/A5D41B6DD31B7B4DCA25722500073702/$File/62270_1996.pdf).

89 Australian Bureau of Statistics (2019b).

90 O'Connell, M. and Torii, K. (2016), 'Vocational learning in schools – an international comparison', in Committee for Economic Development of Australia (2016), *VET: Securing skills for growth*, August 2016, p. 70, https://www.ceda.com.au/CEDA/media/ResearchCatalogueDocuments/Research%20and%20Policy/PDF/31760-CEDAVETReportAugust2016Final_flattened.pdf.

VET programs are well placed to provide students with opportunities to explore the world of work, particularly where mandatory work placements or paid employment are part of training. However, a key feature of a school-based apprenticeship or traineeship – structured workplace learning – is not always available to all students.

Given the range of capabilities needed for the future workforce, the current bifurcation of senior secondary schooling into either a higher education or VET pathway does not allow all students to develop the capabilities that are cultivated through work-integrated learning.⁹¹ It is time for change.

The importance of language

Language is important. The Preparing Secondary Students for Work framework, developed by Education Council in 2014, uses the terminology ‘vocational learning’, but the Panel has found throughout consultations that most stakeholders find this language confusing. The term ‘vocational education and training’ is often used as a catch-all for all those activities that have vocational elements. For this reason, we will be using the language ‘career education and work exploration activities’ rather than ‘vocational learning’.

But that is not the only challenge with nomenclature, terminology and language. The terms ‘vocational education and training’ and ‘career education and work exploration’ are often used interchangeably. We intend to make a clear distinction between them:

- **Career education and work exploration** is often referred to as ‘vocational learning’ and can include short programs with industry, work placements and curriculum-based subjects. It aims to help secondary students explore the world of work, identify career options and pathways, and build career development skills. It provides opportunities for students to ‘taste’ the world of work through one-off events such as careers expos, initiatives such as enterprise learning, or spending time in a real or simulated workplace. The Panel strongly believes this should be available to all students.
- **Vocational education and training** delivers formal units of competency or qualifications, including apprenticeships and traineeships, and can be studied as part of a pathway to work, VET or higher education. The Panel believes equally strongly that students who choose to specialise in this way should receive high-quality training.

In short, the Panel makes a clear distinction between the career education and work exploration activities that make up vocational learning (which should be available to all) and VET, which delivers formal qualifications to students who choose to undertake studies at the certificate level. At present, these two distinct types of learning are often confused as ‘VET in Schools’.

There are different regulatory frameworks around career education and work exploration (on the one hand) and VET (on the other). VET delivered to secondary students is subject to a national regulatory framework administered through the Australian Skills Quality Authority (ASQA). Career education and work exploration is not regulated by ASQA.

The Panel supports the need to distinguish career education and work exploration from VET. In our view VET qualifications should only be delivered to school students when the elements required for quality delivery exist, either at school or by a registered training organisation. Formal VET qualifications should be rigorous and meet regulatory requirements and industry standards.

91 O’Connell and Torii (2016), p. 71.

Career education and work exploration

The Panel equally believes that there is considerable value in all secondary students experiencing quality career education and work exploration. This can include subjects that allow secondary students to undertake a general work-related curriculum, or providing opportunities for students to explore particular occupations or industries. Strong programs ensure that student choices about school subjects and post-school education, training and employment can be based on a thorough understanding of their options; the occupations and industries they are considering; the different pathways they can follow to achieve workforce objectives; and the variety of training and employment pathways that they can follow with a particular qualification.⁹² Career education and work exploration need to provide a strong foundation for all students to make decisions about their futures.

“There is no better preparation for work than other work, so policy settings and solutions need to identify the best mechanisms of delivering to school students who have not worked, a strong understanding of the skills and attributes that employers look for and sufficient vocational learning and work experience to achieve a successful transition, whether to work or further education.”

Australian Chamber of Commerce and Industry submission

Students reap the greatest benefits from career education and work exploration activities when they are based on strong collaboration with industry. Contact with employers gives students a real-world insight into what jobs exist (and may exist in the future), what those jobs are like, and what skills and qualifications they require. There are many ways to build in greater engagement with employers – including career expos, workplace visits and practical activities such as try-a-trade, and connections with a workplace within individual lessons. All these options enhance students’ career exploration and develop their understanding of how what they learn at school is relevant to their work beyond school.⁹³

Industry advocates and employers agree that the benefits of work placement are immense, providing students with an opportunity to develop and demonstrate their skills within the workplace. Students are even more enthusiastic. Many teachers feel that offering access to workplace learning should be an integral part of the school learning program. But it is challenging. With a crowded curriculum and many external impositions made on students during their senior years, schools find it difficult to provide students with work placements. However, it is the Panel’s strong view that, despite the challenges, schools should structure the school term and timetables to provide such opportunities. Applied learning and early engagement in the workplace need to be accommodated by schools and employers.

“The over-emphasis on academic success in traditional subjects has led to a lack of exposure to vocational options even when students may be better suited to, and have better work outcomes, within these pathways.”

Australian Industry Group⁹⁴

⁹² Council of Australian Governments Education Council (2014), *Preparing Secondary Students for Work: A framework for vocational learning and VET delivered to secondary students*, p. 6, <https://pssfw.myskills.gov.au/media/1174/preparing-secondary-students-for-work-2014.pdf>.

⁹³ Council of Australian Governments Education Council (2014), p. 9.

⁹⁴ Australian Industry Group (2019), *AiGroup Submission: Review of the Melbourne Declaration Response to the Discussion Paper*, June 2019, p. 7, https://cdn.aigroup.com.au/Submissions/Education_and_Training/2019/Review_of_the_Melbourne_Declaration_-_Ai_Group_Response_June_2019.pdf.

In addition to career education and work exploration, there are considerable positive benefits for students who combine school and paid work. It provides them with a stronger sense of the skills and capabilities required in the workplace and how they are relevant to the attributes that can be included in a Learner Profile. It can assist them to find part-time and casual work while at school, helping them financially but also enabling them to develop and practice employability skills and enjoy the satisfaction of earning their own money.

Those students who find the right balance are not only rewarded with a range of social and economic benefits, but improve their chances of undertaking a successful transition into further education, training or work.⁹⁵ By working 2,000 hours in a relevant job, a young person can accelerate their transition from full-time education to full-time work by 5 months. By working 5,000 hours, a young person can accelerate the transition by 12 months.⁹⁶ Students who combine school and work also have reduced unemployment rates after secondary school.⁹⁷

“Part-time jobs while studying are fundamental parts of young people’s lives, and often their school-day jobs continue well into their post-school careers. Little value is ascribed to these jobs by key players.”

Erica Smith, Federation University submission

The workplace is a powerful learning environment. Technical skills can be learned from expert practitioners using real-life equipment, while also acquiring capabilities such as teamwork, communication, risk management, customer service and problem-solving. Work-based learning assists students to transition from school to work, while for employers it offers a means of recruitment.⁹⁸ Volunteer work in a community-based organisation can provide similar benefits but also help inspire students about the value of contributing to social purpose. Work can be particularly motivating for students who are less academically inclined and might feel discouraged by the narrowly theoretical approaches of some general education subjects.⁹⁹ It provides them with skills that can complement the capabilities developed within school.

95 House of Representatives Standing Committee on Education and Training (2009), *Adolescent Overload? Report of the inquiry into combining school and work: Supporting successful youth transitions*, October 2009, p. vii, https://www.aph.gov.au/Parliamentary_Business/Committees/House_of_Representatives_Committees?url=edt/schoolandwork/report.htm.

96 Foundation for Young Australians (2018), *The New Work Reality*, p. 9, https://www.fya.org.au/wp-content/uploads/2018/06/FYA_TheNewWorkReality_sml.pdf.

97 Musset, P. (2019), *Improving Work-based Learning in Schools*, OECD Social, Employment and Migration Working Paper No. 233, Organisation for Economic Co-operation and Development, 25 September 2019, p. 20, [http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=DELSA/ELSA/WD/SEM\(2019\)12&docLanguage=En](http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=DELSA/ELSA/WD/SEM(2019)12&docLanguage=En).

98 Musset (2019), p. 3.

99 Ibid., p. 19.

Recommendation 7

All students – including those seeking university entry – should be supported to undertake career education and work exploration at school, through workplace learning, work skills courses, and/or undertaking applied subjects such as design and technology.

Implementation guidance

Work-based learning and classroom-based learning should not be seen as separate and distinct activities. They should be treated as part of a complete package. Classroom activities complement and add to learning in the workplace; learning at work complements instruction in the classroom.¹⁰⁰ Work placements tend to work best when students can receive credit for their efforts in the SSCE, so that work-based and school-based learning effectively complement each other.¹⁰¹ While most states and territories offer work exploration short courses that can be completed as part of the SSCE, in some jurisdictions these courses are considered ‘recreational’ and are not counted towards the SSCE.¹⁰²

Students who are struggling to remain engaged with schooling should be directed to career education and work exploration and other more engaging, applied school-based offerings. It is a key to keeping them involved in schooling, rather than attempting to undertake a formal Australian Qualifications Framework qualification that is not aligned with their interests and aspirations.

Alternatively, some students are more likely to thrive and continue their learning outside of a traditional school setting such as at TAFE or through an alternative program such as a flexi-school (see Toowoomba Flexi-School case study on page 124). For a small number of students, the opportunities to leave school, start work but continue to access training (including on-the-job training) may be an appropriate outcome. These students should be supported to do this in a planned way.

100 Ibid., p. 55.

101 Ibid., pp. 32–33.

102 See Australasian Curriculum, Assessment and Certification Authorities (2018), *VET in Senior Secondary Certificates of Education*, April 2018, http://www.acaca.edu.au/?wpfb_dl=1279.

CASE STUDY: CSIRO VIRTUAL WORK EXPERIENCE PROGRAM

As part of the National Career Education Strategy, CSIRO and the Commonwealth Department of Employment, Skills, Small and Family Business collaborated to pilot the delivery of innovative work experience for high school students using online collaboration tools.

The program brought students from across Australia together virtually (particularly in regional and remote areas) to undertake collaborative group projects linked to real-world research and industry challenges. While most supervisors were CSIRO employees, several Bureau of Meteorology staff also supervised virtual work experience groups.

In 2019, 57 Virtual Work Experience Program students from across Australia (26 per cent from major capital cities, 60 per cent from regional areas, and 14 per cent from remote areas) aged between 14 and 17 were brought together virtually to work in small groups with an industry supervisor (a highly qualified science, technology, engineering and mathematics (STEM) professional).

Replicating the way CSIRO and Bureau of Meteorology staff work every day, each team used online collaboration tools and videoconferencing to complete STEM projects in one of 15 disciplines of interest, including agriculture, astronomy, energy, health, manufacturing, meteorology, oceanography and computer science. The program tested two different contact working models: every day over a one-week block (70 per cent), or one day a week for five weeks (30 per cent). Regardless of the model, no student had face-to-face contact with their supervisor.

CSIRO astronomy educator Rob Hollow (on screen) supervised six students across the nation on a project related to characterising pulsars. The students were able to remotely take control of the iconic Parkes radio telescope and capture astronomic data from pulsars.

A rigorous evaluation process was completed as part of the program pilot. Students reported a mean satisfaction score of 4.2 out of 5, and believed they increased their life skills across the domains of teamwork, communication, negotiation and resilience. Participation in this program provided students with an insight into STEM skills and careers, influenced subject selection and confirmed career pathway choices.

Had this program not been offered, only 42 per cent of the students overall would have pursued STEM-related work experience elsewhere. The remainder of the students, in equal numbers, would have either undertaken work experience in a non-STEM field, or not undertaken work experience at all. This was accentuated for students in regional and remote settings, where 63 per cent of students would not have been able to do any STEM-related work experience were it not for this virtual model.



CSIRO astronomy educator Rob Hollow (on screen) supervised six students across the nation on a project related to characterising pulsars. The students were able to remotely take control of the iconic Parkes radio telescope and capture astronomic data from pulsars.

Source: CSIRO, 'Virtual Work Experience Pilot Program', webpage (accessed 29 April 2020), <https://www.csiro.au/en/Education/Programs/Virtual-Work-Experience>; and CSIRO program materials.

Vocational education and training

VET can be pursued by students both as an in-school and a post-school pathway. Broadly, there are three ways students may choose to engage with VET:

- Students may decide to participate in VET courses in Years 11 and 12 as a ‘taster’ in order to explore their interests or because they prefer applied learning. On the basis of that experience, some have their expectations confirmed. Others may decide they no longer wish to pursue post-school qualifications or work in the area they trialled.
- Students may choose to get a head start on a VET qualification by beginning it in school – either through a school-based apprenticeship or traineeship or through a certificate course. They should expect to finish school either with a certificated qualification or having made significant progress towards one.
- Students may have taken more traditionally ‘academic’ subjects in Years 11 and 12, but nevertheless decide to pursue a post-school VET pathway – either as a stepping stone into university or as a qualification in its own right.

More than 90 per cent of schools offer VET in Years 11 and 12.¹⁰³ In 2018, 27 per cent of 15- to 19-year-old students were undertaking some form of VET in secondary school. Unfortunately, interest appears to be waning: nationally, there has been a 6.7 per cent decrease between 2014 and 2018.¹⁰⁴

Throughout the consultations, young people who were undertaking VET were generally positive about their outcomes. They spoke of the opportunities they had enjoyed for hands-on learning, connecting to the real world of work, identifying a pathway directly into employment once they finished school, and being able to earn while they learned.

VET delivered to secondary students

The 2019 Expert Review of Australia’s Vocational Education and Training System, led by Steven Joyce, identified significant concerns regarding the quality of VET delivered to secondary students. The review emphasised concerns about unclear secondary school pathways into the VET sector and the increasing dominance of university pathways.¹⁰⁵

VET can be undertaken by secondary students in a variety of ways. It can be delivered by a school as a registered training organisation (RTO), by an external RTO, or through an auspicing arrangement between a school and an RTO. Schools may deliver VET through cluster arrangements in which one school is the RTO. These arrangements vary across school systems to meet local circumstances. While the same national VET Quality Framework applies to all VET, the approach towards quality assurance varies in practice between states and territories, and different approaches are taken towards overseeing regulation.

Yet despite these differing models, VET delivered to secondary students is subject to the same regulatory frameworks and requirements as VET delivered in other settings. It must comply with national standards so that it is delivered, assessed and certified under the same set of conditions as VET undertaken by non-secondary students: ‘VET is VET’.¹⁰⁶

“ASQA’s high standards mean that schools and school teachers are well equipped to provide entry level training, to the standard of any other RTO.”

Caroline Wilson, personal submission

103 Lamb, S. and Vickers, M. (2006), Variations in VET Provision across Australian Schools and Their Effects on Student Outcomes, Longitudinal Surveys of Australian Youth: Research Report 48, Australian Council for Educational Research, March 2006, p. vii, https://www.ncver.edu.au/__data/assets/file/0017/5930/lsay_lsay48.pdf.

104 National Centre for Vocational Education Research (2019b), ‘Australian vocational education and training statistics: VET in Schools 2018’, https://www.ncver.edu.au/__data/assets/pdf_file/0016/7120132/VET_in_Schools_2018_publication.pdf.

105 Joyce (2019), pp. 91–101.

106 Australasian Curriculum, Assessment and Certification Authorities (2018), p. 11.

It was also clear from the Panel's consultations that many students find the system difficult to navigate, incoherent, and not well integrated. Disappointingly, reviews of VET delivered to secondary students suggest that very little has changed between the Carmichael report of 1992¹⁰⁷ and the Joyce Review of 2019. Both reviews noted inconsistencies in quality assurance, training that was insufficiently responsive to industry needs, confusion on the purpose of VET delivered to secondary students, the domination of the senior secondary curriculum towards an academic pathway, and funding disparities that disadvantaged VET teaching. The more things have changed, the more they have stayed the same.

While there are excellent examples of VET delivered in schools across Australia, there are also many instances of poor practice. This variation has the potential to damage employer confidence in VET delivered to secondary students.¹⁰⁸

The status and purpose of VET

VET should be encouraged for students who have the interests, strengths and passions that align to the offerings of the VET sector. VET delivered to secondary students can assist students to progress into a higher VET qualification post school, and meet future skills needs by providing a valuable pathway into employment, and ensuring a pipeline of future workers for industry in areas of skills needs. Students need to be assured that success in VET is a good pathway even if they decide to proceed to university in the future. It has not been a waste of their time.

Completion of VET qualifications at school allows young people to develop competencies that are valued in the workforce, giving students a head start in the world of work. An analysis of training package content taught to secondary students through VET found the training could teach communication, teamwork, problem-solving, initiative and enterprise, planning and organising, self-management, applied technology, and occupational safety skills.¹⁰⁹

There is a persistent tendency for VET to be viewed as a much less prestigious and valuable pathway. The high road, it is imagined, is the one that leads directly to university. It was noted by students on a number of occasions that ATAR achievements are celebrated in the media but VET achievements rarely evoke interest. Some believed that this tendency also prevailed at their own schools. This fuelled the perception that VET is a lesser pathway.

"Unfortunately, VET is still considered a consolation prize to university and does not receive the same level of attention from parents, career counsellors and the media. There is a lack of awareness regarding the employability of VET graduates, their career earnings and prospects."
Restaurant and Catering Australia submission

One clear message was delivered to the Panel by students, teachers and employers: that VET delivered to secondary students is too often perceived primarily as a way to keep non-academically minded students engaged in schooling, rather than having intrinsic value. This has the deleterious effect of reducing the prestige of VET pathways to students while devaluing the reputation of the quality of qualifications delivered to them.

107 Employment and Skills Formation Council (1992), *The Australian Vocational Certificate Training System*, National Board of Employment, Education and Training, March 1992, <https://www.voced.edu.au/content/ngv%3A34192>.

108 Joyce (2019), p. 93.

109 Misko, J., Korbelt, P. and Blomberg, D. (2017), *VET in Schools Students: Characteristics and post-school employment and training experiences*, National Centre for Vocational Education Research, pp. 3–4, https://www.ncver.edu.au/_data/assets/pdf_file/0037/887716/VET-in-Schools-students-characteristics-and-post-school-employment-and-training-experiences.pdf.

While students may decide to undertake VET study in Years 11 and 12 as a taster to explore the world of work and discover the occupations in which they might be interested, the most important purpose of delivering VET to school students should be to provide students with strong pathways to work. Given the continuing value of VET graduates to Australia's economy, the priority skills occupation lists developed by states and territories should exert greater influence on the qualifications offered to secondary students. The qualifications undertaken by senior secondary students should offer clear employment pathways.

Perceptions of VET delivered to secondary students

The issue of the quality of VET in schools is contested. While some employers raised the quality of VET in schools as a concern, there is a lack of hard data to support the claims. While VET delivered to secondary students is often regarded as 'second rate' by industry, the fact is that schools are required to meet the same regulatory requirements that apply to all VET providers. Meeting the needs and expectations of employers can be challenging, particularly as they vary across industries and locations. Concerns were expressed about the level of industry experience that is able to be attained through VET delivered to secondary students. This was particularly an issue where students were undertaking higher-level certificate or even diploma-level courses as part of their schooling.

Regardless of the challenges facing schools, employers make the ultimate assessment of quality when deciding whether to offer jobs to young people. The proportion of low-skilled entry-level jobs is falling, and employers are looking for skilled and flexible workers. Many employers expect school leavers to have had some practical experience, enabling them to quickly become productive in a new job.¹¹⁰

The Joyce Review identified a 'catch 22' for students as a result of perceptions that school-based certificated qualifications were unreliable. It found that employers are reluctant to take on an apprentice who already has a VET certificate from school (such as a Certificate II obtained through a preapprenticeship). The problem is that industrial relations arrangements require them to pay the apprentice more than a school leaver without any qualifications, but the employer is unconvinced that they have the skills or work experience required for that level.¹¹¹

Overcoming these perceptions of VET in schools is essential. Senior secondary students should complete courses that will be widely recognised by industry when they enter the labour market, without exhausting their entitlement to subsidised VET.

These issues of quality can only be addressed by education authorities and industry bodies working together. They need to take joint responsibility for their role in the system and working together to fix it. Employers cannot expect school leavers to graduate with the skills they need if they play no part in the student gaining them. Through partnerships, employers can significantly increase the relevance and quality of VET by participating in design and delivery, providing local knowledge, and making facilities and equipment available. Most critically, employers need to have the opportunity to directly engage with students, and particularly provide them with sufficient workplace experience opportunities and structured work placements that will be useful in the local community.¹¹²

"Employers have more confidence in VET delivered to secondary students when it gives students access to industry-standard equipment, is supported by people with relevant and current industry experience, meets expectations regarding volumes of learning, and includes time in actual workplaces."¹¹³ The Panel has witnessed some excellent instances of schools that deliver high-quality VET and have deep engagement with industry, and it is these approaches that need to be more widely adopted.

110 Council of Australian Governments Education Council (2014), p. 2.

111 Joyce (2019), p. 95.

112 Council of Australian Governments Education Council (2014), pp. 9, 13.

113 Ibid., p. 13.

In-school delivery

Vocational education and training is complex. There are multiple variations in the way it is packaged, delivered, assessed, certified and credited. It is confusing and difficult for students and parents to navigate. States and territories have made considerable effort to integrate VET within the school curriculum, and ensure that they provide students with a wide range of learning options to meet their needs and interests, but there is much more to do.

Schools navigate the complexities of delivery, resourcing and access to employers to deliver VET to their students. Schools do this by integrating industry-designed units of competency, developed to meet employer needs, into a school curriculum. They have to oversight different regulatory requirements for the delivery of school education; manage timetables, including time needed for work placements; and secure access to employers for work placements or third-party training providers to deliver courses that the school itself cannot offer. For many schools, it is a challenge to balance limited resources between the delivery of VET and the school curriculum.¹¹⁴ It can also be difficult for teachers to maintain their industry currency to remain qualified to deliver VET.¹¹⁵

Under the VET regulatory framework, in the absence of a full qualification, students are awarded a statement of attainment for successfully completed units of competence. Some states, however, require the full completion of the course for it to count to the SSCE, and completion of the certificate can sometimes determine whether or not they receive an SSCE.

VET courses do not fit neatly into the school system due to the nature of delivery and assessment. Much VET is designed to be delivered by industry trainers and the school curriculum is designed to be delivered by teachers of education. In addition, VET assessment is competency based and curriculum assessment is school graded.

Despite these challenges, Panel members identified a number of secondary schools specialising in providing VET education, such as technical colleges, P-TECHs and trade training centres. These centres have strong industry engagement, greater independence, and oversee student-driven projects. These schools generally offer apprenticeships and traineeships using industry-standard equipment. Students undertake English and mathematics while being provided training in a range of careers. Timetabling is built around on-the-job learning to maximise student opportunities and skills development. In some instances, students are able to finish a traineeship or complete the first year of a full apprenticeship.

While these schools are highly effective models of delivering VET to secondary students, they are, by their nature, limited in their reach. The Panel supports their further extension where possible. The major challenge is to ensure that non-specialist schools can learn from that experience and adopt some of the successful strategies of these high-performing schools delivering VET.

Funding

Funding arrangements for VET are complex. Each jurisdiction is responsible for determining its own funding policies, including how and where to prioritise funding and funding levels. Some states provide dedicated funding to support schools to deliver VET programs from school budgets, while other schools may have access to funding subsidies or are obliged to charge additional fees to students.¹¹⁶

114 South Australian Government (2019), *A Review of VET for School Students: Repositioning VET within secondary education in South Australia*, pp. 8, 12, <https://www.education.sa.gov.au/sites/default/files/vet-for-school-students.pdf>.

115 Australian Institute for Teaching and School Leadership (2018), *One Teaching Profession: Teacher registration in Australia*, September 2018, p. 49, <https://www.aitsl.edu.au/docs/default-source/national-review-of-teacher-registration/report/one-teaching-profession---teacher-registration-in-australia.pdf>.

116 Joyce (2019), p. 93.

Availability of funding for VET has a direct impact on the range of course offerings. Affordability considerations often determine whether schools deliver the training themselves, or purchase enrolments through an external registered training organisation.¹¹⁷ As a result, schools are often forced either to charge higher student fees, which exacerbates inequalities based on income, or not to offer the course at all.¹¹⁸

Many of the consultations conducted and submissions received by the Panel identified funding arrangements for VET delivered to secondary school students as a significant driver of behaviour. It is the strong view of the Panel that there should be no financial disincentive for schools or students in circumstances in which students wish to undertake VET at external RTOs. Decisions on whether students study inside or outside school should not be based on financial incentives or administrative convenience, but on what is in the best interest of students.



117 Ibid., p. 99.

118 Van Dyke, N. and Jackson, J. (2019), *Unlocking the Value of VET for School Students: Submission to the Review of VET for School Students in South Australia*, Mitchell Institute: Victoria University, p. 7, <http://www.mitchellinstitute.org.au/wp-content/uploads/2019/09/Submission-to-SA-VET-in-Schools-Review.pdf>.

CASE STUDY: ST PATRICK'S TECHNICAL COLLEGE IN SOUTH AUSTRALIA

St Patrick's Technical College is challenging the perception that vocational education and training (VET) pathways are somehow 'less than' university pathways and, as a result, is changing the lives of its students. St Patrick's is a specialist trade training school offering education, training and apprenticeship pathways to Year 11 and 12 students.

The school is a proud contributor to breaking the cycle of intergenerational unemployment and helping young people re-engage with education. Since opening its doors in 2007, the college has sourced and supported over 1,000 apprenticeship/traineeship commencements across a wide array of trades and industries.

St Patrick's is closely partnered with, and guided by, industry. Its main charter is to assist students in completing senior secondary school while undertaking VET either at school or with an employer, through an apprenticeship or traineeship. Students achieve the South Australian Certificate of Education (SACE) via a tailored, trade-focused curriculum. SACE subjects are created by the college, with direct input from industry and in association with TAFE SA, to specifically support VET.

The SACE curriculum at St Patrick's has been developed specifically to support pre-vocational training. The educational model allows for complete integration of SACE with VET, with core subjects taught in a way that makes them relevant to each specific trade program. The college's innovative integration of SACE, VET and work experience means students are able to complete their SACE requirements much earlier than in a traditional school.

Every aspect of the college, from staff to facilities, programs and timetabling, is designed to combine VET and SACE into

one seamless educational experience. Additionally, work-ready skills are central across all programs, assisting students to develop vital interview, resume-writing, goal-setting, teamwork, communication and employability skills.

St Patrick's Technical College is structured across three sub-schools, offering eight pre-vocational courses: Automotive, Electrotechnology, Metals and Engineering, Information Technology, Food and Hospitality, Hair and Beauty, Construction, and Plumbing.

The school regularly hosts industry leaders and employers to provide mentoring and project development to students and staff. Over Years 11 and 12, students must complete a minimum of 11 weeks of work experience, during term time, which provides a chance to explore career decisions, upskilling opportunities and employment outcomes.

In 2017, the college became South Australia's first and only P-TECH school, one of 13 in the country, as part of the Australian Government's \$5.1 million investment. The Pathways in Technology (P-TECH) program aims to provide an industry-supported pathway for young people to achieve a qualification that strengthens their employment prospects. For more information, see the P-TECH case study on page 91.



Source: St Patrick's Technical College website,
<https://www.stpatstech.sa.edu.au>.

Apprenticeships and traineeships

Apprenticeships combine on-the-job training with formal, nationally recognised qualifications. They have good employment outcomes. However, apprenticeships are being overlooked by many young people due to the stigma associated with VET, and the negative perceptions formed about vocational pathways in early high school.¹¹⁹ Consequently, many young people rule out apprenticeships as an option before they even consider their value.

This is unfortunate. The apprenticeship and traineeship model offers strong employment prospects, with lower unemployment rates for those who have completed a Certificate III or IV than those who have only attained Year 12.¹²⁰

Yet despite positive employment outcomes and the fact that several industries have reported a national skills shortage (many in traditional trade roles), 56 per cent of students still do not consider an apprenticeship when leaving school. Indeed, 43 per cent of students were either not sure if their school did, or were sure their school did not, offer school-based apprenticeships.¹²¹

Student perceptions are one explanation for the precipitous decline in apprenticeship uptake. Between 2012 and 2018, the total number of apprentices and trainees nearly halved from 515,000 to 269,700.¹²² From 2014 to 2018, the number of school-based apprentices and trainees declined.¹²³ In 2018, school-based apprentices represented just 8 per cent of all VET in Schools students.

“Far fewer young people pursue apprenticeships and traineeships than attend university. Australian students who complete Year 12 are almost ten times as likely to begin a Bachelor’s degree than an apprenticeship (50.6% vs 5.7%, as of 2018). This means that young people’s perceptions of what is ‘normal’ may exclude apprenticeships and traineeships.”

Behavioural Insights Team¹²⁴

What is going wrong? School-based apprentices and trainees face formidable barriers. Schools often find it difficult to provide adequate release for work placements due to school timetabling challenges. There is the stigma associated with poor perception of apprenticeships. Teachers and schools often lack the resources to establish the apprenticeship or traineeship. Engagement with employers can be difficult.

There are also challenges from the employer’s perspective. According to the NSW Business Chamber Workforce Skills Survey, only 9 per cent of businesses reported employing a school-based apprentice or trainee. Key reasons cited for the low rate of school-based apprentices were attributed to a lack of information, inadequate time to supervise, job requirements not aligning with the age of apprentices, or restrictions on the amount of time school students could be in the workplace.¹²⁵

119 Hargreaves and Osborne (2017), p. 5.

120 Commonwealth Department of Education (2019a), ‘Benefits of educational attainment: Employment and income support’, <https://www.education.gov.au/employment-and-income-support>.

121 Shipley and Stubbley (2018), p. 38.

122 National Centre for Vocational Education Research (2018), ‘Historical time series of apprenticeships and traineeships in Australia from 1963 to 2018’, 4 December 2018, Table 1, <https://www.ncver.edu.au/research-and-statistics/data/all-data/historical-time-series-of-apprenticeships-and-traineeships-in-australia-from-1963-to-2018>.

123 National Centre for Vocational Education Research (2019b).

124 Behavioural Insights Team (2020), pp. 20–21.

125 NSW Business Chamber (2019), *Workforce Skills Survey 2019*, https://www.nswbusinesschamber.com.au/NSWBC/media/Policy/Workplace%20Skills/Recent%20submissions%20and%20publications/2019-Workforce-Skills-Survey-Report-FINAL_1.pdf.

The Panel commissioned research by the Behavioural Insights Team to look at why students are not considering apprenticeships, and what could be done to overcome some of these behavioural issues. These actions include systemic-level interventions to ensure university is not regarded as the only 'default' pathway for senior secondary students, and changing the messaging to emphasise just how challenging and selective apprenticeships are. The report proposes actively identifying those students who may be suited to an apprenticeship, and providing them with access to positive role models and meaningful, engaging information.

Recommendation 8

Vocational education and training (VET) should only be provided at school where it can be done in a high-quality way as demonstrated through the explicit endorsement of local employers or industry bodies, and if schools are unable to meet these requirements, they should support their students to undertake VET at an external registered training organisation.

Recommendation 9

When undertaking a formal VET qualification or school-based apprenticeship or traineeship, the allocation of time spent by students at school, with a registered training organisation, or in the workplace should be based upon what is in their best interests, rather than upon funding arrangements or administrative convenience.

Recommendation 10

In collaboration with the Skills Council, Education Council should co-design with industry a national strategy on vocational education and training in schools that promotes the quality of VET, including by addressing the following elements.

- a) The interests of the student must be at the centre of the strategy.
- b) All students must meet the minimum standards in literacy, numeracy and digital literacy.
- c) All students leaving school should have had exposure to professional career education and work exploration activities.
- d) Formal VET qualifications delivered in schools must be of a quality that is valued by industry and match the quality of VET delivered outside schools.
- e) Where schools cannot deliver high-quality, formal VET qualifications, they should encourage students to study through reputable external registered training organisations.
- f) The Preparing Secondary Students for Work framework, formulated in 2014, should be updated with a much greater focus on quality and implementation.
- g) School-based apprenticeships and traineeships should be more actively promoted and made easier to undertake for both students and employers.
- h) The VET undertaken should be responsive to existing and emerging skills needs, including at the local level.

Implementation guidance

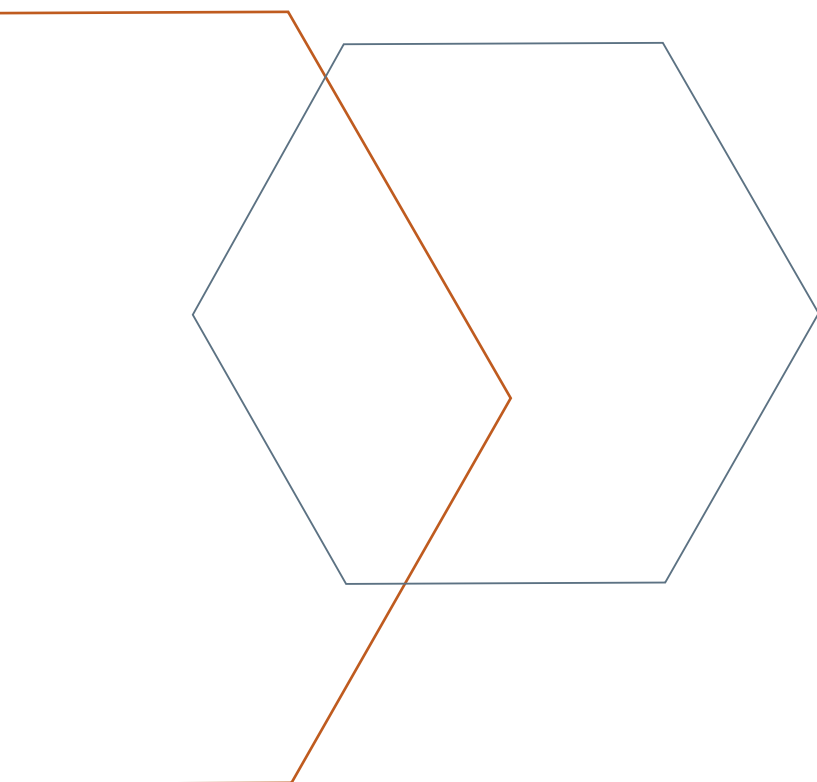
Throughout its deliberations, the Panel heard two recurring messages. First, that the current structure of senior secondary schooling is now heavily centred around facilitating the university pathway. Second, that improving the perceptions and availability of alternative pathways will require major changes both in educational structures and cultural attitudes. Effective responses to these challenges need to be determined by what is in the best interests of the student.

With this in mind, the Panel believes that schools should be encouraged to provide VET to senior secondary students only where they can do so to a high standard. If schools are unable to deliver good-quality VET for any of the reasons outlined above, they should instead allow their students to undertake VET at an external RTO. Regardless of how VET is delivered, there needs to be an expectation that it will be packaged in a meaningful way that assists students with their chosen pathway.

Many state and territory governments are already actively seeking and implementing initiatives that will see improvement in how VET is offered in schools. We support these initiatives. Our view is that those senior secondary students who choose to do formal VET qualifications should have the training delivered in a manner from which they can gain the best educational and employment outcomes, whether this is delivered at school, at an external RTO, or through auspicing arrangements. Any student doing a school-based apprenticeship should be able to complete at least the first year of the apprenticeship before they finish Year 12. Incentives should be available for students to undertake VET to help with out-of-pocket expenses.

Far too often, there is a lack of mutually effective partnerships between VET providers, industry and schools. Schools need more VET providers and willing employers to come into schools and offer their services. Industries need to open themselves up with schools so students have connections to post-school destinations.

Success will depend on effective collaboration between education authorities and industry bodies and, at the local level, between schools and employers. It is time to consider how to build and strengthen these relationships.



CASE STUDY: AUSTRALIAN GOVERNMENT'S PATHWAYS IN TECHNOLOGY (P-TECH) PROGRAM

The national Pathways in Technology (P-TECH) program is a pilot initiated by the Australian Government to establish effective partnerships between schools, tertiary education providers and industry. These partnerships provide opportunities for students to engage with the world of work, and better understand the relevance of their learning to post-school pathways, including STEM-related vocational education and training.

The Australian Government has invested \$5.1 million of initial seed funding in the program over six years, allowing the Skilling Australia Foundation to assist with relationship building between partners, and the development of locally relevant P-TECH learning programs with a view to ongoing sustainability.

Students are provided with an industry-supported pathway to a STEM-related diploma, advanced diploma or associate degree. The program is currently supporting pathways in industry sectors including defence, shipbuilding, aviation, laboratory skills, food science, health, IT, engineering, electrotechnology, energy, agriculture, data analytics, cybersecurity and business.

P-TECH models have the flexibility to adapt to local contexts, with STEM-focused learning pathways able to be delivered in school, offsite, or a combination of both.

P-TECH sites are currently located in 13 government and non-government school sites across all states and territories except the ACT, involving approximately 50 industry partners and 14 tertiary education partners across the network.

As of mid-2019, more than 3,000 students have participated in introductory P-TECH activities, with over 600 students subsequently pursuing formal P-TECH pathways.

Social Compass independently evaluated the P-TECH pilot between July 2018 and April 2019. The evaluation found significant benefits for all stakeholders, including teachers, industry partners and students. It also highlighted challenges around sustainability beyond the two-year period of Australian Government seed funding. Sustainability will be a focus of a second phase evaluation planned to begin in mid-2020.

"The most significant change is the impact it has on students, especially the students who thought that traditional career pathways were the only options – there is a world of different opportunities now for them ... that they are able to see first-hand."

Teacher survey response

"I'm more organised, definitely understand and ask more questions than I ever have before, I also ask peers questions, and how I learn has changed, e.g. when the TAFE teacher comes in I ask questions and before I was never interested enough to ask anything."

Student



Source:
Australian Government
P-TECH website, <https://www.ptech.org.au>.





CHAPTER 4: BUILDING SCHOOL-INDUSTRY PARTNERSHIPS

CHAPTER FINDINGS

- 4.1 One of the important goals of schooling is to provide a foundation that prepares young people for the world of work. Industry has an essential role to play in supporting schools to achieve this. While there are notable exceptions at the school level, effective partnerships with industry have proven hard to establish and are not adequately embedded in education systems. Industry collaboration needs to be accorded more weight and pursued with greater vigour.
- 4.2 It is essential that schools and industry engage more systematically with employers in order to help senior secondary students gain an understanding of the world of work, undertake effective career planning, and access opportunities for employment and training. Programs that support school–industry partnerships at scale, such as hubs and brokerage arrangements, should be put in place to increase the quality and longevity of school–industry partnerships.

In 2019, the Alice Springs (Mparntwe) Education Declaration committed all Australian governments to building partnerships that support learners' progress through the education system.

"... partnerships create opportunities for young Australians to connect with their communities, business and industry and support the development and wellbeing of young people and their families. These connections and associations can facilitate development, training and employment opportunities, promote a sense of responsible citizenship and encourage lifelong learning. These partnerships should aim to enhance learner engagement, progress and achievement."

Alice Springs (Mparntwe) Education Declaration¹²⁶

Throughout consultations, stakeholders showed widespread support for school–industry partnerships at all schools, from primary school. They were regarded as particularly important at the senior secondary level. It was widely recognised that school–industry collaborations improve education and employment outcomes.

Partnerships can range from individual schools working with local employers, to regional economic development initiatives involving multiple schools and industry partners. Intermediaries that facilitate partnerships can play an important role in the creation of these education relationships, including industry associations, employer bodies, universities, registered training providers, not-for-profit organisations and government departments.¹²⁷

School–industry partnerships enable students to engage with the world of work and support the development of skills valued in current and future workplaces as part of school learning. They provide a variety of opportunities for students to meet and learn from industry professionals. They can engage students in thinking about how to solve real-world problems and learn to use state-of-the-art technology.




¹²⁶ Council of Australian Governments Education Council (2019), p. 14.

¹²⁷ Torii, K. (2018), *Connecting the Worlds of Learning and Work: Prioritising school–industry partnerships in Australia's education system*, Mitchell Report No. 02/2018, Mitchell Institute: Victoria University, July 2018, p. iv, <http://www.mitchellinstitute.org.au/wp-content/uploads/2018/07/Connecting-the-worlds-of-learning-and-work.pdf>.

The benefits of school–industry partnerships

Students, schools and business all benefit from school–industry partnerships (Figure 9).

Figure 9: Benefits of school–industry partnerships

 Students	 Schools	 Industry
Engagement and Participation	Leadership development	Match workforce skills needs
Awareness of emerging jobs	Up-to-date industry insights	Grow STEM workforce
Capabilities for future workforce	Industry-standard technologies	Employee engagement opportunities
Transitions from school to work	Teaching and learning innovations	Corporate social responsibility

Source: Torii, K. (2018), *Connecting the Worlds of Learning and Work: Prioritising school–industry partnerships in Australia’s education system*, Mitchell Report No. 02/2018, Mitchell Institute: Victoria University, July 2018, p. 12.

Through effective school–industry partnerships, students gain a far better understanding of how their senior secondary subjects translate beyond Year 12 into the workplace, and what skills are required for their desired pathway. They gain a better understanding of the local labour market and the full range of opportunities within different industries.

“Work experience is key – until students do hands-on work, they don’t realise what it will be like in the workplace.”

Brisbane expert consultation participant

Many students themselves are keen to use school to help prepare for work. The Foundation for Young Australians found that three out of four young people do not presently believe they possess the relevant vocational and practical work experience to gain full-time work.¹²⁸ A Year13 survey revealed that 60 per cent of young people wanted access to mentors or industry professionals as part of their career advice.¹²⁹

“There needs to be a link between schools, industry and community to show students how the learning they are undertaking connects with the world of work.”

Careers Advisers Association of NSW & ACT submission

All states and territories already engage with industry and provide opportunities for work-based learning, particularly where students are required to participate in mandatory work placements through VET courses. Most states and territories also offer work exploration short courses that can be completed as part of the SSCE.

It is clear to the Panel, however, that the quality of school–industry partnerships and work-based learning varies across states and territories. A number of recent reviews have emphasised the importance of strengthening and scaling up school–industry partnerships. Both the Review to Achieve Educational Excellence in Australian Schools and the Expert Review of Australia’s Vocational Education and Training System came to this conclusion.¹³⁰

128 Foundation for Young Australians (2018), p. 14.

129 Shipley and Stublely (2018), p. 37.

130 Australian Government (2018), p. xv; and Joyce (2019), p. 100.

CASE STUDY: TRY-A-TRADE PROGRAM IN WESTERN AUSTRALIA

Try-a-Trade is a fully funded Construction Training Fund (CTF) program specifically for Western Australian school students aimed at promoting construction careers. CTF engages nine registered training providers to market and deliver the program, focusing on Year 9 and 10 students who express an interest in an apprenticeship or traineeship in a construction trade.

CTF requires the registered training providers to provide students with a hands-on experience in a minimum of two of the following trades over three consecutive days to work on projects individually or as part of a group:

- Bricklaying
- Carpentry and joinery
- Painting and decorating
- Plumbing
- Electrical
- Para professional/business
- Air-con refrigeration
- Concreting
- Plastering
- Wall and floor tiling

Lecturers delivering Try-a-Trade are the same lecturers delivering pre-apprenticeship and apprenticeship training, which provides students with an opportunity to learn more about what they can expect during apprenticeship training.

A career presentation is delivered by a CTF industry training adviser on the final day of Try-a-Trade and students are encouraged to take the next step in their learning by visiting the CTF Construction Futures Centre for a uniquely interactive experience.

All students are informed of a \$250 pre-apprenticeship reward if they successfully complete a Certificate II in Building and Construction as part of their Year 11 and 12 schooling.

In 2019–2020:

- more than 1,700 students from 100 schools participated in the program
- one-third of the participants were located regionally, stretching from the Kimberley region down to the Great Southern region
- 65 per cent were Year 10 students and 35 per cent were Year 9 students.

CTF currently invests approximately \$550,000 in the Try-a-Trade program annually.

Source: Construction Training Fund website, <https://ctf.wa.gov.au>.



What should industry do?

Many employers have indicated they are disappointed with the work readiness of senior secondary graduates. If industry is encouraged and enabled to form mutually beneficial partnerships with schools, employers will be able to play an active role in shaping their future workforce.

“Employers want to be able to hire fully trained, qualified, skilled and motivated people who will cost them as little as possible to employ. The provision of skilled workers, however, is not the sole purpose or responsibility of schools: both employers and the community have a role.”

Catholic Schools NSW submission

Industry has three key roles to play in partnerships with schools:

- First, to provide opportunities for senior secondary students to gain paid casual or part-time work, which is often the best avenue to build their initial work-based capabilities and understand the attributes that are required in the world of work.
- Second, to provide specific information, insights and opportunities for young people, and those who advise them, about the world of work, the nature of different occupations and careers, current labour market conditions, anticipated future trends, and employer expectations of workers.
- Third, to support the currency and relevance of what young people are learning at school by providing opportunities to students to ground theoretical learning in a real-world context. There is considerable benefit in showing real-world examples of how mathematics is useful and relevant across a broad range of occupations and industries, or how English comprehension is crucial to understanding written instructions at the workplace.

Not all of this can be the responsibility of schools themselves. Governments and school authorities need to authorise and actively encourage industry partnerships and, equally important, industry needs to step up to the plate. To deliver on these three key roles, industry will collectively be required to increase their involvement in senior secondary schools. Collaboration is a two-way street.

CASE STUDY: MASTER BUILDERS TASMANIA EDUCATIONAL PROGRAM

Master Builders Tasmania (MBT) is a not-for-profit organisation set up to safeguard and promote its members and their businesses in the building and construction industry.

MBT delivers an annual face-to-face educational program promoting the building and construction industry to secondary students in 56 schools throughout Tasmania. The MBT program is now recognised as an annual event in school calendars.

The program aims to promote and connect the industry with school students, careers counsellors, parents and teachers. MBT aims to better inform students and parents about the pathways available and the variety of career options in the building and construction industry. This program allows industry to directly address any labour and skills shortages by attracting young people to a career in the building and construction industry.

The program has been delivered for 15 years, and MBT is seeing a positive increase in young people applying for apprenticeships, with the knowledge that this can lead to a successful career.

Source: Master Builders Tasmania website, <https://mbatas.org.au>.

CASE STUDY: THE AUSTRALIAN GOVERNMENT'S INDUSTRY TRAINING HUBS

The Australian Government is investing \$50.6 million to trial Industry Training Hubs in 10 regions across Australia.

Industry Training Hubs aim to improve opportunities for young people in regions with high youth unemployment, targeting Year 11 and 12 students.

Each Industry Training Hub will be managed by a full-time career facilitator, providing an on-the-ground presence while delivering training hub services.

Career facilitators will work with and encourage young people to build skills and choose occupations in demand in their region, creating better linkages between schools and local industry, repositioning vocational education and training as a first-choice option. Through this work, the Industry Training Hubs will help eliminate persistent high youth unemployment in regional areas.

The first Industry Training Hub (in Burnie, Tasmania) was launched on 16 March 2020. The Townsville Training Hub is expected to commence later in 2020, with the remaining eight Industry Training Hubs commencing from January 2021

Source: Commonwealth Department of Education, Skills and Employment, 'Industry Training Hubs', webpage (accessed 30 April 2020), <https://www.employment.gov.au/ITH>.

Systematising industry involvement

Some schools already have good relationships between schools and employers, but schools have competing priorities and for a range of reasons find it difficult to establish and sustain genuine, mutually beneficial relationships. The STEM Partnerships Forum report found that while there was a level of interest from school leaders, teachers and industry to establish school–industry partnerships, neither side knew exactly where to start.¹³¹

The Panel discovered some inspirational examples. However, we came to recognise that school–industry partnerships are often ‘hero-driven’ – that is, they rely on the talents and energies of an individual teacher or employer, and when that person leaves, the partnership falls apart. Many teachers lack the time to form partnerships with industry and integrate partnership activities with teaching the school curriculum.¹³² The same is often the case for those in industry attempting to balance their everyday business responsibilities with the partnership. Good will is often undermined by day-to-day pressures.

Structural barriers such as procurement policies add a layer of complexity to establishing partnerships, which potential partners may be ill-equipped to deal with. Financial barriers are also a deterrent. Industry and schools also need to provide a safe working environment for students. Partnership activities can impose additional costs on all parties: students may require transport to work placements, employers need to find additional resources to supervise work placements, and schools may need to backfill positions for teachers who are offline.¹³³

“Schools often do not understand the needs and requirements of industry, and similarly industry is not always aware of how they can fit into the education system. Input from schools is necessary to ensure that work experiences are meaningful and provide learning for the student. Similarly, industry must have input into the vocational curriculum, to ensure students are gaining appropriate skills.”

Mitchell Institute submission

Cultural barriers also exist. Reciprocated trust needs to be built. Characteristics of effective school–industry partnerships include:

- sharing commitment and a balance of power among partners, and equitable allocation of resources
- partners identifying and understanding the types of boundaries and human capacities that exist between schools and industries wishing to provide authentic learning opportunities for participating school students
- prioritising teacher professional development in industry collaboration or recruiting appropriately qualified and experienced teachers
- planning for sustainability by identifying and mitigating potential threats relating to economic conditions, access to quality teachers, partnership models and students.¹³⁴

Businesses are more likely to see the mutual benefits of providing work placements and engaging with students if they are given a greater role in the governance of schools, particularly on decisions regarding the selection and design of vocational studies. The VET courses that schools select will significantly influence the prospects of forming successful partnerships with industry.¹³⁵

131 Council of Australian Governments Education Council (2018b), p. 60.

132 Torii (2018), p. v.

133 Ibid., p. 18.

134 Watters, J., Pillay, H. and Flynn, M. (2016), *Industry–School Partnerships: A strategy to enhance education and training opportunities*, Queensland University of Technology, April 2016, p. 3, <https://eprints.qut.edu.au/98390>.

135 Polese, J., Klatt, M., Blake, D. and Starr, K. (2017), ‘Understanding the nature of school partnerships with business in delivery of vocational programmes in schools in Australia’, *Journal of Education and Work*, vol. 30, no. 3, p. 295.

Experience suggests that models of industry engagement work best when there are brokers or intermediaries to connect schools with industry. They can be particularly valuable in communities that lack networks, connections or infrastructure – including rural, remote and low socioeconomic status urban communities.¹³⁶

For that reason, the Expert Review of Australia's Vocational Education and Training System recommended the establishment of Skills Organisations. They would comprise industry professionals who would market their industry and its qualification pathways to prospective trainees and school students and manage apprenticeship and traineeship support.¹³⁷ In response, the Australian Government has invested in three Skills Organisation pilots in the human services and care, digital technologies, and mining industries. These pilots will trial new ways of shaping the national training system to be more responsive to the skills needs of industry. The expert review recommended that the pilots focus particularly on strengthening the links between schools and industry.

The lessons learned from these demonstration projects will help inform broader improvements to the national training system. The pilots will help to identify what works, what does not, and what approaches need to be modified.

Recommendation 11

Education authorities and industry bodies should formalise their working relationship in order to facilitate the engagement of industry in senior secondary schooling in a systematic and comprehensive manner.

Recommendation 12

Education authorities need to facilitate and encourage partnerships between schools and employers at the local level in order to help students to make choices and gain experience in the diverse career pathways that different industries can offer.

Implementation guidance

Many tools and guides to facilitate school–industry partnerships already exist. Many do not get used. Further work needs to be done to draw attention to the resources available and prioritise these partnerships both within industry and in the school system.

Materials are not enough. To support an increase in industry engagement in schools, there is need for a more explicit authorising environment from education authorities. Schools need to be actively encouraged to establish partnerships with industry at the local level and to facilitate industry involvement at the state or territory level. Many secondary schools have school boards and seek to have local industry involvement in school decision-making. This provides an excellent opportunity for local industry to engage more strategically with schools. The key is to establish and sustain school–industry collaboration in a systematic manner.

Together, the COAG Education Council and Skills Council are well placed to work closely with industry associations to develop an effective approach to school–industry partnerships that sets out clear roles and responsibilities supported by practical resources and tools. Education authorities need to be explicit in their expectations of industry and make the partnerships a high priority for schools, particularly in the senior secondary school years. If such activities were prioritised, it would signal a significant scaling up of industry engagement in schooling.

¹³⁶ Business–School Connections Roundtable (2012), *Realising Potential: Businesses helping schools to develop Australia's future*, p. 33, https://docs.education.gov.au/system/files/doc/other/realising_potential.pdf.

¹³⁷ Joyce (2019), p. 90.

CASE STUDY: GATEWAY TO INDUSTRY SCHOOLS PROGRAM IN QUEENSLAND

In Queensland, the Gateway to Industry Schools program is a key industry engagement strategy that provides opportunities for industry and the education sector to work together to deliver outcomes for students, local communities and businesses.

Students participating in the program are exposed to a range of learning experiences to assist them in their career choices and pathways to employment, gaining valuable skills and knowledge before they finish their schooling. Each project is led by industry organisations, which develop and implement tailored school engagement activities in line with key industry skills and workforce priorities. Industry organisations choose how the industry-specific projects operate and the type and level of engagement with participating schools.

Through the program, students learn about career opportunities available through a blend of school, vocational and academic curriculums where they can be offered work experience, structured work placements, school-based traineeships and cadetship opportunities. There are currently six industry sectors delivering Gateway to Industry Schools projects:

- Aerospace
- Agribusiness
- Building and construction
- Food, wine and tourism
- Manufacturing and engineering
- Minerals and energy

One of the most well-established and successful Gateway to Industry Schools projects is the Queensland Minerals and Energy Academy (QMEA). QMEA is

a partnership between the Queensland Government and the Queensland Resources Council (QRC), which provides a talent pipeline of employees into careers in the resources sector and other supporting science, technology, engineering and mathematics (STEM) industries.

The academy has a strong focus on providing opportunities and pathways for female and Indigenous students. Teachers are also supported to ensure they are confident to bring STEM-based topics to students in an engaging way. QMEA activities are structured across three phases:

1. Stimulating interest and making connections (Years 7–9)
2. Informing decisions and influencing pathways (Year 10)
3. Challenging and preparing (Years 11–12).

“The ability to work together in partnership with QMEA in a sequenced approach around industry contexts is overwhelmingly positive for our school.”

*Josette Moffatt, Principal,
Miles State High School*

In 2020, in response to the COVID-19 crisis, QMEA has been active in responding to schools' needs through the development of e-learning modules. These will be further supplemented by a webinar series, which will feature industry representatives. The modules have drawn upon the QRC-led national minerals and education website oresomeresources.com, which houses hundreds of items to support teacher and students in the learning of the sector.

Source: Queensland Department of Employment, Small Business and Training, 'Gateway to Industry Schools program', webpage (accessed 30 April 2020), <https://desbt.qld.gov.au/training/employers/gateway-schools>.







CHAPTER 5: BUILDING MORE FLEXIBLE PATHWAYS FROM SCHOOL

CHAPTER FINDINGS

- 5.1 A 'one size fits all' traditional learning environment cannot bring out the best in all young people. Students who complete Year 12 and attain a Senior Secondary Certificate of Education have a stronger foundation to achieve future success in their working lives and they should be encouraged to stay the course. However, the costs to a young person of remaining in a learning environment that is unsuited to them are also apparent. School systems should have multiple education settings and flexible learning programs so that all young people are given the opportunity to thrive.
- 5.2 School does not suit everyone. Legislation exists in states and territories enabling some young people to leave school from the end of Year 10 to transition to secure employment or undertake further study. It is important that such a choice is not seen as a failure. Rather, through Years 9 and 10, young people need to be supported to develop their work skills, have a plan for accessing training, and be provided with a clear pathway back to further education or training in the future. They must be encouraged to achieve a qualification equivalent to the senior secondary certificate, through an apprenticeship or traineeship, certificated VET courses, or combinations of VET and workplace learning.
- 5.3 School students need support to access the great potential of short online courses. Micro-credentials can help them to explore their passions. The Senior Secondary Certificate of Education, ATAR or senior secondary end-of-year assessments need to have sufficient flexibility to credit microcredentials and other learning options. This will ensure that all forms of credential are measurable, verifiable, certifiable and transferable.
- 5.4 Education should be recognised as a lifelong, but not linear, journey. The skills students need and the careers they follow are likely to change over time. If young people are to become productive workers and active citizens, they need to leave school with the capability and enthusiasm to keep on learning throughout their lives.

To be competitive in the job market of the future, more students will need to obtain post-school qualifications through some form of education or training. It is widely recognised that young people who do not complete Year 12 or gain equivalent qualifications experience greater difficulty in making the transition from school to post-school education and training and employment.¹³⁸ These young people are much less likely to gain full access to economic, political and social opportunities, and this can affect their ability to achieve financial stability and independence.¹³⁹

"Missing out on the benefits of education ... affects occupational prospects, wages and job satisfaction, but also ... influences decisions affecting health, marriage, parenting, civic engagement and preparing for retirement. These costs accumulate as those who miss out progress through adulthood till the end of their working lives."

Mitchell Institute¹⁴⁰

138 Lamb, S., Jackson, J., Walstab, A. and Huo, S. (2015) *Educational Opportunity in Australia 2015: Who succeeds and who misses out*, Centre for International Research on Education Systems, and Mitchell Institute: Victoria University, October 2015, p. 41, <http://www.mitchellinstitute.org.au/wp-content/uploads/2015/11/Educational-opportunity-in-Australia-2015-Who-succeeds-and-who-misses-out-19Nov15.pdf>.

139 Australian Institute of Health and Welfare (2017), 'Disability in Australia: Changes over time in inclusion and participation in education', fact sheet, cat. no. DIS 69, p. 4, <https://www.aihw.gov.au/getmedia/34f09557-0acf-4adf-837d-eada7b74d466/Education-20905.pdf.aspx>.

140 Lamb, S. and Huo, S. (2017), *Counting the Costs of Lost Opportunity in Australian Education*, Mitchell Institute Report No. 02/2017, Centre for International Research on Education Systems, and Mitchell Institute: Victoria University, June 2017, p. 8, <http://www.mitchellinstitute.org.au/wp-content/uploads/2017/06/Counting-the-costs-of-lost-opportunity-in-Australian-education.pdf>.

Individuals need to be encouraged to move between higher and vocational education, dipping in and out of study throughout their lives, including through training and professional development. They need to upgrade their skills not only through undertaking certificated courses but through making use of the increasing array of micro-credentials. Students already have online access to a vast amount of educational and training content from around the world. They need to be encouraged to use such courses to follow their passions and develop their employability skills.

The rise in demand for micro-credentialing signals the need to develop resources that can be used throughout life to gain qualifications and acquire skills as young people progress throughout their lifelong learning journey. The journey needs to start in senior secondary school. But for some students the journey can end prematurely.

Early school leavers

Schooling is where young people gain the foundation for their future. We want as many young people as possible to stay in school until they have completed Year 12. If they leave earlier, we need to ensure that they have continued access to training and structured work experience. Otherwise the consequences can be dire. In Australia, those with upper secondary education are a third less likely to be unemployed than those with below secondary education.¹⁴¹

However, a traditional senior secondary school environment is not necessarily the best 'fit' for all students to build a strong foundation for their future. Attending an applied learning environment like a VET provider, undertaking an apprenticeship or traineeship, or having access to structured workplace training may be alternative options. The outcome of Australian secondary education is for students to achieve a Year 12 'or equivalent' qualification. Greater effort needs to be directed to the opportunities that may exist for 'equivalent' pathways for students who determine that they wish to leave school.

If students intend to leave school early, they need help to plan their departure. Approved reasons for students to leave school vary across states and territories. These generally include attending tertiary education providers; undertaking Australian school-based apprenticeships or employer-based apprenticeships or traineeships; pursuing VET qualifications through RTOs; or engaging in full-time employment. These options – or a blend of them – need to be explored.

To meet the needs of disengaged young Australians, it is critical that multiple pathways are available to them, as well as a planned 'way back' into further education at a time of their choosing. We need to ensure they develop the solid foundation they need to achieve future success in their working lives. No person, at 20 years of age, should find themselves in a position where they face a lifetime of insecure unskilled labour.

The Alice Springs (Mparntwe) Education Declaration emphasises the importance of lifelong learning. Skills, knowledge and capabilities will need to be renewed and updated throughout a young person's life.¹⁴² All young people should be sufficiently educated and trained to continue to find work, change jobs, acquire new skills, develop careers and build businesses.

“Much discussion on senior secondary pathways assumes a traditional approach, whereby a student obtained his or her education by attending a traditional secondary school, and moves from there to continue onto work or further education. But this model does not serve some well, with some preferring instead to pursue study in non-traditional settings.”

Victorian TAFE Association submission

¹⁴¹ Organisation for Economic Co-operation and Development (2019a), *Education at a Glance 2019: OECD indicators*, p. 66, https://www.oecd-ilibrary.org/education/education-at-a-glance-2019_f8d7880d-en.

¹⁴² Council of Australian Governments Education Council (2019).

According to recent Longitudinal Surveys of Australian Youth data, less than half of participants who left school before graduating cited labour market reasons. They either:

- had a job, apprenticeship or traineeship to go to (20%)
- wanted to get a job, apprenticeship or traineeship (16%)
- intended to do study or training that wasn't available at school (7%).

But for many others, the reasons were personal. Almost a quarter wanted to leave school early because they didn't like school (13%) or weren't doing very well at school (11%). Other reasons cited included their mental health, the pressures of having to look after a family member or friend, or because they faced bullying.¹⁴³

Today there are fewer opportunities for young people to enter into full-time employment directly from Year 10, although a minority of students who initially accept a low-skill job can find it leading to full-time employment and permanent positions over time.¹⁴⁴ Evidence suggests that after five years, about one-third of young people who began in a low-skill job have moved to a high-skill job.¹⁴⁵ Some students, including those who are academically capable and are looking for earlier entry into the labour market, may also elect to leave school from age 16 to go into full-time training. While this is a viable option under state and territory legislation, data indicates that there has been a significant decline in the number of 15- to 17-year-old students who access this pathway.¹⁴⁶ It is no longer a preferred option.

When a student decides to leave school prior to the completion of Year 12, we need to ensure that there are pathways available to meet their varying needs, abilities and preferences. Crucially, we need to better provide the information to them that they require to make an informed decision,¹⁴⁷ and to understand the opportunities that exist for them to continue to access training and education.

No students should leave school without meeting the minimum literacy, numeracy and digital literacy standards, unless they are on a planned pathway that will allow them to meet these standards in an alternative setting. This is especially important for early school leavers, as across OECD countries, individuals who do not finish senior secondary schooling are almost twice as likely to have low numeracy skills as those who do complete.¹⁴⁸ An emphasis on the importance of reading, mathematics and scientific literacy is central to ensuring that post-secondary options are open to all students.¹⁴⁹

While some young people face personal challenges that prevent them from staying in senior secondary education, the Panel strongly believes that all young people should continue to have pathways that lead to a successful future. If a student decides to leave at Year 10 or 11, it should be an informed choice, on the basis of a planned pathway, with career support provided. Importantly, students who leave school early need to have identified a re-entry point to further study and training in the future.

143 National Centre for Vocational Education Research (2019c), 'Generation Z: Leaving school', infographic, Longitudinal Surveys of Australian Youth, 2 December 2019, <https://www.isay.edu.au/publications/search-for-isay-publications/generation-z-leaving-school>.

144 National Centre for Vocational Education Research (2020b), *Review of Senior Secondary Pathways: Supplementary report*, unpublished, p. 8.

145 Karmel, T., Lu, T. and Oliver, D. (2013), *Starting Out in Low-skill Jobs*, Longitudinal Surveys of Australian Youth Research Report No. 64, National Centre for Vocational Education Research, p. 16, https://www.ncver.edu.au/_data/assets/file/0020/5870/starting-out-2649.pdf.

146 National Centre for Vocational Education Research (2020b), p. 4.

147 Dockery, A. (2010), *Education and Happiness in the School-to-Work Transition*, National Centre for Vocational Education Research, https://www.ncver.edu.au/_data/assets/file/0014/6224/Isay_2239.pdf. Cited in National Centre for Vocational Education Research (2020b), p. 11.

148 Organisation for Economic Co-operation and Development (2019a), p. 40.

149 National Centre for Student Equity in Higher Education submission.

Youth guarantee

The lifetime benefits of completing Year 12 and attaining an SSCE or equivalent qualification are clear. Jobs are more secure, incomes are higher and more career opportunities are available. It is important that students are supported to follow a path that leads to the completion of Year 12, or alternatively, that they are able to gain an equivalent qualification, perhaps while they are working.

Following the announcement of the Compact with Young Australians in April 2009, which made participation in education, training or employment compulsory until the age of 17, the apparent retention rate to Year 12 increased from 75 per cent in 2008 to 85 per cent in 2018.¹⁵⁰ But it is important not to forget those who never become senior secondary students.

Choosing to leave school early should not close off all options for gaining the skills development young people need. Young people need to receive help to 're-enter' education or training rather than feeling that they have lost their opportunity if they do not achieve their Year 12 certificate in a traditional school setting, in a 'normal' amount of time.

Early school leavers need to be able to access a variety of alternative programs and post-school pathways, some of which allow attainment of an equivalent certification with no break in education, while some can be entered at a later stage. These include VET qualifications, apprenticeships or traineeships, and other programs run by external providers.

For some students, following periods of disengagement, an alternative to finishing senior secondary schooling in a non-school setting is to complete Years 11 and 12 at TAFE. Students who follow this TAFE pathway can achieve a vocational certificate, SSCE and an ATAR if they so choose. However, students will often have to pay some upfront costs when following this pathway, which they would not be required to do if they remained in a traditional school setting.

This is inequitable and can act as a disincentive for young people to take up this option and re-enter education after leaving school. Providing free education or training to young people aged 16 to 20 who have left school in order to allow them to achieve an SSCE or equivalent¹⁵¹ would encourage more young people to reach this level of educational attainment.

This approach would assist young people both socially¹⁵² and economically.¹⁵³ It would have flow-on benefits for Australia as a whole, given that the estimated cost of early school leaving in Australia is \$12.6 billion over a lifetime for a single cohort.¹⁵⁴

150 Australian Institute of Health and Welfare (2019b), 'Secondary education: School retention and completion', snapshot, 11 September 2019, <https://www.aihw.gov.au/reports/australias-welfare/secondary-education-school-retention-completion>.

151 The SSCE sits outside the level structure in the Australian Qualifications Framework. Though the concept of equivalence is problematic, for the purposes of this report, we have followed the equivalent qualifications as used for the *Measurement Framework for Schooling in Australia 2019* (Australian Curriculum, Assessment and Reporting Authority (2019a), <https://www.acara.edu.au/reporting/measurement-framework-for-schooling-in-australia>), and the Australia Bureau of Statistics decision table, which places Certificate II-level qualifications below a Year 10 equivalency, and Certificate III-level qualifications above the SSCE. See Australian Bureau of Statistics (2014a), *Education Variables, June 2014*, cat. no. 1246.0, <https://www.abs.gov.au/ausstats/abs@.nsf/Lookup/1246.0main+features24june%202014>.

152 Commonwealth Department of Education (2019b), 'Benefits of educational attainment: Introduction', fact sheet, <https://docs.education.gov.au/documents/benefits-educational-attainment-introduction>.

153 Ibid.

154 Lamb and Huo (2017), p. 3.

Recommendation 13

Governments should provide access to free education or training to 16- to 20-year-olds who have left school without obtaining a Senior Secondary Certificate of Education in order to allow them to attain a Senior Secondary Certificate of Education or equivalent, and to attain minimum standards of literacy, numeracy and digital literacy.

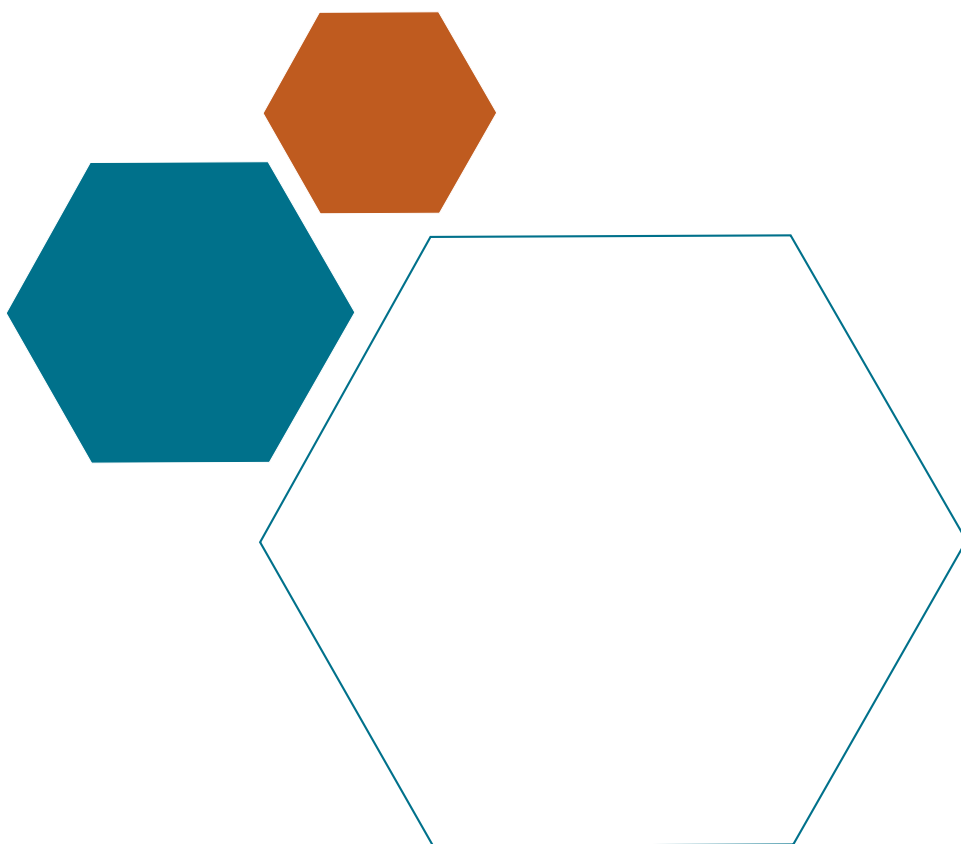
Implementation guidance

Many states and territories have existing initiatives in place that support young people to achieve at least a Year 12 certificate or equivalent.

What we now need to do is send a strong message to young people that they are entitled to a minimum level of education. We need to ensure that financial considerations should not be a barrier to continuing their learning.

School leavers for whom it is more beneficial to pursue a vocational qualification should be provided with an entitlement for any government-subsidised VET qualification, subject to admission requirements and course availability. This would offer an additional pathway and encourage a higher level of educational attainment.

States and territories may wish to go further. One particular benefit of extending the upper age range would be to support older people who may have left school for a variety of reasons but are looking to re-enter education later in life. A number of schools are already undertaking such initiatives in order to provide assistance, for example, to young Indigenous mothers or teenage migrants who are still learning English. Such flexibility often helps to alleviate the long-term consequences of disadvantage.



CASE STUDY: NEW ZEALAND YOUTH GUARANTEE

The New Zealand Youth Guarantee is a suite of initiatives that focus on improving the transitions of young people who are at risk of disengaging from education and leaving school without any qualifications. Key initiatives include:

1. **The Youth Guarantee Fund** – provides fee-free tertiary education for students aged 16 to 19 who have low or no prior qualification achievement. Courses often have a vocational focus and students study towards the National Certificate of Educational Achievement (NCEA) or equivalent.
2. **Secondary to tertiary programs** (i.e. trades academies) – enable secondary students to combine school and tertiary study to gain skills and knowledge across a range of trades and technology-related areas.
3. **Vocational pathways** – students can see how their learning is valued in the real world by aligning standards that can be achieved through the NCEA in six different broad industries. This helps employers to easily see how a potential employee's skills and knowledge match with their industry. Students can achieve a Vocational Pathways Award, together with their NCEA. Students can then use the pathways to choose university entrance subjects.



The key focus is to improve the transition from school to work by providing a wider range of learning opportunities, making better use of the education network, and creating clear pathways from school to work and further study.

Source: New Zealand Ministry of Education Youth Guarantee website, <http://youthguarantee.education.govt.nz>.

Micro-credentialing

Employer groups and industry bodies have emphasised the growing importance of credentials that quickly deliver specific capabilities to workers who wish to reskill or upskill in response to rapidly changing workforce requirements. Many can be delivered by, or on behalf of, employers – online or face to face – over a short period. Other courses are being developed by universities or training organisations.

Often these courses can award a micro-credential, which is a certification of assessed skills and knowledge that learners have demonstrated or acquired through a short course of study or training. Such courses focus on smaller elements of learning and may stand alone or be additional, or complementary, to other certificated training. They may also be a component part of a formal qualification. They may be linked to professional development activities.

“Micro-credentials provide students with a new set of options to develop both essential and just-in-time skills and knowledge.”

Queensland Catholic Education Commission submission

There are many advantages to such micro-credentials, including efficiency, cost-effectiveness and flexibility. The need for micro-credentials is increasingly well established in business, where they are used to address particular skill requirements in new or emerging occupations, provide evidence of workplace capabilities, or warrant the currency of existing skills.¹⁵⁵

The Business Council of Australia believes that micro-credentials provide the best opportunity for skill and knowledge development for already-qualified workers who have to adapt to rapid change.¹⁵⁶ The potential of micro-credentials has come into particular focus as a result of the impacts of the COVID-19 pandemic, where there has been huge demand for the development of short, online courses to support rapid reskilling of the workforce to meet the needs of the economy for more care workers.

The COVID-19 pandemic has shown the value of being able to pivot an economy in unforeseen ways. Even before the economic shock of the pandemic, the market for micro-credentials was growing in both higher education and the VET sector. They are already being used for a variety of purposes, including as ‘stackable’ credit towards aggregated awards.¹⁵⁷ They are also being employed to recognise prior learning, evidence graduate attributes, and warrant professional and continuing education for registration and licensing.¹⁵⁸

“The use of micro-credentials, non-accredited training, skill sets and individual units of competency could all be used to provide specialised training and education outcomes which could support specialised requirements.”

Naval Shipbuilding College submission

Thirty-six of Australia’s 42 universities are currently either offering or developing some form of microcredential.¹⁵⁹ Total program enrolments in nationally accredited skill sets have risen by 65 per cent between 2015 and 2018. They now make up almost half of non-AQF VET program enrolments.¹⁶⁰

155 Milligan, S. and Kennedy, G. (2017), ‘To what degree? Alternative micro-credentialing in a digital age’, in James, R., French, S. and Kelly, P. (eds), *Visions for Australian Tertiary Education*, Melbourne Centre for the Study of Higher Education: University of Melbourne, p. 47, https://melbourne-cshe.unimelb.edu.au/_data/assets/pdf_file/0006/2263137/MCSHE-Visions-for-Aust-Ter-Ed-web2.pdf.

156 Business Council of Australia (2018), *Future-proof: Australia’s future post-secondary education and skills system*, August 2018, p. 42, https://d3n8a8pro7vhmx.cloudfront.net/bca/pages/4386/attachments/original/1542258016/LoRes-2018_BCA_EDUC_Future_Proof_WIP1A_%281%29.pdf?1542258016.

157 Milligan and Kennedy (2017), p. 45.

158 Ibid., p. 47.

159 Research commissioned by DeakinCo and shared with the Review of the Australian Qualifications Framework. Cited in Expert Panel for the Review of the Australian Qualifications Framework (2019), p. 56.

160 National Centre for Vocational Education Research, VOCSTATS, <https://www.ncver.edu.au/research-and-statistics/vocstats>, extracted 19 September 2019. Data originally collected by registered training organisations and state training authorities around Australia. The National Centre for Vocational Education Research is not responsible for the correct extraction, analysis or interpretation of the data presented.

Despite the demonstrated value and market for micro-credentials, there remain a number of challenges. They presently sit outside the Australian Qualifications Framework (AQF). Although it is envisioned that micro-credentials could complement rather than seek to replicate the existing qualifications framework,¹⁶¹ these arrangements could be potentially confusing if they occur outside an overarching agreed framework.¹⁶² The widespread recognition and transferability of micro-credentials requires a national approach, and the development of a verifiable quality assurance process.

Work is already underway to develop guidelines and principles for microcredentialing and its place within the current qualification structures in Australia, in response to recommendations within the final report of the AQF Review, released in October 2019.¹⁶³

Micro-credentials in senior secondary school

The role of micro-credentialing in the schooling sector is less clear.

During our consultations, the Panel heard a great amount of interest expressed for introducing senior secondary students to the capabilities of micro-credentials while still at school. Industry and employer groups were enthusiastic. Students were excited at the prospect. And various departments of education indicated that they saw micro-credentials and other flexible modules as a valuable new means of skill acquisition. At a time when schools have been forced by COVID-19 to move quickly to remote learning, the ability for students to access online micro-credentialed courses appears particularly attractive. It would allow teachers, in the post-virus 'new normal', to develop more blended learning options.

The level of interest was not unexpected. Curriculum reviews in a number of different states have already recommended further exploration of micro-credentialing in the senior secondary space:

- The **NSW Curriculum Review Interim Report** proposes a common structure of progress and attainment in advanced courses, including "the possibility of recognising the achievement of individual modules in the form of 'micro-credentials' based on teachers' assessments of student achievement."¹⁶⁴
- The **South Australian Certificate of Education (SACE) Stage 2 Review** recommended exploring the use of micro-credentials to accredit clusters of skills from different certificates to form 'pathways' for students. They recommended exploring micro-credentialing for the small units of learning undertaken by students, particularly by those students achieving lower grades, or at risk of not completing their SACE, and those involved in flexible learning options.¹⁶⁵
- The **Tasmanian Years 9 to 12 Curriculum Framework** supports "[p]rogressive assessment practices [that] allow students to accrue micro-credentials or mini qualifications that demonstrate skills, knowledge, and/or experience in a given subject area or capability. Different combinations can be collected to develop an individualised portfolio of achievement."¹⁶⁶
- The **Queensland Government's Micro-credentialing Pilots Program** will "test how these modern and flexible pathways can be used to address current, emerging and future skills needs... The pilots will aim to support a range of approaches to micro-credentials targeting priority industry skills, developed by public providers of nationally recognised training (TAFE Queensland and CQUniversity), by industry and through regional partnerships".¹⁶⁷

The Panel is persuaded that the use of micro-credentialing within senior secondary schooling may offer a host of benefits akin to those being seen in higher education, VET and the workforce. Yet the implementation of micro-credentialing within schools is neither simple nor straightforward.

161 Business Council of Australia (2018), p. 42.

162 Ithaca Group (2018), *Credit Pathways in VET and Higher Education: Research project: Final report*, October 2018, p. 43, <https://docs.education.gov.au/system/files/doc/other/aqfcreditpathways.pdf>.

163 Expert Panel for the Review of the Australian Qualifications Framework (2019), p. 62.

164 NSW Education Standards Authority (2019), p. xiv.

165 South Australian Government (2018), *SACE Stage 2 Review*, September 2018, p. 6, <https://www.education.sa.gov.au/sites/default/files/sace-stage-2-review.pdf>.

166 Tasmanian Government (2019), 'Years 9 to 12 Curriculum Framework', fact sheet, version 3, April 2019, <https://publicdocumentcentre.education.tas.gov.au/Documents/Education%209-12%20Frameworks%20A3%20WEB%20POSTER.pdf>.

167 Queensland Department of Employment, Small Business and Training (2019), 'Micro-credentialing Pilots Program', fact sheet, https://desbt.qld.gov.au/_data/assets/pdf_file/0012/11019/micro-credentialing-pilots-program-fact-sheet.pdf.

“By taking away the existing structure of school ... giving students a model that is flexible enough to respond to their situation, their interests and goals, we will help create the environment that encourages creativity, problem solving and entrepreneurship.”

Christina Broughton, teacher, submission

Challenges for providers relate to time, cost, privacy, questions of micro-credential ownership, verification and integrity issues, student concerns about credibility, faculty and student acceptance, and the fact that micro-credentials are not yet recognised by regulating authorities.¹⁶⁸ There is also the risk of micro-credentials being produced and undertaken solely to ‘tick off’ certain skill sets, without due rigour or true learning benefits to the young people undertaking them.

A way forward

Such multifaceted challenges should not become an excuse for inaction. Micro-credentialing within a pathway can offer numerous benefits, including providing courses with the flexibility to address specific work or learning needs relating to identified careers.

As a first step, schools should encourage students to undertake relevant short courses and microcredentials related to their interests, passions and outside employment. Teachers should guide the process. Courses undertaken by students do not need to be formally counted toward their SSCE (although some may be), but should be included within the student’s Learner Profile. Indeed, microcredentials may provide one important means by which to learn and demonstrate the attributes identified in their Learner Profile.

“The use of micro-credentialing (or badging), linked to the achievement and demonstration of key knowledge, skills, dispositions and experience is one such approach to record skills and achievements not reflected in the SSCE.”

Association of Independent Schools of Western Australia submission

Business groups and industry leaders should be encouraged to develop short courses that allow students to test or demonstrate their work-ready capabilities and skills, and articulate these to potential employers. Higher education and VET providers should be motivated to develop micro-credentials that allow students to be better prepared and/or receive recognition for prior learning at their institution.

Students will require advice and guidance on the value and veracity of online courses and external providers, particularly those accessed from overseas. In assessing the value of courses, consideration should be given to the ways in which they might contribute to student learning attributes; whether they will expand students’ interests and enthusiasm for specific topics or learning in general; and how they will be recognised for educational and training purposes.

The main challenge with micro-credentials, if they were to be included in either an SSCE or a Learner Profile, is the need for a verifiable internal or external quality assurance process. Mitigating the risks associated with micro-credentials by requiring them to meet AQF standards may not be a practical or even desirable solution. This is an area that will continue to develop and evolve over time.

¹⁶⁸ Milligan and Kennedy (2017), p. 44.

Recommendation 14

Education Council should develop a national approach to the use of micro credentialing in schools that encourages senior secondary students to access high-quality, relevant courses developed by tertiary education and training providers, industry groups or employers.

Implementation guidance

In the longer term, given the strong interest across jurisdictions in understanding how micro-credentials could be used in senior secondary education and their potential, it is recommended that further work be commissioned by Education Council. Advice should be sought on the potential of micro-credentials to:

- customise learning choices
- record skills and achievements not reflected in the SSCE
- demonstrate learning achievement
- demonstrate aptitude for specialisations
- count as credits towards the SSCE
- count as recognition of prior learning for entry into tertiary education
- count toward SSCE completion (particularly for at-risk students)
- be incorporated as a means of evidencing students' capabilities, as set out in their Learner Profile.

CASE STUDY: MICRO-CREDENTIALS IN NEW ZEALAND

In 2017–18, the New Zealand Qualifications Authority (NZQA) piloted the use of micro-credentials with three organisations for students at the secondary and tertiary education level, including:

1. A self-driving car engineering program by American online school Udacity, which covers deep learning, computer vision, sensor fusion and automotive hardware skills and takes nine months of part-time study.
2. NZ secondary students creating a product and service and bringing it to market under the Young Enterprise Scheme (YES), which contributes to credits against students' National Certificate of Educational Achievement (NCEA).
3. Edubits, a micro-credential service at Otago Polytechnic. More than 90 'Edubits' have been tailor-made for local employers, including the Southern District Health Board, Department of Corrections, and New Zealand Defence Force.

Since the conclusion of the pilots and a further round of consultations in mid-2018, NZQA has been developing a full micro-credential system, so that employers and learners can access the skills they need throughout their lifetime.

Source: New Zealand Qualifications Authority, 'Micro-credential pilots', webpage (accessed 21 May 2020), <https://www.nzqa.govt.nz/about-us/future-state/quality-assurance/micro-credential-pilots>.



Education Passport

Given the growing need to adapt and upskill through a range of different careers and jobs, lifelong learning is more important than ever.

With this goal in mind, students should be encouraged to build on the Learner Profile that they receive on completing Year 12, to develop an Education Passport. The passport would progressively record both the formal and informal learning opportunities they engage with throughout their lives. Employers, equally, should be encouraged to access the passport when they are selecting applicants for positions.

“Today, more than 80 per cent of the time we spend in education and training occurs before the age of 21. But the idea that a post-secondary qualification will set us up for life is no longer a reality.”

AlphaBeta¹⁶⁹

An Education Passport can act as a valuable framework through which young people can continue to identify capabilities, and record the skills, certificated courses, professional development, workplace learning or micro-credentials they accumulate across their lifelong learning journey. This would provide continuity from secondary schooling to post-compulsory education, training and employment. Some young people we spoke to at the Wagga Wagga youth forum commented that the Education Passport could be like a student ‘LinkedIn’.

A student’s Education Passport would provide them with experiences that can be used to build their resume and be drawn upon when discussing future work and study choices. It would help to frame the capabilities that they can evidence. It would demonstrate to employers and tertiary education institutions that they have real-world experiences that have shaped their personal and interpersonal development. A survey of employers undertaken on behalf of the Association of American Colleges and Universities found that more than four in five employers said an electronic portfolio would be useful to them in ensuring that job applicants have the knowledge and skills they need to succeed in their company or organisation.¹⁷⁰

“[It] would be particularly beneficial if the passport included broader societal and workplace learning, informal and further education, as it would reinforce learning as a lifelong and ‘life-wide’ process.”

Western Sydney University submission

The concept of an Education Passport is starting to be discussed more broadly. A number of governments and stakeholders have begun work to investigate how students can control and manage their qualifications as they progress throughout their lifelong learning journeys, starting in senior secondary school.¹⁷¹ A 2018 report released by the Monash Commission recommended a lifetime learning account, linked to a Unique Student Identifier (USI) that covers education and training, acquired skills and qualifications, micro-credits and micro-credentials.¹⁷²

¹⁶⁹ AlphaBeta (2018), p. 8.

¹⁷⁰ Hart Research Associates (2013), *It Takes More Than a Major: Employer priorities for college learning and student success*, Association of American Colleges and Universities, 10 April 2013, p. 3, https://www.aacu.org/sites/default/files/files/LEAP/2013_EmployerSurvey.pdf.

¹⁷¹ Universities Admissions Centre submission.

¹⁷² Monash Commission (2018), *Three Recommendations for Renewal of Post-Compulsory Education in Australia: The report of the 2018 Monash Commission*, Monash University, p. 16, https://www.monash.edu/___data/assets/pdf_file/0010/1762507/19P-0131-The-Monash-Commission-24p-final.pdf.

CASE STUDY: THE AUSTRALIAN GOVERNMENT'S TERTIARY LEARNING REPOSITORY

Recognised learning is relied upon for job growth, upskilling, reskilling and providing Australians with the ability to gain and maintain meaningful employment. As technology advances and digital innovations revolutionise everything from daily routine tasks to complex multinational business, workforce education expectations quickly evolve. Employees will need to engage in lifelong learning to earn the required skills to match the evolving workforce. The tertiary education system has a key role in enabling this lifelong learning journey and ensuring the workforce of the future continues to evolve with the dynamic shifts in the labour market.

To help achieve this, the Australian Government, in consultation and collaboration with industry, is developing a Tertiary Learning Repository (TLR) that aims to compile a student's complete tertiary learning journey and achievements in a secure and trustworthy online environment.

The TLR will be a digital repository for Australian Qualifications Framework (AQF) and non AQF credentials. The online platform will provide students and graduates with access and details of their higher education learning outcomes, including transcripts, testamurs and additional academic documentation. Users will be able to compile and securely share their documents with selected third parties for a nominated period of time.

The target audience for this project is current senior secondary and tertiary students, recent tertiary graduates, tertiary education providers and employers.

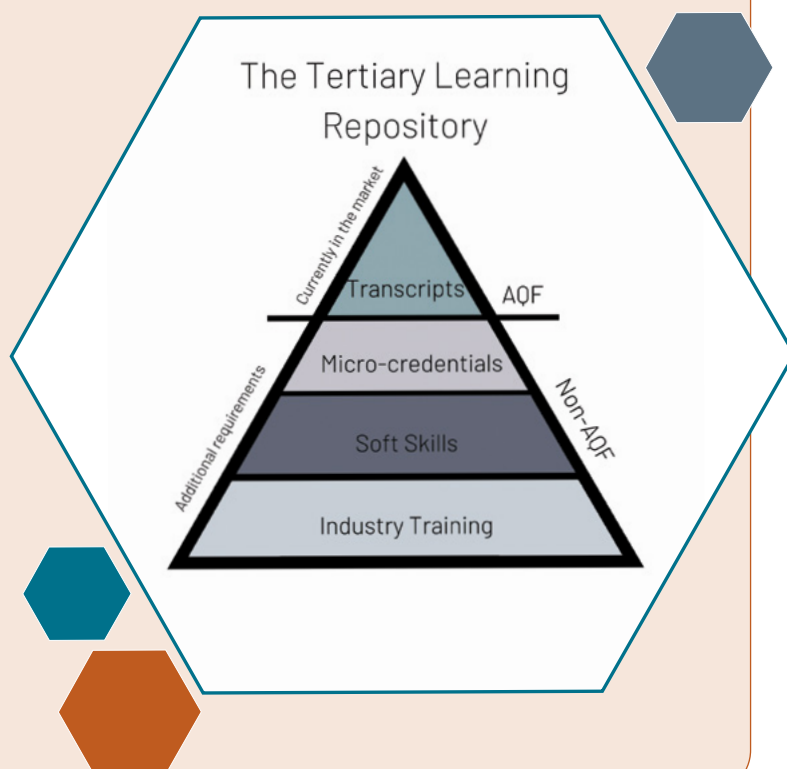
The government's commitment is that by the end of 2020, graduating higher education students will have access to their digital transcript via the TLR, allowing students to share and prove their learning much easier.

As demand grows for micro-credential and soft skills study, there is a need to develop a system for reporting, compiling and sharing these credentials. As such, the TLR will aim to include non AQF credentials, such as soft skills and micro-credentials, to help demonstrate a student's full learnings and capabilities gained throughout their entire tertiary education experience.

The government is undertaking user research throughout 2020 to identify and understand user needs and expectations, and how the TLR can best provide verified online education qualifications to support students and graduates gain and maintain meaningful employment.

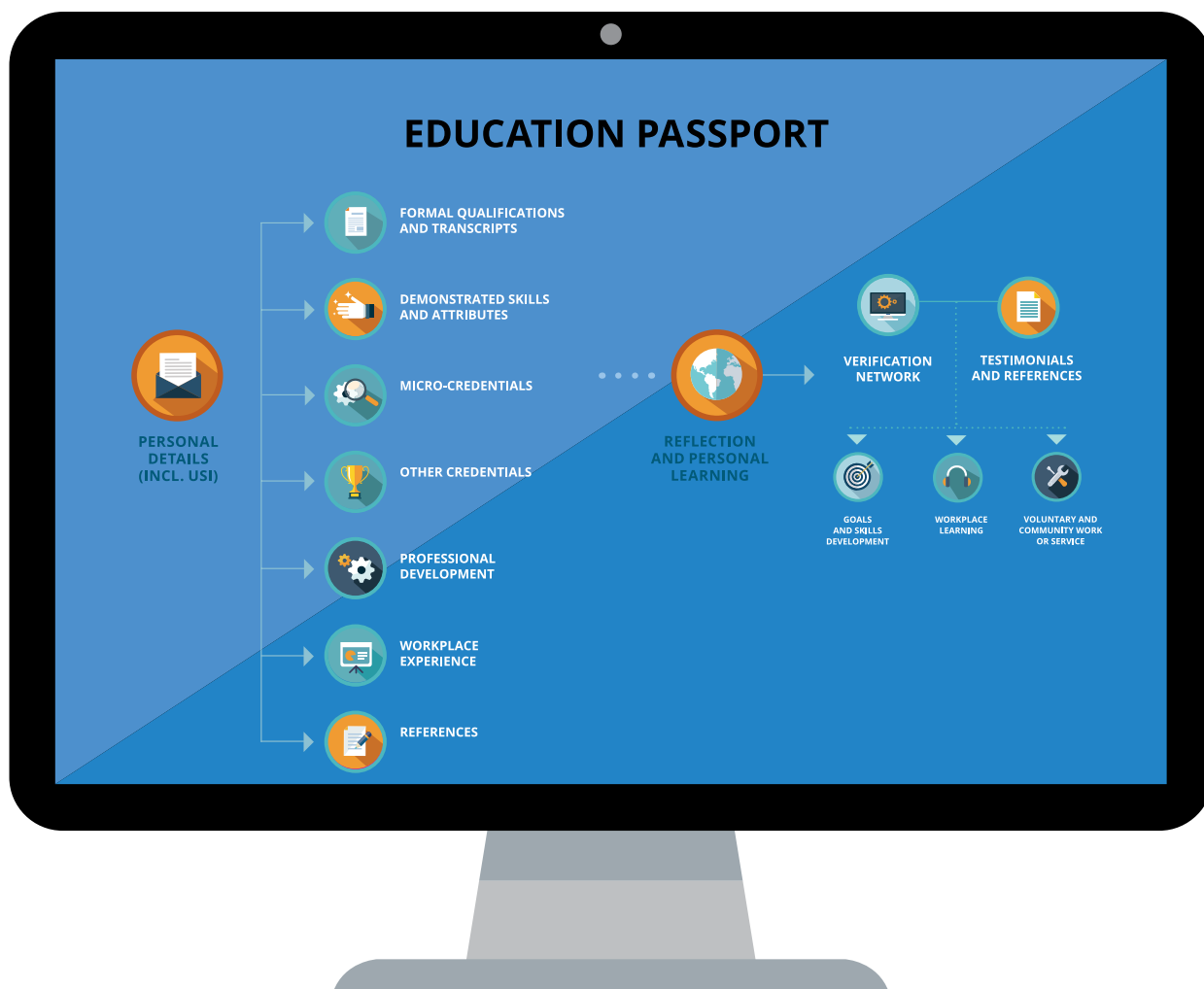
The TLR will be a dynamic online tool, providing individuals with a comprehensive, accredited and secure source to compile, display and share their learnings and achievements. This will support lifelong learning by encouraging students and graduates to regularly review and improve their skills to remain competitive in the job market and reach their personal career goals

Source: Commonwealth Department of Education, Skills and Employment, 'Higher education, research and international education budget overview 2019-20', webpage (accessed 30 April 2020), <https://www.education.gov.au/heri-budget-overview-2019-20>.



The introduction of an Education Passport would allow students to be in control of their own education records, demonstrate experience and prior learning, and engage with future education opportunities. It would reinforce learning as a continuing process. Linked to their Learner Profile, the passport would help students focus on their future lives, articulate the capabilities that they will need to demonstrate for success, and emphasise to them that secondary school is going to be just one step on the path to lifelong learning. An example of what an Education Passport could look like is demonstrated in Figure 10.

Figure 10: Example of an Education Passport



Recommendation 15

In collaboration with industry, and VET and higher education providers, Education Council should co design a digital Education Passport for lifelong learning – a living document that allows young people to capture progressively their education and training qualifications and workplace experience.

Implementation guidance

The Panel found that stakeholders are generally supportive of the idea of an Education Passport, although they identified a number of significant issues that will need to be considered during implementation.

Ensuring the Education Passport has support and buy-in from all parts of the education sector will be essential for its ultimate success. Industry associations and employer groups need to embrace the concept and recommend that their members include the passport as part of their selection processes. Employers will need to routinely seek an applicant's Education Passport as the preferred form of resume. Students will need to be convinced that their information will be held securely and the privacy risks relating to their information have been effectively managed. It will need to become accepted nationally.

An Education Passport should not stand alone. Rather, it should be incorporated within the documentation of lifelong learning. Ideally, any Education Passport that is implemented would connect to, and build on, the Learner Profile. Linkage to a student's Unique Student Identifier would also be preferable in order to facilitate the electronic transmission of transcripts and credentials across sectors and states and territories.

The Education Passport should come to be regarded by its holders as a valuable document. Progressively expanded, it would allow individuals to share the detailed record of their education, training and working lives with others. Passports, properly maintained, will open doors to new opportunities for their holders.





CHAPTER 6: ENSURING ALL STUDENTS HAVE AN EQUAL CHANCE OF SUCCESS

CHAPTER FINDINGS

- 6.1 Education is a key to offering economic opportunity and social mobility to all young Australians, no matter what their background or circumstances. Students should have equitable access to high-quality schooling that offers them the best prospect for leading successful lives. Education should be acknowledged as the stepping stone to a fair society.
- 6.2 Students who do not transition to further education, training or employment cannot be left to flounder. They need increased support and guidance in the year after finishing senior secondary school. Supporting the rates of youth senior secondary achievement or equivalent, both within and outside of traditional schooling models, will have positive benefits for individuals and society.

Education and training remains the key to unlocking social mobility and economic opportunity for individuals. It is the cornerstone of a fair, equitable and civil society. It is essential that senior secondary schooling ensures the full participation of all students, with a particular emphasis on supporting students who may experience additional barriers and challenges.

We know that not all students are able to engage successfully with traditional schooling. In spite of recent improvements, there is still a significant gap to close to bring the education and employment outcomes of Aboriginal and Torres Strait Islander people up to the level of other Australians. Living in regional and remote areas often reduces opportunities for young people. Migrant and refugee children have to overcome barriers of language and prejudice. Children brought up in families that face social and economic disadvantage often find their parents are able to offer less support.

While there are a wide range of initiatives in place to support such students, the challenge is to scale these up. As a nation, we need to ensure that all senior secondary students are sufficiently prepared by their education that they are able to access a full suite of post-school options. The move to remote learning as a response to the infectiousness of COVID-19 has reminded us that it is a challenge to ensure that all students have equal access to the liberating force of education.

More generally, while some level of worry and stress is important in preparing students for the realities of life and requiring them to develop resilience and fortitude, the design of the school system should not place unnecessary pressure on young people. It is good that the level of pastoral care at schools is much improved; however, it is essential that we design senior secondary education to address the pressure and anxieties that contribute to the need for that care.

The package of recommendations throughout this report is designed to reduce such stress through:

- reducing the focus on the ATAR at the expense of broader capabilities and skills
- encouraging students to follow their interests and passions rather than select subjects and pathways based on what they see as the 'default' option
- ensuring greater flexibility is built into the system to cater for those who do not thrive in traditional settings
- identifying measures to help disadvantaged students overcome the barriers that they face.

Engagement and wellbeing

Mission Australia's 2019 Youth Survey of over 25,000 young people found that a significant proportion of respondents identified problems with school as an issue of concern. The survey identified the top three issues for young people as coping with stress, school or study problems, and mental health. Around a third of respondents were extremely or very concerned about school or study problems.¹⁷³

The importance of student engagement and wellbeing are well recognised given the impact they have on student learning – within school and potentially throughout life.¹⁷⁴ Despite this, one in five Australian school students are categorised as inactive class participants. They have disengaged.¹⁷⁵

The prevalence of psychological distress appears to have increased among young people over recent years. Close to a quarter (24 per cent) of young people aged 15 to 19 years are reported to be experiencing psychological distress.¹⁷⁶ The rate among Aboriginal and Torres Strait Islander young people is around 9 per cent higher compared to their non-Indigenous peers.¹⁷⁷

The Australian Student Wellbeing Framework was launched in 2018 to help provide the information and resources needed to build and sustain the wellbeing of the whole school community.¹⁷⁸ Each state and territory has also developed a range of strategies to address student engagement and wellbeing, through support services, additional school resources and pastoral care. In fact, throughout the Panel's consultations, it was indicated that many schools had replaced dedicated careers advisers with a professional offering pastoral care due to the increase in demand for these services.

Schools play a vital role in promoting and encouraging good mental health. Teachers are able to identify children and young people at risk of illness, and intervene early to prevent them becoming more unwell. Early intervention can not only prevent or reduce the progress of mental illness, but can also help improve a person's health and wellbeing over the long term.¹⁷⁹

Flexible learning approaches

Connectedness to school can help senior secondary students meet the challenges of adolescence.¹⁸⁰ These benefits are likely to be undermined if students are not engaged with the schooling environment.

The NSW Secondary Students' Post-School Destinations and Expectations survey of 4,470 early school leavers found that 38 per cent of students surveyed left because they were disillusioned with school. This has increased by 1.2 percentage points since 2014. It is now the leading cause for students leaving school early in NSW.¹⁸¹

173 Mission Australia (2019b), *Youth Survey Report 2019*, p. 25, <https://www.missionaustralia.com.au/what-we-do/research-impact-policy-advocacy/youth-survey>.

174 Deloitte Access Economics (2016), *The Economic Impact of Improving School Quality*, report for the Commonwealth Department of Education and Training, November 2016, p. 8, <https://docs.education.gov.au/system/files/doc/other/ecoimpactschoolquality.pdf>.

175 Bisson and Stublely (2017), p. 12.

176 Mission Australia (2019a), *Can We Talk? Seven year youth mental health report: 2012–2018*, <https://www.missionaustralia.com.au/publications/youth-survey>; and Mission Australia (2018), *Youth Survey Report 2018*, p. 7, <https://www.missionaustralia.com.au/what-we-do/research-impact-policy-advocacy/youth-survey>.

177 Mission Australia (2019a), p. 7.

178 Council of Australian Governments Education Council (2018a), *Australian Student Wellbeing Framework*, https://studentwellbeinghub.edu.au/media/9310/aswf_booklet.pdf.

179 Victorian Department of Health and Human Services, 'Early intervention in mental illness', webpage (accessed 3 December 2019), <https://www2.health.vic.gov.au/mental-health/prevention-and-promotion/early-intervention-in-mental-health>.

180 Waters, S., Cross, D. and Runions, K. (2009), 'Social and ecological structures supporting adolescent connectedness to school: A theoretical model', *Journal of School Health*, vol. 79, no. 11, <https://onlinelibrary.wiley.com/doi/abs/10.1111/j.1746-1561.2009.00443.x>.

181 NSW Department of Education (2019), 'NSW Secondary Students' Post-School Destinations and Expectations: 2018 early school leavers', p. 2, <https://www.cese.nsw.gov.au/images/stories/PDF/Post-school-destinations-2018-early-school-leavers.pdf>.

“We have a serious problem with young people detaching from schools in Australia... Conservative estimates are that at least 50 000 children and young people of school age have detached from any educational program or institution, across the country at any given time.”

Melbourne Graduate School of Education¹⁸²

Flexible learning approaches and provision of education in settings outside of a traditional school can increase continued student engagement with education. The Panel’s consultation with both experts and young people revealed widespread support for flexible delivery, particularly for students who appeared to be at risk of disengaging from school.

“The way in which schooling systems operate for those who are the most disadvantaged needs to change to ensure these young people have support throughout their educational journey. This means starting earlier, with more support, and greater flexibility for students who need it.”

Victorian Council of Social Service submission

The majority of youth workers participating in the Australian Youth Affairs Coalition indicated that the ‘mainstream education system’ was one of the biggest issues facing discouraged young people. They highlighted the inability of the current conventional school system to reconnect with disengaged or disadvantaged young people. This was largely due to the inability of schools and teachers to meet the individualised needs of young people who have become disillusioned for multiple reasons.¹⁸³

Young people interviewed by the Australian Youth Affairs Coalition indicated that they enjoyed the flexibility of alternative learning programs that catered for young people who fall outside conventional education. The key to success was to regard young people as resourceful individuals with a lot of untapped potential, rather than as troublemakers or underachievers.¹⁸⁴

“A student’s ability to survive the senior school system is not a fair reflection of intellectual ability, nor should it be a determining factor in their future prospects.” Professor Steve Larkin

Batchelor Institute of Indigenous Tertiary Education submission

All states and territories already offer various programs with flexible delivery options to improve student engagement and transition arrangements. These range from vocationally intense programs, to programs specifically aimed at inspiring disadvantaged communities. Many make a positive difference.

182 Watterston, J. and O’Connell, M. (2019), *Those Who Disappear: The Australian education problem nobody wants to talk about*, Melbourne Graduate School of Education: University of Melbourne, p. 5, <https://education.unimelb.edu.au/mgse-industry-reports/report-1-those-who-disappear>.

183 Australian Youth Affairs Coalition (2012), *Beyond Earn or Learn*, November 2012, p. 17, <http://www.ayac.org.au/uploads/AYAC%20Beyond%20Learn%20or%20Earn%205.7MB.pdf>.

184 Ibid.

There is no single intervention that is effective in addressing disengagement among young people in all contexts. There are, however, a range of common factors associated with successful approaches:

- creating personalised support
- addressing student wellbeing
- creating relevant and meaningful pathways
- fostering family and community involvement
- creating strong and trusting relationships
- providing a safe and comfortable setting
- curriculum and pedagogy that include applied or vocational learning.¹⁸⁵

Not all alternative programs will be successful in all contexts. Some initiatives designed to help turn out to be largely ineffective. It is essential to evaluate programs in order to identify opportunities for improving them, or if outcomes are positive, scaling them up.



185 Pilcher, S., Torii, K. and Andow, J. (2018), *Evidence Scan of Educational Interventions for Children and Young People Disengaged from Education*, Mitchell Institute: Victoria University, September 2018, p.3, <https://www.socialventures.com.au/assets/SVA-Perspective-Education-Evidence-scan-for-Children-and-young-people-disengaged.pdf>.

CASE STUDY: TOOWOOMBA FLEXI SCHOOL IN QUEENSLAND

Toowoomba Flexi School is a campus of the Centenary Heights State High School. The school has a responsive learning environment that provides smaller classes and flexible, individualised educational opportunities aimed at breaking the cycle of disenfranchisement and/or disengagement of young people aged 15 to 17 years.

The program is designed to increase the number of educationally 'at risk' students completing school with a clear and sustained transition pathway. The school works with young people through intensive case management to overcome disadvantage.

A key design feature of the Toowoomba Flexi School is a dedicated leadership team who works in partnership with parents, carers and numerous valued community groups to support student post-school transitions.

The success of the school can be put down to several factors, including the valuing of both vocational education and training and university as equally valid pathways, and project-based learning. The school also provides career advice that involves online career profiling, subject selection and job pathways, as well as access to an industry liaison officer who actively works with employers to place students in work experience and traineeships.

"I went from failing to achieving A & B standard in the subjects I was participating in, so it really made a huge difference to my grades. I started making friends, which meant I enjoyed coming to school."

Student, 2018

Every year, the staff members of Toowoomba Flexi School speak with parents to discuss their experiences with Flexi School, and how the school has affected their child:

"One parent spoke of how her son was once a chronic school refuser but, since enrolling at Flexi School, he has only been staying home when he is actually sick! His confidence has improved, his grades are getting better, and he has made some close friends. Another spoke of how the flexible timetable meant that her daughter had been able to pick up quite a number of shifts at her workplace each week, while still being able to attend all her classes."

Flexi School, 2020

Source: Toowoomba Flexi School website, <https://toowoombaflex.eq.edu.au>.

Baked and presented by students at the Flexi School.



Supporting all students

Some students face particular challenges in making decisions around their future pathways. They are less likely to experience successful transitions from school. As identified above, these obstacles can include geographic barriers, limited access to work, financial barriers, low parental expectations and low aspirations. There are a number of priority equity cohorts where “traditional pathways from secondary school through to tertiary education and employment have generated unintended barriers for particular students and systemic barriers for particular groups.”¹⁸⁶

Outcomes of educational disadvantage can include poorer engagement at school and, consequently, lower participation in the labour market. Research indicates that students who fall behind in their learning can only catch up again if they are provided with appropriate support. Targeted interventions for students who require them remain important throughout their schooling. High-performing lower socioeconomic status schools routinely provide support for students at risk, both within and outside the traditional school day.¹⁸⁷

Aboriginal and Torres Strait Islander students

The Year 12 attainment rate is a Closing the Gap measure that has been successfully met over the past decade. It provides confirmation that school-based interventions can have a positive impact on tackling disadvantage in the classroom. Yet some Aboriginal and Torres Strait Islander students still face barriers in making successful transitions to post-schooling pathways and into employment.

In 2019, the apparent retention rate between Year 10 and Year 11 for Indigenous students was 82.4 per cent, compared to 93.8 per cent for non-Indigenous students.¹⁸⁸ Between Year 10 and Year 12, the rate for Indigenous students was 60.0 per cent, compared to 83.2 per cent for non-Indigenous students.¹⁸⁹

More remains to be done to support students to build their expectations and aspirations. We know that when Aboriginal and Torres Strait Islander students are supported to participate in schooling and higher education, they succeed. We know, too, that successful educational outcomes translate into employment opportunity. For example, the 2019 Graduate Outcomes Survey found that undergraduate full-time employment outcomes were actually better for Indigenous students than non-Indigenous students.¹⁹⁰ Governments should be encouraged by the fact that well-targeted educational interventions can help to overcome even the most entrenched forms of disadvantage.

186 University of Western Australia submission.

187 Mitchell Institute, Victoria University, submission.

188 Australian Curriculum, Assessment and Reporting Authority, ‘Apparent retention’, National Report on Schooling in Australia data portal (accessed 28 April 2020), <https://www.acara.edu.au/reporting/national-report-on-schooling-in-australia/national-report-on-schooling-in-australia-data-portal/apparent-retention#View3>.

189 Ibid.

190 Quality Indicators for Learning and Teaching (2019b), 2019 Graduate Outcomes Survey national tables, Table 15, <https://www.qilt.edu.au/qilt-surveys/graduate-employment>.

CASE STUDY: WUYAGIBA REGIONAL STUDY HUB, NORTHERN TERRITORY

Wuyagiba is a small homeland located between the main Aboriginal communities of south-east Arnhem Land, Ngukurr and Numbulwar, in the Northern Territory. The proportion of young people under the age of 19 in the town of Ngukurr is 44.6 per cent, compared to the national average of 24.8 per cent. However, only 4.2 per cent of people in the Ngukurr community have a bachelor degree (most likely the non-Indigenous residents), compared with 22 per cent Australia wide. There is a clear need to do things differently to encourage young people to complete further education while staying on country and maintaining their cultural and family links.

Wuyagiba Regional Study Hub employs cultural and academic experts to teach local Aboriginal students on country. The initial focus is on pre-university preparation courses for local Aboriginal students, and the curriculum focuses on cultural content taught by local elders, with academic skills woven through. The Wuyagiba study hub's key aims are to:

- increase the opportunities for remote Aboriginal people to access university education
- create an opportunity for elders to maintain a high level of Aboriginal culture, on country
- open up, in the future, opportunities for non-Aboriginal people to learn about Aboriginal culture from elders, on country.

"We want our children to go to university but we can't always go down south to university if we have cultural or family responsibilities. We can't go to Darwin 'cause there's too much humbug ... and grog. We want those professors to come to us. And our professors can also teach you mob."

*Robin Rogers,
Ngukurr Community Elder*

Between 2019 and 2022, the hub will continue to run the two-way tertiary preparation program and is working towards delivering certificate- and bachelor-level subjects through Batchelor Institute and Macquarie University. In the longer term, the hub hopes to create pathways to other degrees at Macquarie and other universities, and open up to other communities in the Northern Territory.

'Glamping'-style tents have been constructed and are used for classrooms, student dorms and staff accommodation. All students and staff live together at Wuyagiba while participating in the courses.

In 2019, 23 students participated in the expanded two-way pre-university preparation course. The course ran for two five-week sessions (July and September) and was delivered by local elders and Macquarie University staff. Nine students successfully completed the 10-week course. Following interviews at Macquarie University, five students were offered places at the university and four offered places at Batchelor Institute.

Source: Wuyagiba Regional Study Hub website, <https://www.wuyagibastudyhub.org>.



However, while more Aboriginal and Torres Strait Islander students now succeed at school and beyond, we cannot become complacent. As the Alice Springs (Mparntwe) Education Declaration notes, more needs to be done to incorporate local, regional and national cultural knowledge and the experiences of Aboriginal and Torres Strait Islander people into schooling and in building partnerships with local communities. Cultural competencies need to be fully accepted as a key learning attribute and their value recognised not just by teachers but also by fellow students.

Recommendation 16

Education Council should ensure that the cultural competencies and experiences of Aboriginal and Torres Strait Islander students can be recognised as a key part of their Learner Profiles.

Implementation guidance

In participating in significant cultural events and ceremonies, young Aboriginal and Torres Strait Islander students gain many essential skills. While much of this appropriately remains 'secret business', it is clear that the events that mark transition into adulthood involve resilience, problem-solving, teamwork and other generic capabilities. Students should be encouraged to articulate these culturally specific manifestations as important forms of learning.

Education authorities – particularly in Western Australia, South Australia, the Northern Territory and Queensland – should continue to work with Aboriginal and Torres Strait Islander communities to support young people to recognise their cultural competencies. At a local level, continued engagement with community elders will be critical to ensure these skills are identified, validated and celebrated through their Learner Profile.

Students from rural, regional and remote areas

Some 30 per cent of Australia's population live outside of our major cities. Approximately 35 per cent of young people aged 15 to 24 years reside in regional, rural or remote Australia.¹⁹¹ These young people face additional challenges in education. Students from regional, rural and remote areas are less likely to attain a Year 12 or equivalent qualification than students in major cities. The Year 12 or equivalent attainment rates for 20- to 24-year-olds by location in 2017 were:

- 91.7 per cent for students in major cities
- 84.0 per cent for students in inner and outer regional areas
- 71.4 per cent for students in remote and very remote areas.¹⁹²

¹⁹¹ Australian Bureau of Statistics (2016), *Census of Population and Housing: Reflecting Australia – Stories from the Census, 2016*, cat. no. 2071.0, 'Small towns', <https://www.abs.gov.au/ausstats/abs@.nsf/Lookup/by%20Subject/2071.0~2016~Main%20Features~Small%20Towns~113>.

¹⁹² Australian Bureau of Statistics (2018), *Education and Work, Australia, May 2018*, cat. no. 6227.0, Table 30, <https://www.abs.gov.au/AUSSTATS/abs@.nsf/Lookup/6227.0Main+Features1May%202018?OpenDocument>. The ABS Survey of Education and Work classifies residential location as 'major cities', 'inner regional', 'outer regional' and 'remote and very remote', as determined by the ABS Remoteness Structure. Attainment of a qualification at Australian Qualifications Framework Certificate II level or higher is considered equivalent to Year 12 by the Council of Australian Governments.

Both the Independent Review into Regional, Rural and Remote Education, and the Regional Education Expert Advisory Group, found there is a significant city–country divide when it comes to accessing, participating in and attaining tertiary education.¹⁹³ Young people from regional, rural and remote areas who do complete schooling are far less likely to go on to higher education. Even when controlling for differences in ATAR scores, regional students are less likely to attend university than those from metropolitan areas.¹⁹⁴

“In rural and remote areas the difficulty we most experience is access to work experience outside of the town and access to experiences related to vocational education, such as VET courses delivered by TAFE, opportunities to visit work places and different work places.”

Helen Bray, teacher, submission

Only 70 per cent of students in regional, rural and remote areas accept their university offer, compared to 77 per cent of metropolitan students.¹⁹⁵ They are more likely to defer offers, and less likely to complete tertiary education (65.5 per cent of students in metropolitan areas, compared to 61.4 per cent in inner regional, 58.5 per cent in outer regional and 48.7 per cent in remote areas).¹⁹⁶ They also have lower VET completion rates.¹⁹⁷ These statistics accord with a survey conducted for the Panel by Year13, which indicated that the more remote a respondent’s hometown, the more likely they were to express a need to move away from home for education or employment.¹⁹⁸

“In ACYP’s [NSW Advocate for Children and Young People] consultations with children and young people on education, one of the issues raised was having limited options for electives and extra-curricular activities. This prevented some students from pursuing their ambitions or feeling like they belong or fit in with the designated school curriculum. Students from regional or rural areas in particular spoke about missing out on electives that they were passionate about due to lack of resources, teachers or fellow students who were also interested.”

Christopher Stone, NSW Advocate for Children and Young People, submission

In consultations and submissions, the Panel found strong support for the recommendations within the National Regional, Rural and Remote Tertiary Education Strategy final report,¹⁹⁹ particularly around the provision of effective career advice. Those views influenced our recommendation to establish a network of career hubs, with an initial focus on regional areas.

193 Halsey, J. (2018), *Independent Review into Regional, Rural and Remote Education: Final report*, January 2018, https://docs.education.gov.au/system/files/doc/other/01218_independent_review_accessible.pdf; and Regional Education Expert Advisory Group (2019).

194 Cardak et al. (2017), p. v.

195 Commonwealth Department of Education and Training (2018b), *Undergraduate Applications, Offers and Acceptances 2018*, p. 34, https://docs.education.gov.au/system/files/doc/other/undergraduate_applications_offers_and_acceptances_2018.pdf.

196 Commonwealth Department of Education and Training (2018a), *Selected Higher Education Statistics – 2018 student data*, <https://www.education.gov.au/selected-higher-education-statistics-2018-student-data>.

197 For VET programs at Certificate I level and above commenced in 2016, the projected completion rates were 41.7 per cent for inner regional, 41.1 per cent for outer regional, 37.6 per cent for remote, and 32.4 per cent for very remote, compared to 47.8 per cent in major cities. National Centre for Vocational Education Research, ‘Total VET students and courses’ statistical collection, <https://www.ncver.edu.au/research-and-statistics/collections/students-and-courses-collection/total-vet-students-and-courses>.

198 Year13 (2020), *Regional and Rural Living Survey: Research results, findings and conclusions*, unpublished, p. 3.

199 Regional Education Expert Advisory Group (2019).

Students with disability

Systemic and structural factors can inhibit the participation of young people with disability in senior secondary schooling. People with disability have a higher probability of leaving school early, and experience fewer opportunities to engage in education overall:

- Among people aged 20 to 24, 64 per cent of people with disability had completed Year 12 or equivalent, compared with 81 per cent of those without disability.²⁰⁰
- 19 per cent of people with disability aged 15 to 64 left school before 16 years of age, compared with 11 per cent of people without disability.
- 15 per cent of people with disability aged 20 and over have a bachelor degree or higher, compared with 31 per cent of people without disability.²⁰¹

This has a profound detrimental effect on the proportion of students with disability who can succeed in the labour market. The Australian Bureau of Statistics reported in 2018 that, of the working age population (people aged between 15 and 64 years):

- just 53 per cent of people with disability participated in the labour force, compared with 84 per cent of those without disability
- the unemployment rate for people with disability was 10 per cent, compared with a rate of 5 per cent for people without disability
- only 24 per cent of people with disability worked full time, compared with 55 per cent of those without disability.²⁰²

Interventions to support senior secondary students with disability are essential not only at school, but beyond the classroom. An analysis of longitudinal data collected on 12,000 students with disability found that the most important elements predicting employment outcomes for students with disability were employment experiences in high school, and parental expectations of post-high school employment.²⁰³

“Interventions at the tail end of high school may be too late for those who need support the most... These students may not have sufficient access to resources, networks and supports to draw upon to successfully navigate pathways into and through school and post-school.”

Victorian Council of Social Service submission

Submissions to the Panel also emphasised the importance of successful post-school transition support. This includes student-focused planning, student development, interagency and interdisciplinary collaboration, and family involvement. There was strong support for individual postschool transition plans for students with disability.

There are already a number of existing programs providing support for post-school transition for students with disability. The National Disability Coordination Officer Program builds links and coordinates services to smooth the post-school transition for students with disability into work, further education or training. It funds provider organisations to employ a network of coordination officers, who work with stakeholders at the local level to reduce systemic barriers to participation in education and employment for people with disability.²⁰⁴

200 Australian Institute of Health and Welfare (2017), 'Disability in Australia: Changes over time in inclusion and participation in education', fact sheet, cat. no. DIS 69, p. 4, <https://www.aihw.gov.au/getmedia/34f09557-0acf-4adf-837d-eada7b74d466/Education-20905.pdf.aspx>.

201 Australian Institute of Health and Welfare (2019a), p. 16.

202 Australian Bureau of Statistics (2019a), *Disability, Ageing and Carers, Australia: Summary of findings, 2018*, cat. no. 4430.0, <https://www.abs.gov.au/ausstats/abs@.nsf/mf/4430.0>.

203 Wehman, P. et al. (2014), 'Predictors of successful transition from school to employment for youth with disabilities', *Journal of Occupational Rehabilitation*, vol. 25, no. 2, p. 10, <https://link.springer.com/article/10.1007/s10926-014-9541-6>.

204 ACIL Allen Consulting (2017), *National Disability Coordination Officer Program: Evaluation*, January 2017, p. i, https://docs.education.gov.au/system/files/doc/other/ndco_evaluation_final_report.pdf.

The National Disability Insurance Scheme provides funding to assist people to prepare for and take part in work. Supports include the School Leaver Employment Support (SLES) program, which helps give young people the skills and confidence to move from school to employment. It offers individualised support for up to two years after Year 12 to help young people get ready for work and plan their pathway to employment.²⁰⁵ The National Disability Insurance Agency works with education authorities to support students with disability to make a smooth transition into the SLES or other employment supports. These programs are important and should continue to be supported.

A 2015 report by Children and Young People with Disability Australia provides a clear overview of what we need to continue to improve. The report made seven national recommendations. It placed particular attention on the first recommendation for a quality post-school transition process that must include:

- transition planning to begin by Year 9
- planning to be person-centred
- high expectations embedded throughout the process
- work experience opportunities and the facilitation of part-time work, incorporating connections with local businesses and employers
- foundational skills
- career development planning
- follow-up with young people once they have left school.²⁰⁶

Recommendation 17

All senior secondary students with disability should have access to work exploration in school and, in collaboration with disability support groups, have an individual post-school transition plan put in place prior to leaving school.

Implementation guidance

Planning and support for post-school transition for students with disability should start early. All students with disability should have an individual post-school transition plan. This plan should be part of a carefully structured career transition planning process for students with disability that:

- involves the student in their own goal setting
- includes both school-based and work-based learning experiences
- is supported by effective interagency and interdisciplinary collaboration
- involves and includes families.

²⁰⁵ National Disability Insurance Scheme, 'Leaving school', webpage (accessed 7 May 2020), <https://www.ndis.gov.au/participants/finding-keeping-and-changing-jobs/leaving-school>.

²⁰⁶ Children with Disability Australia (2015), *Post School Transition: The experiences of students with disability*, p. 49, <https://www.cyda.org.au/resources/details/85/post-school-transition-the-experiences-of-students-with-disability>.

Refugees and migrants

Migrants and refugees make a positive contribution to Australian society and provide some of our most inspiring success stories. However, their early days in Australia can be challenging. Upon making their new home in Australia, both refugee and migrant young people may face challenges in learning English, recommencing school after a disrupted education, finding employment, securing stable affordable housing, adjusting to unfamiliar systems and a new culture, and being separated from extended family, friends and social networks.²⁰⁷

They can also encounter additional risk factors due to their particular migration or refugee experience, including a history of violence and trauma. Many young newcomers experience intergenerational conflict; face incidents of racism and discrimination; exhibit a distrust of authorities due to negative experiences overseas; and suffer stress and trauma associated with leaving familiar homes and cultures and settling into a new country.²⁰⁸

The *Refugee Status Report* (2011), produced by the Victorian Department of Education and Early Childhood Development, examined the largest pooled analysis of mental health problems in people of a refugee background. It found the prevalence of post-traumatic stress disorder was 11 per cent in children, and that unaccompanied minors and people with uncertain visa status were at higher risk of suffering mental health problems.²⁰⁹

Yet we also know that most migrants and refugees are driven to succeed. Parents typically place a strong emphasis on the education of their children, and can place pressure on them to excel academically as a key indicator of success.²¹⁰ They tend to be supportive of schools, respectful of teachers and demanding as parents. The Panel believes that interventions aimed at supporting young refugees and culturally and linguistically diverse migrants will lead to improvements in terms of educational and employer outcomes.

Young parents and pregnant students

In 2015, 8,268 babies were born to 8,203 teenage mothers aged under 20 (accounting for 3 per cent of all mothers). Of these, 42 per cent of all teenage mothers were from low socioeconomic status backgrounds and 24 per cent were Aboriginal or Torres Strait Islander people. The number of young mothers increased with remoteness and their age decreased the further they lived from a major city.²¹¹

Entrenched disadvantage can push young mothers into long-term unemployment or disengagement and social exclusion. Specific risk factors include low education attainment, early marriage or child-bearing, and a disadvantaged socioeconomic background.²¹² Postnatal depression adds an additional complication into the lives of young mothers. Over half of the cohort in one study of adolescent mothers reported having experienced depressive symptoms within the first three months of motherhood.²¹³

We need to find ways to ensure that pregnancy and motherhood do not spell the end of secondary education for young women. The Panel was impressed by the efforts of some schools to provide them with alternative education programs. We strongly support such initiatives.

207 Centre for Multicultural Youth (2014), *Fair and Accurate? Migrant and refugee young people, crime and the media*, <https://www.cmy.net.au/knowledge-hub>.

208 Centre for Multicultural Youth (2014), *Fair and Accurate? Migrant and refugee young people, crime and the media*, <https://www.cmy.net.au/knowledge-hub>.

209 Paxton, G., Smith, N., Ko Win, A., Mulholland, N. and Hood, S. (2011), *Refugee Status Report: A report on how refugee children and young people in Victoria are faring*, Victorian Department of Education and Early Childhood Development, July 2011, p. 4, <https://www.education.vic.gov.au/Documents/about/research/refugeestatusreport.pdf>.

210 VicHealth, Data61, CSIRO and Multicultural Youth Advocacy Network (2017), *Bright Futures: Spotlight on the wellbeing of young people from refugee and migrant backgrounds*, Victorian Health Promotion Foundation, p. 9, <https://www.vichealth.vic.gov.au/media-and-resources/publications/bright-futures-spotlight-refugee-migrant-youth>.

211 Australian Institute of Health and Welfare (2018), *Teenage Mothers in Australia 2015*, May 2018, pp. 2 and 7, <https://www.aihw.gov.au/getmedia/6976ff0b-4649-4e3f-918f-849fc29d538f/aihw-per-93.pdf.aspx?inline=true>.

212 Ranasinghe et al. (2019), p. 11.

213 Australian Human Rights Commission (2017), *The Rights and Needs of Young Parents and Their Children: A summary of key findings from the Children's Rights Report 2017*, p. 4, <https://www.humanrights.gov.au/our-work/publications/summary-childrens-rights-report-2017>.

CASE STUDY: CCCARES AT CANBERRA COLLEGE, AUSTRALIAN CAPITAL TERRITORY

Established in 2005, CCCares at Canberra College is an alternative education program for pregnant and parenting students from the ACT and surrounding region to complete their Year 12 certificate and gain vocational qualifications. In 2019, the program supported around 154 students aged in their early teens to late twenties.

CCCares aims to provide a best practice model for pregnant and parenting students to access education. It adopts a blended and flexible delivery model, working with several agencies to provide holistic health, education and welfare support, connection for young people and practical living supports.

Students can spend up to five years working towards their ACT Senior Secondary Certificate, and/or undertaking competency-based training courses in areas such as business administration, community services, hair and beauty, hospitality and children's services in the specially designed learning spaces.

Personalised learning plans are developed for each student. The plans focus on core skills and knowledge such as life skills; social and emotional intelligence; connecting with the community; literacy, numeracy and digital literacy; and developing awareness of local and global issues. The program can help students look for traineeships, Australian School-based Apprenticeships (ASBAs) and work placements. Some ASBA and trainee positions are available onsite at CCCares.

Students and their children are provided with transport to and from the school, and children are cared for within the onsite childcare environment, which includes indoor and outdoor play spaces where children can further develop fine and gross motor skills and learn how to play in an appropriate and safe manner.

Positive outcomes indicating the success of CCCares include students finishing school, finding a job, feeling ready to leave the program, developing life skills and knowledge to help with bills or housing, developing a sense of belonging, and feeling they can contribute to their community.

Source: CCCares at Canberra College website, http://www.canberrac.act.edu.au/information/programs/cc_cares; and Dusseldorp Forum, 'Canberra College Cares (CCCares)', webpage (accessed 1 May 2020), <https://dusseldorp.org.au/canberra-college-cares-cccars>.



Support beyond Year 12

National and international research consistently highlights the importance of young people's school-to-work transitions for their future life opportunities. Transitioning from school to adulthood is particularly stressful for many young adults. This often results in a decrease in their satisfaction with life.²¹⁴

The Panel heard about the lack of support for senior secondary students post-school, particularly in those circumstances in which students' outcomes did not meet their expectations. Many students are distressed at not obtaining an ATAR score sufficient to access their preferred education or training course. Some quickly find other options. Others do not. Without help, these students are often 'lost' for many years.

"Industry, the tertiary sector, government and other interested parties should look at the boundary between senior secondary education and Years 13 onwards to better understand their shared responsibility ..."

Christine Cawsey, Principal, Rooty Hill High School, submission

For those who have completed Year 12 and are not in further education or employment for whatever reason, further support is critical. Without such help, students may fall through the cracks as they transition from the highly structured environment of a school into adulthood.

One important approach is based around the concept of 'Year 13'. This is when students are provided with specific transition support in the year after they leave school. During our consultations, students strongly supported the need for a 'Year 13' where schools stay in contact with Year 12 students after they leave, to ensure they adapt successfully to life after school. They expressed their view that the thought of life beyond Year 12 can be intimidating. The students consulted wanted the opportunity to be able to check back in with their former school if they needed help, particularly if a chosen pathway did not work out and they needed guidance to identify alternative options.



²¹⁴ Skillsroad (2018), *Skillsroad Youth Census Report 2018*, p. 25, <https://www.skillsroad.com.au/youth-census-2018>.

CASE STUDY: SUNNYFUTURES PROGRAM, SUNNYBANK STATE HIGH SCHOOL, QUEENSLAND

While many students leave school knowing what their next step is, many do not, or sometimes their plans may not work out. At Sunnybank State High School in Queensland, students are provided with practical help to find, prepare for, and secure work in the year after they leave school – ‘Year 13’.

The program, called SunnyFutures, is funded by the school and started in 2018 after the school found that nearly half of their 2017 graduates had not obtained full-time work or study within six months after leaving.

The program is already demonstrating success, with school tracking data showing that 96 per cent of the 2018 graduates are now engaged in full-time work or study. This is a significant increase from 52 per cent in 2017, prior to the program’s commencement. The program is so successful that older siblings, parents of students and members of the wider community are also seeking out support for themselves.

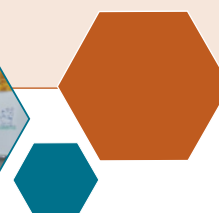
SunnyFutures offers a range of services to guide, support and encourage students to follow a variety of pathways. For example, the program engages with local industry to provide opportunities for students to undertake internships, traineeships or apprenticeships, as well as full-time employment or casual work while they study. Staff offer workshops in resume writing, cover letters, navigating internet job sites and completing online applications. There is also a range of clothing available for students to borrow in order to present well for interviews.

Key to the program’s success is the individualised case management approach, which begins with tracking student progress in their final year of high school and individually meeting with them to gather pathway data.

Regular communication and follow-up with students and their families ensure students are receiving the support they need to be successful. Staff also work individually with students to link them to identified opportunities, including assisting with course applications to registered training organisations or acceptance of university offers.

The school has identified the growing need for, and student interest in, the healthcare industry. From 2020, the school has engaged a registered training organisation to provide a Certificate III in Individual Support for Year 13 students, as part of its new Community Hub initiative. The school hopes that more students and members of the community can be supported through this initiative, and that the program will become self-supporting and financially sustainable.

Source: Sunnybank State High School Pathways website, <https://www.sunnypathways.com.au>; and Horn, A. (2019), ‘High school graduates struggling to find employment discover success in Year 13’, ABC News, 7 November 2019, <https://www.abc.net.au/news/2019-11-07/high-school-graduates-attend-year-13/11653506>.



A systemic approach to overcoming disadvantage

There have been a plethora of reviews conducted in recent years that have sought to examine the needs of specific groups experiencing additional barriers to education and having less successful transitions to post-school pathways. A few have been cited in the preceding pages. Yet it is clear that while there are well-targeted interventions in each of the states and territories, more work remains to be done.

To support students facing additional challenges to make successful transitions, significantly more evaluation of effective practices is needed. A systematic program of external evaluation can provide important insights into initiatives already underway or proposed in the future. Initiatives need to be piloted, modified and, if successful, scaled up. Good practice needs to be shared. Failed interventions need funding withdrawn and ended quickly. Risks need to be taken but managed.

"[There is] no clear picture of a single effective intervention ... in terms of duration, settings, and parameters ... individual programs are unlikely to achieve transformational change – rather a system of integrated and aligned services is needed, and further research required to understand interactive effects."

Mitchell Institute²¹⁵

One positive approach used to support students with disability in the United States of America is the National Technical Assistance Center on Transition. As outlined in the case study on page 136, this organisation provides a vehicle for ongoing collaboration and sharing of good practice. It blends research evidence with the development of practical resources in order to assist education agencies and service providers to ensure students with disability make successful postschool transitions.



²¹⁵ Pilcher, Torii and Andow (2018), p. 3.

CASE STUDY:

NATIONAL TECHNICAL ASSISTANCE CENTER ON TRANSITION, UNITED STATES OF AMERICA

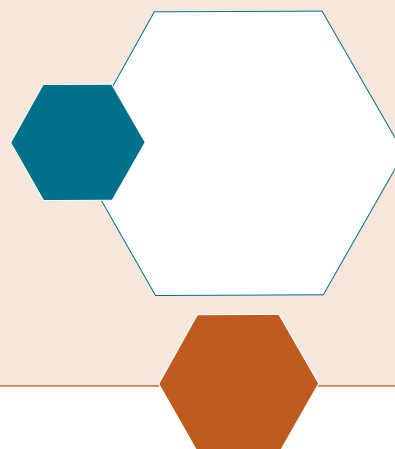
The National Technical Assistance Center on Transition (NTACT) blends research and evidence with the development of practical resources to assist state education agencies and service providers to ensure students with disability, including those with significant disabilities, make successful post-school transitions.

The NTACT is funded by the US Department of Education and is a partnership between the University of North Carolina at Charlotte, the University of Oregon, the University of Central Florida, Western Michigan University, the University of Kansas and TransCen, Inc., a non-profit that specialises in providing training and technical assistance in school-to-work transition initiatives. Its co-directors and staff include researchers on factors critical to successful post-school transition for students with disability.

NTACT identifies and promotes evidence-based practices to:

- increase access, participation and success of students with disability in academically rigorous instruction and assessment to prepare for college, career and participation in the community
- increase access, participation and success of students with disability in career-related curriculums and activities
- improve the provision of resources for quality transition planning and school completion in areas such as engagement, leadership and self-advocacy
- promote collaboration and stakeholder engagement focused on improving college, career and community success
- increase the use of data-driven decision-making to improve programs and systems that address colleg career and community readiness, as well as use of early warning systems and interventions focused on reducing dropout and increasing graduation rates for students with disability
- promote the use of effective personnel development, coaching and technical assistance strategies that build state and local capacity to prepare students with disability for post-school life.

Source: National Technical Assistance Center on Transition website, <https://www.transitionta.org/about>; and TransCen, Inc. website, <https://transcen.org>.



It is our view that this approach, adapted to the Australian context, would be of value. Its methodology could be extended beyond those with disability to all student groups at risk of not making successful transitions. We see value in applying its evidence-based approach to a new national Transition from School Program.

The program could:

- identify best practice approaches to career guidance and post-school transition support for students at risk of not making successful transitions from school into employment
- produce evidence-based guidance and resources for educators, schools, students, families, careers advisers and employers to get the maximum benefit from their senior secondary education
- undertake behavioural research on the aspirations, decisions and choices of students facing disadvantage
- work with local regions and communities to explore place-based approaches to addressing disadvantage
- fund and evaluate demonstration transition projects with the aim of scaling up successful approaches.

Young people experiencing difficulty transitioning into work or further education once they have left school may be assisted by programs that provide support and advice to students in the year after they leave school. These, too, should be actively trialled and evaluated with the intention of identifying successful and cost-effective interventions.

Recommendation 18

Education Council should establish a national Transition from School Program that, through a range of collaborative demonstration projects, would trial and evaluate new approaches to supporting vulnerable and at-risk students as they prepare to leave school.

Implementation guidance

The Panel does not seek to create yet another bureaucratic institution. Rather, we recommend the establishment of a national transition demonstration program that can bring together evidence on approaches and advice on effective ways to assist disadvantaged students.

The program should be funded and overseen by the COAG Education Council and its senior officials. It would promote collaborative initiatives that are piloted and trialled based on context and place. Its focus would be on practical on-the-ground solutions, both at school and in 'Year 13'.

The program could operate similarly to the Safe and Supportive School Communities Working Group of the COAG Education Council, in which one jurisdiction takes responsibility for the work on behalf of and in consultation with other members and provides progressive reports to Education Council. It should seek to develop and share good practice.

Implementation would take into consideration the purpose and agreed roles of the National Careers Institute and the proposed National Evidence Institute. It would benefit from a codesign process with educators and, most importantly, with community organisations that advocate for particular disadvantaged groups. Evidence needs to reflect experience. Both need to be subject to evaluation.





CHAPTER 7: CREATING EVIDENCE-BASED POLICY

CHAPTER FINDINGS

- 7.1 Governments need to make much better use of big data in order to properly understand the choices that students make as they transition from school into training, further education and work. Quantitative research can improve their capacity to formulate evidence-based policy responses.
- 7.2 Data integration projects across sectors and states and territories should be leveraged to gain greater insight into how people move through different parts of the education system and labour market across their lifetimes.
- 7.3 Education Council should accelerate the development of a Unique Student Identifier that allows senior secondary schooling to be linked with VET and higher education, while protecting the privacy of individuals. It can benefit not only governments but individuals and training providers.

High-quality data is essential to support young people to make informed decisions about their futures. It is equally valuable to policymakers in order to understand how students transition into a growing range of post-school pathways and improve policies on senior secondary schooling.

It is generally accepted that good public policy should be based on evidence and experience. Education is an area in which there is a huge amount of statistical information collected, surveys conducted and reviews undertaken. Yet while large amounts of education data are available, there are still some significant gaps that impact on our collective understanding of senior secondary pathways. We do not properly comprehend, for example, the nature and reasons for the complex transitions between various forms of education, training and employment that occur after senior secondary students leave school.

This has already been acknowledged by Education Council. Its recent National School Reform Agreement includes a commitment to improve data collection. While not a high-profile reform, it is an important initiative. We believe it is essential that real action is taken in this regard.

To build a comprehensive understanding of student pathways, it is necessary to bring together data from the schooling, vocational education and training, higher education and labour market sectors. Tracking students throughout their education journey is challenging, with many students following a variety of transition pathways, consecutively or concurrently. Unfortunately, these different sectors each undertake their own data collection processes, employing different definitions and having different arrangements for the use of the material.

“The lack of data ... and the inability to compare progression rates and actual destinations of school completers and early school leavers ... is an important indicator of the need for significant national reform.”

Lorraine Graham, Centre for Vocational and Educational Policy submission

While many jurisdictions collect post-school destinations data, there is significant variability in the approaches used. Vocational education and training data, including statistics on VET delivered to secondary schools students, traineeships and apprenticeships, is brought together by the National Centre for Vocational Education Research (NCVER). The Australian Government separately holds higher education data, although universities and university admissions centres hold important additional information that is relevant to understanding student pathways. The Australian Government also collects labour market data.

There are major problems with current data collection arrangements, including inconsistency across jurisdictions and sectors, variations in access and the capacity to share information, and limited linkage between datasets. There are often long lag times between data collection and publication. There are significant costs associated with modifying or redesigning systems to provide a coherent dataset. Consequently, policy insights often have to be derived from out-of-date or partial information.

The Panel has come to appreciate that none of the existing data collections, examined on their own, provide a clear picture of the senior secondary pathways landscape. Without connected datasets, it is difficult to draw meaningful conclusions on educational outcomes for the purposes of policy development and implementation.

To ensure interventions are effective, more information is needed on the what, why and how of students' choices and decisions. That includes applying behavioural insights to the factors that influence and motivate the decision-making of students.

Creating quality information about student pathways will involve identifying and collecting key data. Most importantly, however, it will require the integration of information from the schooling, vocational education and training, higher education and labour market sectors to create a comprehensive and seamless picture of the transitions landscape. Big data analytics can now identify trends and causations in a manner that was inconceivable a decade ago. But to be able to use that capacity effectively, we need an effective way to link datasets in order to properly understand individual and collective pathways.

Longitudinal studies

A key contributor to the Panel's understanding of student pathways are longitudinal surveys. The Longitudinal Surveys of Australian Youth (LSAY), the Longitudinal Study of Indigenous Children (LSIC), and the Household, Income and Labour Dynamics in Australia (HILDA) Survey are all treasure troves of data.

"... good data is vital for informed public policy solutions and we encourage support for the creation of databases and the research they make possible into young peoples' choices and pathways."

University of Sydney submission

While acknowledging limitations (including the sample sizes and attrition rates of participants), LSAY is one of the few surveys that provides insights into how young people move from schooling through a range of different pathways into the workforce. It provides rich information on the background of individuals. Its data supports sophisticated, multivariable analysis that delivers genuine policy insights.

The other advantage of longitudinal surveys is their ability to allow us to look at the impact of social and economic shocks to behaviour over time. Researchers from NCVET were able to use LSAY data, for instance, to examine the impact of the 2008 global financial crisis on the labour market outcomes of young people. They identified that the most persistent negative employment impacts fell on the group that would have been aged approximately 18 years old when the effects of the crisis became apparent, as opposed to those who were slightly older, the bulk of whom had already transitioned from school to either the labour market or into further education and training.²¹⁶ These findings provide valuable insights for policymakers in responding to future economic shocks, such as that resulting from the COVID-19 pandemic. We need to understand how entry to the world of work will be impacted by the long-term economic consequences of a profound global economic downturn.

²¹⁶ Stanwick, J. Forrest, C. and Skujins, P. (2017), *Who Are the Persistently NEET Young People?*, National Centre for Vocational Education Research, p. 28, https://www.ncver.edu.au/_data/assets/pdf_file/0016/1073041/Who-are-the-persistently-NEET-young-people.pdf.

Recommendation 19

Education policy needs to be based on evidence about the pathways from school taken by young people and, for that reason, governments should continue to invest in longitudinal studies, such as the Longitudinal Surveys of Australian Youth (LSAY), the Longitudinal Study of Indigenous Children (LSIC) and the Household, Income and Labour Dynamics in Australia (HILDA) Survey.

Implementation guidance

The Panel understands that the future of LSAY is currently under consideration, including how it may better meet the information needs of participating states and territories. Preliminary work is also underway to investigate the feasibility of linking student subject data to outcomes. We very much hope that LSAY is continued or expanded. The Panel considers that continued investment in longitudinal studies is essential to support our understanding of how young people move between schooling, further education and training, and employment. It is a good investment in better policy.



CASE STUDY: LONGITUDINAL SURVEYS OF AUSTRALIAN YOUTH

A key contributor to our understanding of student pathways is the Longitudinal Surveys of Australian Youth (LSAY), which began in 1995.

LSAY tracks young people as they move from school into further study, work and other destinations. LSAY provides a rich source of information about young people and their pathways, helping researchers and policymakers make educated decisions about youth policies. Survey participants enter the study when they are about 15 years old and are contacted once a year until they are 25. Information on a wide range of school and post-school topics is collected, including:

- demographics, such as gender, country of birth, indigeneity, socioeconomic status and parents' education and occupation levels
- education, including school characteristics, subject choice, post-school plans, higher education, and vocational education and training
- employment, including hours worked, wages and benefits received, job-seeking methods and job satisfaction
- 'social', which broadly includes living arrangements, marital status, financial difficulties, volunteering activities and life satisfaction.

Nationally representative samples of over 10,000 young people start out in each cohort. Since 2003, participants have been recruited from Australian schools that take part in the Programme for International Student Assessment (PISA). The most recent cohort commenced in 2015, with the next data collection scheduled to start in September 2020 when the participants are around 21 years old.

The most recent cohort also saw the introduction of several new topics aimed at measuring soft skills, personality, wellbeing, caring duties, 'gig' work, homelessness and social support, as well as an expanded focus on volunteering and other topics.

For the first time, LSAY data will be linked with administrative records, with additional linkages planned for the National Assessment Program – Literacy and Numeracy (NAPLAN), senior secondary results and higher education.



Source: Longitudinal Surveys of Australian Youth website, <https://www.lsay.edu.au>; and Forrest, C. and Scobie, C. (eds), '25 years of LSAY: Research from the Longitudinal Surveys of Australian Youth', executive summary, https://www.lsay.edu.au/_data/assets/pdf_file/0043/9659833/25-years-of-LSAY-Executive-summary.pdf.

Unique Student Identifier

The Unique Student Identifier (USI) is a potential game changer. A USI is a number attached to a student that follows them through their educational journey, allowing researchers, educators and policymakers to follow the same (nonidentified) person across different datasets.

Under the National School Reform Agreement, all education ministers have agreed to implement a national USI to support better understanding of student progression and improve the national evidence base.

Currently, USIs are only used by the VET sector. Extending a national USI that travels with a student throughout their educational journey would provide rich and nuanced data that could be used to analyse pathways through, and beyond, school, further education and work.

Benefits of a USI include the:

- ability to link existing datasets to track and monitor student movements, wellbeing, post-school destinations and outcomes
- improved information-sharing capabilities between schools, sectors, and states and territories
- provision of a comprehensive record of progress and attainment to students, parents and teachers
- generation of more data on how people make pathway decisions from Year 10 onwards
- better understanding of trends, impacts and emerging issues across pathways
- identification and implementation of programs and interventions that best support successful outcomes for a variety of stakeholders
- better public policy based on evidence
- potential to support the implementation of national reforms such as an Education Passport, including by being linked to USI-validated transcripts.

The idea of a whole-of-education USI has been met with broad support from the stakeholders we consulted. In 2018, a Monash Commission report recommended “the introduction of a universal student number that covers all publicly subsidised education and training, to enable the development of a lifetime learning account to track and monitor acquired skills and qualifications, including micro-credits and micro-credentials.”²¹⁷ The Panel strongly supports this proposal.

Unique Student Identifier for vocational education and training students

The USI initiative commenced in 2015 and to date over 10 million vocational education and training (VET) USIs have been assigned to individuals. Currently, students undertaking nationally recognised vocational education and training require a USI in order to receive their qualification or statement of attainment. This includes nationally recognised training delivered by secondary schools. The USI gives students access to an online record of their nationally recognised training in the form of a USI transcript. This can be used when applying for a job, seeking a credit transfer or demonstrating prerequisites when undertaking further training.

An independent review of the implementation of the USI initiative, commissioned by the Student Identifiers Registrar in 2018, noted that the intended objectives of the VET USI were being successfully addressed. All stakeholder groups consulted were largely positive about the deployment of the USI. The review concluded that the USI benefits are now more widely recognised. Consequently, there appears to be stronger support for extending the principles underpinning the initiative to other education sectors.

The Australian Government is working to extend the USI from VET students to higher education students. This project is a joint initiative across the Commonwealth Department of Education, Skills and Employment and the Student Identifiers Registrar. From 2021, new domestic and onshore international higher education students will receive a USI, and by 2023, all enrolled students, including those who commenced prior to 2021, will be issued a USI.

²¹⁷ Monash Commission (2018), p. 16.

The next stage is to extend the USI into schools. The National School Reform Agreement commits the Commonwealth, state and territory governments to implementing a national USI by 2023 (the end of the agreement). The aim of the USI for the school sector is to support and improve understanding of student progression, and enhance the national evidence base.

“This important development will directly assist both education providers and students in providing a readily accessible record of a student’s education pathway, as well as provide critical insights to inform education policy and funding priorities.”

Queensland Catholic Education Commission submission

The Panel understands that the intention of the USI for the schools sector is that it will apply from a student’s first year of formal schooling and follow them throughout their school education journey, including if they move to a different school in another sector or jurisdiction. It is a significant initiative that will allow us to understand pathways through education into employment as never before.

Data integration projects

There are accelerating efforts underway across Australia to integrate data across sectors and systems. If successful, this will improve our understanding of the intersections of education and employment. These projects will offer exciting and valuable insights. They will highlight the potential of data integration to support improved understanding of career decisions and transitions between education sectors.

At the Commonwealth level, there has been significant investment in the Jobs and Education Data Infrastructure (JEDI) project. Its goal is to integrate large quantities of education and employment data from a variety of sources with the objective of supporting individuals’ decision-making processes as they move through their education and work transitions. The project, as it evolves, should help senior secondary school students and their teachers to identify possible future jobs and the skills these will require. The success of JEDI will depend on the extent to which its rich data can be not just analysed for the convenience of researchers and policymakers, but designed with jobseekers in mind.

CASE STUDY:

THE AUSTRALIAN GOVERNMENT'S JOBS AND EDUCATION DATA INFRASTRUCTURE (JEDI) PROJECT

The Jobs and Education Data Infrastructure (JEDI) project – led by the Commonwealth Department of Education, Skills and Employment – has developed a new approach to labour market analysis by integrating education, skills and labour market data. It aims to transform data into meaningful and accessible information.

JEDI will provide a single comprehensive source of up-to-date information about jobs, skills and education to answer the questions individuals, businesses, education providers and policymakers have about the changing labour market.

The JEDI project will greatly improve the information that individuals have to inform their decisions on career pathways and education options. The current focus of the project includes:

- a data-driven Australian skills classification – a common language for skills in Australia
- an employer tool to identify the skills employees need now and in the future to support workforce planning
- a tertiary provider tool to provide better information to tertiary providers about how their courses align to labour market need.

Source: Commonwealth Department of Education, Skills and Employment, 'Delivering skills for today and tomorrow', webpage (accessed 1 May 2020), <https://www.employment.gov.au/delivering-skills-today-and-tomorrow>.



Another major project, Pathways of the Future, is underway in New South Wales. One of its major goals is to present integrated data in a form that can support students, teachers and careers advisers. Other jurisdictions have similar plans afoot.

The Panel considers that these sorts of projects should be further encouraged, and efforts should be accelerated to overcome the barriers to such projects, including legislative frameworks and data availability. Understandably, concerns around the use of personal information²¹⁸ need to be alleviated by ensuring that individual privacy is paramount and that personal information on students and providers remains confidential.

218 Productivity Commission (2016), *National Education Evidence Base*, Productivity Commission Inquiry Report No. 80, 9 December 2016, p. 9, <https://www.pc.gov.au/inquiries/completed/education-evidence/report/education-evidence.pdf>.

CASE STUDY:

PATHWAYS FOR THE FUTURE RESEARCH PROJECT, NEW SOUTH WALES

Young people can take many different paths from study to work. To give current and future NSW students comprehensive information about the outcomes of different educational pathways, the NSW Department of Education has commissioned the Pathways for the Future research project.

This retrospective cohort study utilises data on the pathways of 3.5 million young people aged 15 to 24 in New South Wales over a 20-year period from 1996 to 2016. Analysis will disaggregate the pathways according to student characteristics and educational choices, look at what constitutes 'successful' and 'unsuccessful' pathways, and identify the trends and issues that impact on post-school labour market participation.

Findings from early analysis indicate that there is no 'common' pathway for NSW students, and pathways to employment are varied. The findings have been used to inform the launch of the Educational Pathways Pilot Program in 24 NSW high schools in areas experiencing high youth unemployment. The pilot includes nine initiatives that ensure students find a suitable pathway into further education and training. The initiatives focus on boosting school-based apprenticeships and traineeships, enhancing career advice and helping disadvantaged students.

Further insights from the project will be synthesised into a report and a digital tool to help visualise and explore pathways. These tools will be used to empower students, parents, educators, careers advisers and employers with the best available information on the impact of different pathway choices and the experiences of different student groups.

The broader research will be used to inform system and local government policies and programs that help young people transition through the education system and find meaningful employment.

Source: NSW eTendering, 'Department of Education: Expression of Interest – Pathways for the Future – Reform Project', webpage (accessed 1 May 2020), <https://tenders.nsw.gov.au/doi/?event=public.rft.showArchived&RFTUID=96378B16-D58F-116B-CEB7908F898018D8>; and Training Services NSW, 'NSW research project: Pathways for the Future', webpage (accessed 1 May 2020), https://www.training.nsw.gov.au/programs_services/funded_other/pftf/index.html.



Recommendation 20

Data integration projects across sectors and states and territories should be leveraged to provide insights into how and why people move through different parts of the education system and labour market across their lifetimes and, to this end, Education Council should accelerate the development of a Unique Student Identifier to understand better the routes by which students, from Year 10 onwards, move into tertiary education, training and employment.

Implementation guidance

The Panel commends all Australian governments for their commitment to develop and implement a USI for schooling. We were pleased that so many ministers spoke positively of the initiative. We remain concerned, however, about the speed of implementation. We urge Education Council to undertake rigorous efforts to complete this work.

The Panel also urges Education Council to ensure that the USI for schooling is compatible with that used across the VET and higher education sectors of the education system. This would ensure the greatest benefits both for individuals and for policymakers from this important reform.

Existing projects, such as the Australian Government's Jobs and Education Data Infrastructure project, the NSW Tertiary Pathways Project and the Queensland Next Step post-school destination surveys, should continue to be supported within jurisdictions. They are a source of copious information.

Given that different elements of education sector and labour market data are held by different levels of government, consideration should also be given to promoting greater cross-jurisdictional sharing of data to support a more sophisticated understanding of pathways.



AFTERWORD – REFORM IN A TIME OF PANDEMIC

When the panel members and their hard-working secretariat prepared for the Christmas break last year, we did so with a sense of quiet accomplishment. A great deal of the hard work for the review had already been done. Initial discussions had been held with all Commonwealth, state and territory ministers. Research had been contracted, a large number of consultations conducted around the country, and a swag of submissions received. We had met together to argue and debate the issues on five occasions. All of us felt that we were on track to deliver a substantive report to COAG Education Council on time.

As each of us prepared to celebrate New Year's Eve in our own way, the first news was being reported of cases of pneumonia of unknown cause being detected in Wuhan, China. With many Australian states already battling an overwhelming bushfire crisis, an outbreak of flu more than 8,000 kilometres away seemed comparatively inconsequential. How wrong we were.

By the end of January, as the first cases were being reported in Australia, the World Health Organization (WHO) declared a public health emergency. On 11 February, the new coronavirus was given a name: COVID-19. On 11 March, with a rapid increase in cases outside China now evident, the WHO belatedly announced a pandemic.

COVID-19 has presented Australia, along with the rest of the world, with both health and economic crises. Its multifarious implications threatened to overtake and overwhelm the finalisation of our report. Events moved lightning fast. On 10 March, we conducted an energetic youth forum in Wagga Wagga that brought together senior secondary students in that city with others from the ACT, New South Wales, Tasmania, Queensland, Western Australia and Victoria. A few days later, when I reported the Panel's preliminary findings to the Australian Education Senior Officials Committee, the meeting was conducted by videoconference. By 23 March, as we approached our seventh panel discussion, it was clear that travelling to meet face to face was no longer appropriate. Since then, we have held our meetings online or by telephone.

As I write, the world is reporting around 3.5 million cases and almost 250,000 deaths. Both figures are almost certainly gross underestimates. In Australia, where reporting is far more reliable, we have now conducted more than 600,000 tests and identified almost 7,000 cases. Tragically, at the time of writing 95 Australians, most elderly, have died of COVID-19.

The constant threat of community transmission of the virus, the consequent need for physical distancing, and the imposition of various levels of 'lockdown' in Australian states and territories, have had profound implications. Schools have been at the forefront of political and public debate. How safe is the school environment; should schools stay open for students or close down? In all jurisdictions, to varying degrees, education has been significantly disrupted. For many weeks, most schools, public, Catholic and independent, have been open only to meet the needs of essential workers and vulnerable students.

Hopefully, an end to that situation is now in sight with schools progressively reopening their gates to more students. Nevertheless, the impact of the crisis has substantially increased the pressures that senior secondary students experience as they approach the end of their final school year. Concerns about how the senior school certificate will be assessed and how an ATAR score will be calculated have this year exacerbated the stress that students normally feel.

For the Panel, the uncertainties of the situation have presented a particular dilemma. Given the inevitable focus of education ministers on addressing their immediate challenges, what interest would they have in reading a report focused on medium-term reform? Perhaps mid-2020 would be the worst time to suggest to COAG Education Council that senior secondary pathways to further education, training and employment could be significantly enhanced by bold new approaches? Perhaps our report should be postponed to a more auspicious occasion?

Yet, collectively, we strongly reject that proposition. Rather, we are of the view that the Australian experience of COVID-19, and particularly its impact on education delivery, means that the report we submit is more important and relevant than ever. We have learned much from the experience of schools and the efforts of many remarkable teachers in pivoting the structures of learning in response to emergency. While we necessarily await a considered evaluation, some key characteristics of the experience already suggest that the recommendations we make are now more, rather than less, salient.

The experience of moving to online learning has highlighted the fact that at-risk cohorts are particularly disadvantaged in accessing equal educational opportunity. The Rapid Response Information Forum, chaired by Australia's Chief Scientist Alan Finkel, has concluded that almost half of Australia's students will have their educational outcomes worsened if existing remote learning arrangements continue long-term. Students from low socioeconomic status backgrounds, Indigenous youth, those with English as a second language, those with special learning needs, and rural and remote students are at particular risk of losing out from online learning.²¹⁹

That not unexpected outcome reinforces why the Panel has included digital literacy as a foundational skill and why it needs to be accorded similar status as English and mathematics. Students in the workforce will increasingly need to communicate, conduct business and seek information online. Disadvantaged students, who often do not have the same capacity as others to work from home, and whose families cannot afford laptops and tablets, will need particular support. We need to know how education can overcome the disadvantages compounded by the digital divide. This could be a strong immediate focus of our suggested national Transition from School Program. It would allow collaborative demonstration projects to evaluate the efficacy of new forms of student supports for online study, with the goal of improving opportunities for at-risk groups.

It's not all bad news. The move to remote learning, undertaken at breakneck speed, has been challenging. Yet it has already revealed some of the tangible benefits of online education. Perhaps we can now start to imagine a new normal in which aspects of online education will be more deeply embedded in blended learning at school. For senior students, it would be good preparation for tertiary education in which much of the teaching already combines face-to-face with online materials and tuition. It opens up a whole world of web-based micro-learning, much of which can be credentialed. It would also provide important upskilling for the workplace. It seems likely that companies employing large numbers of administrative and professional staff will increasingly have to consider staggering start times and rosters. Employers will expect that their people have the capacity, skills and discipline to work remotely from home.

Experience of COVID-19 has also reinforced the fact that although many universities continue to use the ATAR as a convenient means of ranking applicants, they are increasingly moving beyond that single number to get a broader assessment of student ability. Already many universities have indicated that, whatever happens this year, they will be making offers using a range of alternative admissions processes to facilitate access to university for Year 12 students. Many are looking to provide their own bridging or foundational courses to help support students before they enter their degree course. TAFEs, together with private providers, are also showing increasing flexibility on how they accept students into certificated courses and then provide them with any additional support they may need. As in so many areas of the economy, Australia's experience of the virus is accelerating changes that were already underway. Acceptance of a broader measure of student assessment, captured in a Learner Profile, seems closer than ever. The singular dominance of the ATAR is unlikely to survive COVID-19.

The unexpected dependence that schools have had to place on digital technology, and its rapid acceptance as a key part of the education experience, also has the potential to create a new normal in integrating students' school-based learnings with capabilities gained in the wider world. The capacity of teachers to structure online feedback from employers and coaches for whom students work, volunteer or play sport has the potential to contribute significantly to teachers' capacity to evidence the range of capabilities that students will need for workplace success and active citizenship. It allows the proposed Learner Profile to capture more easily a student's experience outside school.

Similarly, the imperative for schools to have more substantive collaboration with industry bodies and local employers can be built, at least in part, on 'virtual' partnerships. So, too, can the need to provide much more informed career guidance. Schools have adapted to these significant changes far faster than imagined. Some have been much better prepared than others. But, to varying extents, all schools have now gained frontline experience of how online capacity can be embedded in educational experience, particularly for senior secondary pupils as they prepare for further education, skills training or work.

219 Rapid Research Information Forum (2020).

Never has this been more necessary because the future of work has rarely been more uncertain. Sectors that seem to have promised so much just a few months ago – tourism, education services, hospitality and retail – now face enormous challenges to recover from the devastating impact of COVID-19. Apprentices are particularly susceptible to economic shock. Conversely, demand from other sectors, particularly for health and care workers, seems likely to increase. We know that students who left school during the 2008 global financial crisis had greater difficulty finding work and building careers than their predecessors, and we should expect the same experience again as the world economy falls into recession and then slowly recovers.

We must not let these students of 2020 down. Nor those who follow closely in their footsteps. The Panel believes that the recommendations that we have made can play a significant part in helping schools transition to providing more effective pathways for their students. They can help to ensure that we do not let this tragic crisis go to waste.

A handwritten signature in black ink, appearing to read 'Peter Shergold'.

Professor Peter Shergold AC
Panel Chair

ABBREVIATIONS AND ACRONYMS

ABS	Australian Bureau of Statistics
AQF	Australian Qualifications Framework
ASQA	Australian Skills Quality Authority
ATAR	Australian Tertiary Admission Rank
COAG	Council of Australian Governments
COVID-19	coronavirus disease 2019
JEDI	Jobs and Education Data Infrastructure
LSAY	Longitudinal Surveys of Australian Youth
NAPLAN	National Assessment Program – Literacy and Numeracy
NCVER	National Centre for Vocational Education Research
OECD	Organisation for Economic Co-operation and Development
P-TECH	Pathways in Technology
RTO	registered training organisation
SLES	School Leaver Employment Support
SSCE	Senior Secondary Certificate of Education
STEM	science, technology, engineering and mathematics
TAFE	Technical and Further Education
TEQSA	Tertiary Education Quality and Standards Agency
UAC	Universities Admissions Centre
USI	Unique Student Identifier
VET	vocational education and training

GLOSSARY

Term	Definition
Academic pathway/stream	A progression through education focusing on academic subjects and scores, generally leading to further study at a higher education institution.
Achievement standards	Describe the depth of understanding and the sophistication of knowledge and skill expected of students at the end of each year level or band of years.
Apprenticeship	A learning pathway that combines paid on-the-job training and formal study with a registered training organisation.
Attributes	Skills, values and behaviours.
Australian Qualifications Framework (AQF)	The national framework comprising all regulated qualifications in the Australian education and training system.
Australian Tertiary Admission Rank (ATAR)	A student's position in relation to their cohort. It is used by higher education providers either on its own or in conjunction with other selection criteria, to rank and select students for admission to tertiary courses.
Capabilities for employment and active citizenship	Capabilities that prepare young people for work, as well as to be active citizens and lifelong learners. Capabilities include literacy, numeracy, digital literacy, problem-solving, critical thinking, entrepreneurial capacity and interpersonal skills.
Career advice	Services intended to assist individuals, of any age and at any point throughout their lives, to make educational, training and occupational choices and to manage their careers. Consists of a range of interventions, including career education and counselling, that help people to move from a general understanding of life and work to a specific understanding of the realistic learning and work options that are open to them. ²²⁰
Career counselling	An individual or group process that emphasises self-awareness and understanding, and facilitates people to develop a satisfying and meaningful life/work direction as a basis to guide learning, work and transition decisions, as well as manage responses to changing work and learning environments over the lifespan. ²²¹
Career education	The development of knowledge, skills and attitudes through a planned program of learning experiences in education and training settings that will assist students to make informed decisions about their study and/or work options and enable effective participation in working life. ²²²
Career information	Information (print, electronic, personal contacts and other resources) that assists the process of career development. Career information includes occupational and industry information, education and training information, and social information related to the world of work. ²²³
Careers adviser	Provides a service that facilitates career decision-making. In addition, careers advisers provide timely and authoritative advice and information to students, colleagues and parents for use in school programs. ²²⁴
Competency	Acquisition of a skill.

²²⁰ Australian Government, 'Common career education terms', <https://pssfw.myskills.gov.au/media/1188/attachment-c-common-career-education-terms-20151203.pdf>.

²²¹ Ibid.

²²² Ibid.

²²³ Ibid.

²²⁴ Ibid.

Term	Definition
Credential	Formal certification issued for successful achievement of a defined set of outcomes, e.g. successful completion of a course in recognition of having achieved particular knowledge, skills or competencies; successful completion of an apprenticeship or traineeship.
Digital literacy	The ability to access, manage and evaluate digital information, including information and communications technology, social media, hardware and software, and an awareness of issues such as cybersecurity.
Education Passport	A living document that records skills, certificated courses, professional development, workplace learning or micro-credentials, and allows young people to capture all the learnings and experiences they gain through both formal and informal education and training opportunities.
Entrepreneurship	The group of personal dispositions that contribute to identifying and/or creating opportunities, and implementing these dispositions in a productive way in a work context.
Essential skills/values/attributes	Skills, values and attributes needed to become productive members of the community, including financial literacy, interpersonal skills and civic understanding.
Flexible learning	The provision of a range of learning modes or methods, giving learners greater choice of when, where and how they learn.
General capabilities	Encompasses the knowledge, skills, behaviours and dispositions that, together with curriculum content in learning areas and the cross-curriculum priorities, assist students to live and work successfully in the 21st century. The seven general capabilities are: literacy; numeracy; information and communications technology capabilities; critical and creative thinking; personal and social capability; ethical understanding; and intercultural understanding.
Higher education	Education involving qualifications under the Australian Qualifications Framework at associate degree and above, as well as diploma and advanced diploma qualifications accredited under higher education arrangements.
Higher education provider	Universities and higher education institutions registered by the Tertiary Education Quality and Standards Agency.
Higher education sector	Universities and other higher education providers.
Industry bodies	Peak bodies, decision-making committees and other organisational groups carrying out the work of industry.
Learner Profile	Holistic overview of a learner's achievements in both academic and non-academic skills.
Lifelong learning	All purposeful learning activity, undertaken on an ongoing basis with the aim of improving knowledge, skills and competence; the process of acquiring knowledge or skills throughout life via education, training, work and general life experience.
National Assessment Program – Literacy and Numeracy (NAPLAN)	Annual national assessment for students in Years 3, 5, 7 and 9, which shows how students are progressing against national standards in literacy and numeracy.
Pathways	The different options available to young people as they progress through their schooling and transition to further education or work.
Programme for International Student Assessment (PISA)	A triennial international survey that evaluates education systems worldwide by testing the skills and knowledge of 15-year-old students.
Qualification	Certification awarded to a person on successful completion of a course in recognition of having achieved particular knowledge, skills or competencies.

Term	Definition
Senior Secondary Certificate of Education (SSCE)	The certificate awarded by each state or territory to signify successful completion of Year 12. Also known as the 'Year 12 certificate'.
Senior secondary schooling	Year 11 and Year 12 of school, which can be studied either at high school, college or through a further education institution.
Skill	An ability to perform a particular mental or physical activity, which may be developed by training or practice.
Tertiary education	Study towards degrees, diplomas or certificates in vocational education and training and/or academic disciplines.
Tertiary institution	A tertiary education provider that offers degrees, diplomas or certificates in vocational education and training, and/or academic disciplines.
Traineeship	A learning pathway that combines paid on-the-job training and formal study. Traineeships are generally shorter than apprenticeships and cover a broader range of industries.
Vocational education and training (VET)	Study leading towards a nationally recognised qualification, issued by a registered training organisation within a regulatory framework.
VET delivered to secondary students	Vocational education and training qualifications undertaken at school, either as part of school studies delivered and resourced by a school registered training organisation, or by enrolling in a qualification with an external registered training organisation.
Work exploration	Any activity undertaken to learn about the world of work and careers, including identifying career options and pathways as part of a curriculum subject, work placements, work experience, and short programs with industry.
Young people	People between the ages of 16 and 25.

REVIEW PROCESS

On 14 December 2018, Education Council agreed a program of work to support implementation of the eight national policy initiatives under the national school reform agreement. This included the Review of senior secondary pathways into work, further education and training which developed from a recommendation in *Through Growth to Achievement: Report of the Review to Achieve Educational Excellence in Australian Schools* (Gonski, 2018).

On 28 June 2019, Education Council agreed a Review panel and Terms of reference for the Review to commence.

The Review panel members were:

Professor Peter Shergold AC (Chair)

Ms Patrea Walton PSM

Professor Tom Calma AO

Ms Jennifer Westacott AO

Mr Patrick O'Reilly

Dr Don Zoellner

Ms Sarina Russo

Discussion papers

On 20 September 2019 the Review panel released a Discussion Paper and supporting Background paper and invited students, teachers, parents/carers, schools, education experts, stakeholders and all other interested parties to provide feedback on their experiences of senior secondary education and different pathway options and to put forward ideas on how experiences can be improved.

Consultation

The Review panel undertook extensive consultations from September 2019 to March 2020 through face to face meetings, events, forums and written feedback and submissions. The panel heard from young people and specific priority groups, including students with disability, those in regional, rural and remote areas, and Aboriginal and Torres Strait Islander students.

Research

In addition to the significant research undertaken by the secretariat for the Review panel, research was also commissioned:

- Longitudinal Surveys of Australian Youth (LSAY) analysis: literature review (*National Centre for Vocational Education Research*)
- Research examining perceptions of apprenticeships (The Behavioural Insights Team)
- Regional & Rural living survey: research results, findings and conclusions (Year13)
- Showcasing student capabilities (Foundation for Young Australians – YLab)

Delivering the final report to Education Council

The Review Panel delivered their report to the Education Council in June 2020.

Secretariat

A secretariat from the Australian Government Department of Education, Skills and Employment supported the Review panel. The secretariat operated independently of the Australian Government.

CONSULTATIONS

From October 2019 to March 2020, 46 workshops, school visits and consultations with 776 education experts and youth from schools, educational institutions, industry, Government and non-Government organisations across Australia were undertaken.

Stakeholders consulted

11 October 2019 – Adelaide – SA

Agribusiness Industry Skills Council
Association of Independent Schools of South Australia
Autism SA
Career Development Association of Australia
Catholic Education SA
Commissioner for Children and Young People
Defence SA/Department for Innovation and Skills
Defence Teaming Centre
Flinders University
Food South Australia
National Centre for Vocational Education Research
Naval Shipbuilding College
SA Department of Education
SACE Board of South Australia
South Australian English Teachers Association
TAFE SA
Tauondi Aboriginal College
Teachers Registration Board of SA
Torrens University
Wine Grape Council of South Australia

17-18 October 2019 – Canberra – ACT

ACT Board of Senior Secondary Studies
Association of Independent Schools of the ACT
Australian Association of Mathematics Teachers
Australian Chamber of Commerce and Industry
Australian National University
Australian Research Alliance for Children and Youth
Brindabella Christian College
CIT
CIT Pathways College
CSIRO
Daramalan College
Dickson College
Gungahlin College
Hawker College
Independent Schools Council of Australia
Lake Tuggeranong College

Stakeholders consulted

17-18 October 2019 – Canberra – ACT (cont'd)

Lutheran Education Australia Ltd
Marist College
Merici College
Narrabundah College
Orana Steiner School
Regional Universities Network
St Clare's College
St Edmund's College
St Francis Xavier College
St John Paul II College
St Mary Mackillop College
Trinity Christian School
Universities Australia
University of Canberra

21 October – Cessnock - NSW

Alesco Senior College
Cessnock High School
Kurri Kurri High School
NSW Department of Education

21 October – Maitland - NSW

All Saints' College, St Mary's Campus
AMP Control
Bengalla Mining Company
Cessnock High School
Maitland High School
Regional Development Australia - Hunter
St Philip's Christian College DALE and DALE Young Parents
TAFE NSW
The Bloomfield Group
University of Newcastle
Varley Group
Youth Express

22 October 2019 – Toowoomba – QLD

Centenary Heights State High School

23 October 2019 – Townsville – QLD

Annandale Christian College
Back to Work/TAFE Queensland
Charters Towers Regional Council
Cleveland Education and Training Centre
Edmund Rice Education Australia, Townsville Flexible Learning Centre
Kirwin State High School
MEGT
QLD Department of Aboriginal and Torres Strait Islander Partnerships

Stakeholders consulted

23 October 2019 – Townsville – QLD (cont'd)

QLD Department of Education and Training
QLD Department of Employment, Small Business and Training
QLD Department of State Development, Manufacturing Infrastructure and Planning
Queensland Youth Services Inc.
Seed Foundation Australia
St Anthony's Catholic College
Tec-NQ
Townsville Catholic Education Office
Townsville City Council
Townsville Grammar School
Townsville State High School

24 October 2019 – Burnie - TAS

Beacon Foundation
Department of Education Tasmania
Hellyer College
Parklands High School
Tasmanian Minerals, Manufacturing and Energy Council
University College, University of Tasmania

25 October 2019 – Launceston – TAS

Avidity Training and Development
Department of Education Tasmania
Foundry
Launceston College
Launceston Youth Advisory Group
Master Builders Tasmania
Multicultural Youth Tasmania
Newstead College
Regional Development Australia
St Patrick's College
Tasmanian Hospitality Association
TasTAFE
University Connections Program, UTAS
University of Tasmania/Northern Tasmania Development Corporation
Volunteering Tasmania

28-29 October 2019 – Melbourne – VIC

Australian Mathematical Sciences Institute
Australian Skills Quality Authority
AVID Australia, Victoria University
Catholic Education Melbourne
Catholic Education Sandhurst
Central Ranges Local Learning & Employment Network
Children and Young People with Disability Australia

Stakeholders consulted

28-29 October 2019 – Melbourne – VIC (cont'd)

Deakin College
Education Services Australia
Foundation for Young Australians
Korumburra Secondary College
LaTrobe University
Learning and Education 121
Melbourne Polytechnic
Mitchell Institute, Victoria University
National Youth Commission / Youth Development Australia
Ringwood Secondary College
RMIT University
SEDA College
SEDA Group, Victoria
SEEK
South East Local Learning and Employment Network
Sirius College
Social Ventures Australia
Swinburne University of Technology
Teach for Australia
Tertiary Education Quality and Standards Agency
The University of Melbourne
University of Divinity
Victorian Curriculum and Assessment Authority
Victorian Department of Education and Training
Victorian Student Representative Council
Viewbank College
Youth Affairs Council, Victoria

31 October 2019 – Sydney – NSW

McCarthy Catholic College, Emu Plains

4-5 November 2019 – Alice Springs – NT

Alice Springs School of the Air
Centralian Senior College
Charles Darwin University
Northern Territory Council of Social Services
NT Department of Education
Yirara College

6 November – Darwin – NT

Batchelor Institute of Indigenous Tertiary Education
Catholic Education NT
Charles Darwin University
Darwin High School
Group Training NT
MacKillop Catholic College
Marrara Christian College

Stakeholders consulted

6 November – Darwin – NT (cont'd)

Northern Territory Board of Studies
NT Council of Government Schools Inc
NT Department of Education

12 November 2019 – Sydney – NSW

Australian Indigenous Mentoring Experience
Alpha Omega Senior College
Australian Catholic University
Australian Parents Council
Bradfield Senior College TAFE NSW
Catholic Schools NSW
Community Colleges Australia
Federation of Parents and Citizens Associations of New South Wales
Georges River College Oatley Senior Campus
Marist College Kogarah
Masada College
MWLP
National Youth Commission
NSW Business Chamber
NSW Department of Education
NSW Secondary Principals' Council
Philanthropy Australia
Professional Teachers Council NSW
PricewaterhouseCoopers
Schools Plus
University of Wollongong
Western Sydney University
Youth consultation/school visit

15 November 2019 – Perth – WA

Association of Independent Schools WA
Australian Council of State School Organisations
Career Industry Council of Australia
Catholic Education Office WA
Chamber of Commerce and Industry WA
College of Electrical Training
Community Services, Health & Education Training Council
Curtin University
Department of Training and Workforce Development
Edith Cowan University, School of Education
National Centre for Student Equity in Higher Education, Curtin University
Resources Industry Training Council
School Curriculum and Standards Authority
Tertiary Institutions Service Centre
WA Department of Education
WA Department of Training and Workforce Development

Stakeholders consulted

20-21 November 2019 – Brisbane – QLD

50 young people including training award finalists, students from St James College and Australian VET Alumni members

Apprenticeships Queensland

Australian Alliance of Associations in Education

Brisbane Catholic Education

Brisbane Industry Consultation

Brisbane Youth Education and Training Centre

Catholic School Parents Australia

Griffith University

Independent Schools Queensland

Loreto College

QLD Department of Education

Queensland Tertiary Admissions Centre

Queensland Tourism Industry Council

Queensland Catholic Education Commission

Queensland College of Teachers

Queensland Independent Schools Parents Network

Queensland Tourism Industry Council

Queensland University of Technology

Regional Development Australia, Brisbane

TAFE Queensland

The Gap State High School

The Red Toolbox

University of Queensland

VTQ - Vocational Training Queensland

26 November 2019 – Geraldton – WA

Central Regional TAFE

Geraldton Flexible Learning Centre

Geraldton Regional Aboriginal Medical Service

Geraldton Senior High School

Geraldton Universities Centre

Ngala Midwest & Gascoyne

Office of the Commissioner for Children and Young People WA

Strathalbyn Christian College

2 December 2019 – Adelaide – SA

Cardijn College, Marcellin Campus

FAME Flexible Learning Centre

St Patrick's Technical College

Unley High School

Stakeholders consulted

31 January 2020 – Sydney – NSW

Australian Securities Investments Commission
National Youth Commission
NSW Council of Social Service
NSW Department of Education
PricewaterhouseCoopers
Rooty Hill High School
Social Ventures Australia
The Smith Family

14 February 2020 – Melbourne – VIC

RMIT Public Policy Branch
RMIT University Urban School

10 March 2020 – Wagga Wagga – NSW

Commissioner for Children and Young People WA
Erindale College (ACT)
Gungahlin College (ACT)
Hennessy Catholic College (NSW)
Jasiri (NSW / ACT)
Mater Dei Catholic College (NSW)
Mount Austin High School (NSW)
Multicultural Youth Advocacy Network (National)
Riverina Anglican College (NSW)
The Indie School (NSW)
Training Services NSW
UC Senior Secondary College Lake Ginninderra (ACT)
YLab (National)

PUBLIC SUBMISSIONS

From 20 September to 24 December 2019, the Review panel received over 200 submissions, 141 from organisations and 69 from individuals through the Review of senior secondary pathways website. Details are below. Note that private submissions have not been listed here.

Stakeholders who made submissions

ACT Government
Advocate for Children and Young People
Association of Heads of Independent Schools of Australia (AHISA)
Association of Independent Schools
Association of Independent Schools of NSW
Association of Independent Schools of South Australia (AISSA)
Australian Association for the Teaching of English
Australian Chamber of Commerce and Industry
Australian Education Union
Australian Geography Teachers Association
Australian Government Primary Principals Association
Australian Indigenous Mentoring Experience
Australian Industry Group
Australian Library and Information Association
Australian Mathematical Sciences Institute
Australian Parents Council
Australian Professional Teachers Association
Australian Scholarships Group
Autism Spectrum Australia (Aspect)
Batchelor Institute of Indigenous Tertiary Education
BECOME. Life Design Pty Ltd
Beddie, Francesca
Boys, Sasha
Bradshaw, Chantal
Bray, Helen
Bridge, Vicki
Broughton, Christina
Career Industry Council of Australia
Careers Advisors Association of NSW & ACT
Catholic Education Diocese of Parramatta
Catholic Education WA
Catholic Regional College Sydenham
Catholic Regional College Sydenham
Catholic School Parents Australia
Centre for Vocational and Educational Policy, Melbourne Disability Institute, Learning Intervention
Children and Young People with Disability Australia
City of Launceston
Cole, Peter
Commissioner for Children and Young People

Dembowski, Phillip
Deputy Vice-Chancellor Academic Office, University of Queensland
Eastern Fleurieu School Governing Council
Economics and Business Educators NSW
Education Services Australia
Empowered Communities, NPY Region
Esperance Education Support Centre
Federation of Parents and Citizens Association of New South Wales
Federation University Australia
Fergusson, Belinda
Financial Basics Foundation
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Independent Higher Education Australia
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Kempton, Deb
La Trobe University
Life Course Centre
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Master Builders Australia
McKay, John
Mekawy, Hassan
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National Disability Services
National Electrical and Communications Association
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Queensland Government
Queensland Manufacturing Institute Solutions
Queensland University of Technology
Ragusa, Melina
Regional Development Australia Hunter
Regional Universities Network
Restaurant and Catering Industry Association
RMIT University
Rooty Hill High School
School of Education and Professional Studies, Griffith University
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Shakya, Christine
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Social Ventures Australia
South Australian Commissioner for Children and Young People
South Australian Department for Innovation and Skills
St Patrick's Tech College
Tangentyere Council Aboriginal Corporation
Tasmanian Government
The Australian Learning Lecture
The Centre for Independent Studies
The Smith Family
The University of Adelaide
The University of Western Australia
Transforming Education
Trotter, Hillary
Turner, Tanya
University Admissions Centre
University of Divinity
University of Melbourne
University of Sydney
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VIC - Victorian Government
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REFERENCES

- ACIL Allen Consulting (2017), *National Disability Coordination Officer Program: Evaluation*, January 2017, https://docs.education.gov.au/system/files/doc/other/ndco_evaluation_final_report.pdf.
- Ackehurst, M., Polvere, R., and Windley, G. (2017), *Indigenous Participation in VET: Understanding the research*, National Centre for Vocational Education Research, https://www.ncver.edu.au/_data/assets/pdf_file/0029/484463/Indigenous-participation-in-VET.pdf.
- AlphaBeta (2017), *The Automation Advantage*, <https://www.alphabeta.com/wp-content/uploads/2017/08/The-Automation-Advantage.pdf>.
- AlphaBeta (2018), *Future Skills*, <https://www.alphabeta.com/wp-content/uploads/2019/01/google-skills-report.pdf>.
- Australasian Curriculum, Assessment and Certification Authorities (2018), *VET in Senior Secondary Certificates of Education*, April 2018, http://www.acaca.edu.au/?wpfb_dl=1279.
- Australian Bureau of Statistics (1991), *Schools, Australia, 1990*, cat. no. 4221.0, <https://www.abs.gov.au/AUSSTATS/abs@.nsf/allprimarymainfeatures/1A6958EE78EA4DAACA257441001B8B29?opendocument>.
- Australian Bureau of Statistics (1996), *Transition from Education to Work, Australia, May 1996*, cat. no. 6227.0, [https://www.ausstats.abs.gov.au/ausstats/free.nsf/0/A5D41B6DD31B7B4DCA25722500073702/\\$File/62270_1996.pdf](https://www.ausstats.abs.gov.au/ausstats/free.nsf/0/A5D41B6DD31B7B4DCA25722500073702/$File/62270_1996.pdf).
- Australian Bureau of Statistics (1999), *Australian Social Trends, 1999: Participation in education – Destinations of school leavers*, cat. no. 4102.0, <https://www.abs.gov.au/AUSSTATS/abs@.nsf/2f762f95845417aeca25706c00834efa/2f3f76f60abec87aca2570ec00112c40!OpenDocument>.
- Australian Bureau of Statistics (2014a), *Education Variables, June 2014*, cat. no. 1246.0, <https://www.abs.gov.au/ausstats/abs@.nsf/Lookup/1246.0main+features24june%202014>.
- Australian Bureau of Statistics (2014b), *Schools, Australia, 2013: Students*, cat. no. 4221.0, <https://www.abs.gov.au/ausstats/abs@.nsf/Lookup/4221.0main+features42013>.
- Australian Bureau of Statistics (2016), *Census of Population and Housing: Reflecting Australia – Stories from the Census, 2016*, cat. no. 2071.0, 'Small towns', <https://www.abs.gov.au/ausstats/abs@.nsf/Lookup/by%20Subject/2071.0~2016~Main%20Features~Small%20Towns~113>.
- Australian Bureau of Statistics (2018), *Education and Work, Australia, May 2018*, cat. no. 6227.0, <https://www.abs.gov.au/AUSSTATS/abs@.nsf/Lookup/6227.0Main+Features1May%202018?OpenDocument>.
- Australian Bureau of Statistics (2019a), *Disability, Ageing and Carers, Australia: Summary of findings, 2018*, cat. no. 4430.0, <https://www.abs.gov.au/ausstats/abs@.nsf/mf/4430.0>.
- Australian Bureau of Statistics (2019b), *Education and Work, Australia, May 2019*, cat. no. 6227.0, <https://www.abs.gov.au/ausstats/abs@.nsf/Latestproducts/6227.0Main%20Features30May%202019?opendocument&tabname=Summary&prodno=6227.0&issue=May%202019&num=&view=>.
- Australian Bureau of Statistics (2020a), *Schools, Australia, 2019: Aboriginal and Torres Strait Islander students*, cat. no. 4221.0, <https://www.abs.gov.au/ausstats/abs@.nsf/Latestproducts/4221.0Main%20Features102019?opendocument&tabname=Summary&prodno=4221.0&issue=2019&num=&view=>.
- Australian Bureau of Statistics (2020b), *Schools, Australia, 2019: Key statistics*, cat. no. 4221.0, <https://www.abs.gov.au/ausstats/abs@.nsf/mf/4221.0>.
- Australian Chamber of Commerce and Industry (2019), *Review of Senior Secondary Pathways into Work, Further Education and Training: Submission to the Education Council*, December 2019, <https://www.australianchamber.com.au/wp-content/uploads/2019/12/ACCI-Submission-Education-Council-Review-into-Senior-Secondary-Pathways-Final.pdf>.
- Australian Curriculum, Assessment and Reporting Authority (2019a), *Measurement Framework for Schooling in Australia 2019*, <https://www.acara.edu.au/reporting/measurement-framework-for-schooling-in-australia>.

Australian Curriculum, Assessment and Reporting Authority (2019b), *National Assessment Program – Literacy and Numeracy: Achievement in Reading, Writing, Language Conventions and Numeracy: National report for 2019*, <https://nap.edu.au/docs/default-source/resources/naplan-2019-national-report.pdf>.

Australian Curriculum, Assessment and Reporting Authority, 'Apparent retention', National Report on Schooling in Australia data portal (accessed 28 April 2020), <https://www.acara.edu.au/reporting/national-report-on-schooling-in-australia/national-report-on-schooling-in-australia-data-portal/apparent-retention#View3>.

Australian Curriculum, Assessment and Reporting Authority, 'Australian Curriculum: F–10 curriculum: General capabilities', webpage (accessed 20 November 2019), <https://www.australiancurriculum.edu.au/f-10-curriculum/general-capabilities>.

Australian Government (2015), Higher Education Standards Framework (Threshold Standards) 2015, https://www.legislation.gov.au/Details/F2015L01639/Html/Text#_Toc428368847.

Australian Government (2018), *Through Growth to Achievement: Report of the Review to Achieve Educational Excellence in Australian Schools*, March 2018, https://docs.education.gov.au/system/files/doc/other/662684_tgta_accessible_final_0.pdf.

Australian Government, 'Common career education terms', <https://pssfw.myskills.gov.au/media/1188/attachment-c-common-career-education-terms-20151203.pdf>.

Australian Government, 'What to do if you didn't get the ATAR required for your course', Job Jumpstart webpage (accessed 12 December 2019), <https://www.jobjumpstart.gov.au/article/what-do-if-you-didnt-get-atar-required-your-course>.

Australian Human Rights Commission (2017), *The Rights and Needs of Young Parents and Their Children: A summary of key findings from the Children's Rights Report 2017*, <https://www.humanrights.gov.au/our-work/publications/summary-childrens-rights-report-2017>.

Australian Industry Group (2018), *Skilling: A national imperative*, Workforce Development Needs Survey report, https://cdn.aigroup.com.au/Reports/2018/Survey_Report_WFDNeeds_Skilling_Sept2018.pdf.

Australian Industry Group (2019), *AiGroup Submission: Review of the Melbourne Declaration Response to the Discussion Paper*, June 2019, https://cdn.aigroup.com.au/Submissions/Education_and_Training/2019/Review_of_the_Melbourne_Declaration_-_Ai_Group_Response_June_2019.pdf.

Australian Institute for Teaching and School Leadership (2018), *One Teaching Profession: Teacher registration in Australia*, September 2018, <https://www.aitsl.edu.au/docs/default-source/national-review-of-teacher-registration/report/one-teaching-profession---teacher-registration-in-australia.pdf>.

Australian Institute of Health and Welfare (2017), 'Disability in Australia: Changes over time in inclusion and participation in education', fact sheet, cat. no. DIS 69, <https://www.aihw.gov.au/getmedia/34f09557-0acf-4adf-837d-eada7b74d466/Education-20905.pdf.aspx>.

Australian Institute of Health and Welfare (2018), *Teenage Mothers in Australia 2015*, May 2018, <https://www.aihw.gov.au/getmedia/6976ff0b-4649-4e3f-918f-849fc29d538f/aihw-per-93.pdf.aspx?inline=true>.

Australian Institute of Health and Welfare (2019a), *People with Disability in Australia 2019: In brief*, <https://www.aihw.gov.au/getmedia/3bc5f549-216e-4199-9a82-fba1bba9208f/aihw-dis-74.pdf.aspx?inline=true>.

Australian Institute of Health and Welfare (2019b), 'Secondary education: School retention and completion', snapshot, 11 September 2019, <https://www.aihw.gov.au/reports/australias-welfare/secondary-education-school-retention-completion>.

Australian Qualifications Framework Council (2013), *Australian Qualifications Framework*, second edition, January 2013, <https://www.aqf.edu.au/sites/aqf/files/aqf-2nd-edition-january-2013.pdf>.

Australian Youth Affairs Coalition (2012), *Beyond Earn or Learn*, November 2012, <http://www.ayac.org.au/uploads/AYAC%20Beyond%20Learn%20or%20Earn%205.7MB.pdf>.

- Behavioural Insights Team (2020), *Perceptions of Apprenticeships: Behavioural insights evidence review*, unpublished report.
- Bisson, R. and Stublely, W. (2017), *After the ATAR: Understanding how Gen Z transition into further education and employment*, Year13 and YouthSense, <https://youthsense.com.au/research/after-the-atar-i>.
- Business Council of Australia (2016), *Being Work Ready: A guide to what employers want*, https://www.bca.com.au/being_work_ready_a_guide_to_what_employers_want.
- Business Council of Australia (2018), *Future-proof: Australia's future post-secondary education and skills system*, August 2018, https://d3n8a8pro7vhm.cloudfront.net/bca/pages/4386/attachments/original/1542258016/LoRes-2018_BCA_EDUC_Future_Proof_WIP1A_%281%29.pdf?1542258016.
- Business Council of Australia (2020), *The Modern Worker: A guide to what employers want*.
- Business–School Connections Roundtable (2012), *Realising Potential: Businesses helping schools to develop Australia's future*, https://docs.education.gov.au/system/files/doc/other/realising_potential.pdf.
- Cardak, B. et al. (2017), *Regional Student Participation and Migration: Analysis of factors influencing regional student participation and internal migration in Australian higher education*, National Centre for Student Equity in Higher Education: Curtin University, February 2017, <https://www.ncsehe.edu.au/wp-content/uploads/2017/02/Regional-Student-Participation-and-Migration-20170227-Final.pdf>.
- Career Industry Council of Australia and McCrindle (2017), 'As key influencers, school career practitioners need more time to assist students make well-informed decisions', media release, 21 June 2017, <https://cica.org.au/wp-content/uploads/CICA-Media-Release-21-June-2017.pdf>.
- Catholic School Parents Australia (2019), 'Submission to Prof. Peter Shergold AC (Chair) in relation to the Review of Senior Secondary Pathways', 5 December 2019, <http://www.cspa.catholic.edu.au/submissions>.
- Centre for Multicultural Youth (2014), *Fair and Accurate? Migrant and refugee young people, crime and the media*, <https://www.cmy.net.au/knowledge-hub>.
- Cherastidtham, I. (2018), 'University admission: ATAR best guide to student performance', *The Australian*, 30 May 2018. Also published by the Grattan Institute, <https://grattan.edu.au/news/university-admission-atar-best-guide-to-student-performance>.
- Children with Disability Australia (2015), *Post School Transition: The experiences of students with disability*, <https://www.cyda.org.au/resources/details/85/post-school-transition-the-experiences-of-students-with-disability>.
- Commonwealth Department of Education (2019a), 'Benefits of educational attainment: Employment and income support', <https://www.education.gov.au/employment-and-income-support>.
- Commonwealth Department of Education (2019b), 'Benefits of educational attainment: Introduction', fact sheet, <https://docs.education.gov.au/documents/benefits-educational-attainment-introduction>.
- Commonwealth Department of Education (2019c), *Undergraduate Applications, Offers and Acceptances 2019*, October 2019, https://docs.education.gov.au/system/files/doc/other/dept_of_education_-_undergraduate_applicationsoffers_and_acceptances_2019.pdf.
- Commonwealth Department of Education and Training (2018a), *Selected Higher Education Statistics – 2018 student data*, <https://www.education.gov.au/selected-higher-education-statistics-2018-student-data>.
- Commonwealth Department of Education and Training (2018b), *Undergraduate Applications, Offers and Acceptances 2018*, https://docs.education.gov.au/system/files/doc/other/undergraduate_applications_offers_and_acceptances_2018.pdf.
- Commonwealth Department of Education and Training (2019), *Future Ready Career Education: A student focused national career education strategy*, https://docs.education.gov.au/system/files/doc/other/future_ready_a_student_focused_national_career_education_strategy.pdf.
- Commonwealth Department of Employment, Skills, Small and Family Business (2019a), *Employment Outlook to May 2024*, <https://cica.org.au/wp-content/uploads/Employment-Outlook-to-May-2024.pdf>.

- Commonwealth Department of Employment, Skills, Small and Family Business (2019b), *Ratings Summary: Labour market analysis of skills occupations*, https://docs.employment.gov.au/system/files/doc/other/ratingssummary_june2019_0.pdf.
- Council of Australian Governments Education Council (2014), *Preparing Secondary Students for Work: A framework for vocational learning and VET delivered to secondary students*, <https://pssfw.myskills.gov.au/media/1174/preparing-secondary-students-for-work-2014.pdf>.
- Council of Australian Governments Education Council (2018a), *Australian Student Wellbeing Framework*, https://studentwellbeinghub.edu.au/media/9310/aswf_booklet.pdf.
- Council of Australian Governments Education Council (2018b), *Optimising STEM Industry–School Partnerships: Inspiring Australia's next generation: Final report*, April 2018, <http://www.educationcouncil.edu.au/site/DefaultSite/filesystem/documents/Reports%20and%20publications/Publications/Optimising%20STEM%20Industry-School%20Partnerships%20-%20Final%20Report.pdf>.
- Council of Australian Governments Education Council (2019), *Alice Springs (Mparntwe) Education Declaration*, December 2019, https://docs.education.gov.au/system/files/doc/other/final_-_alice_springs_declaration_-_17_february_2020_security_removed.pdf.
- Czarnecki, K. (2017), 'Less inequality through universal access? Socioeconomic background of tertiary entrants in Australia after the expansion of university participation', *Higher Education*, vol. 76, pp. 501–518, <https://link.springer.com/article/10.1007/s10734-017-0222-1>.
- Deloitte Access Economics (2016), *The Economic Impact of Improving School Quality*, report for the Commonwealth Department of Education and Training, November 2016, <https://docs.education.gov.au/system/files/doc/other/ecoimpactschoolquality.pdf>.
- Deloitte Australia (2019), *The Path to Prosperity: Why the future of work is human*, <https://www2.deloitte.com/au/en/pages/building-lucky-country/articles/path-prosperity-future-work.html>.
- Dockery, A. (2010), *Education and Happiness in the School-to-Work Transition*, National Centre for Vocational Education Research, https://www.ncver.edu.au/__data/assets/file/0014/6224/lsay_2239.pdf.
- Economic, Education, Jobs and Skills Committee (2018), *Inquiry into Career Advice Activities in Victorian Schools*, Parliament of Victoria, <https://www.parliament.vic.gov.au/925-eejsc/inquiry-into-career-advice-activities-in-victorian-schools>.
- Employment and Skills Formation Council (1992), *The Australian Vocational Certificate Training System*, National Board of Employment, Education and Training, March 1992, <https://www.voced.edu.au/content/ngv%3A34192>.
- Expert Panel for the Review of the Australian Qualifications Framework (2019), *Review of the Australian Qualifications Framework: Final report*, October 2019, https://docs.education.gov.au/system/files/doc/other/aqf_review_2019_0.pdf.
- Foundation for Young Australians (2018), *The New Work Reality*, https://www.fya.org.au/wp-content/uploads/2018/06/FYA_TheNewWorkReality_sml.pdf.
- Foundation for Young Australians (2020), co-design report (unpublished).
- Gemici, S., Bednarz, A., Karmel, T. and Lim, P. (2014), *The Factors Affecting the Educational and Occupational Aspirations of Young Australians*, Longitudinal Surveys of Australian Youth Research Report no. 66, National Centre for Vocational Education Research, <http://www.lsay.edu.au/publications/2711.html>.
- Group of Eight (2014), *Policy Note: Graduate skills and national productivity*, March 2014, https://go8.edu.au/files/docs/publications/graduate_skills_and_national_productivity.pdf.
- Halsey, J. (2018), *Independent Review into Regional, Rural and Remote Education: Final report*, January 2018, https://docs.education.gov.au/system/files/doc/other/01218_independent_review_accessible.pdf.
- Hargreaves, J. and Osborne, K. (2017), *Choosing VET: Aspirations, intentions and choice*, National Centre for Vocational Education Research, https://www.ncver.edu.au/__data/assets/pdf_file/0024/1142691/Choosing-VET-aspirations-intentions-and-choice.pdf.

- Hart Research Associates (2013), *It Takes More Than a Major: Employer priorities for college learning and student success*, Association of American Colleges and Universities, 10 April 2013, https://www.aacu.org/sites/default/files/files/LEAP/2013_EmployerSurvey.pdf.
- Higher Education Standards Panel (2016), *Improving the Transparency of Higher Education Admissions: Final report*, October 2016, https://docs.education.gov.au/system/files/doc/other/revised_20161115_pm_final_accessibility_version_hesp_admissions_transparency_report.pdf.
- House of Representatives Standing Committee on Education and Training (2009), *Adolescent Overload? Report of the inquiry into combining school and work: Supporting successful youth transitions*, October 2009, https://www.aph.gov.au/Parliamentary_Business/Committees/House_of_Representatives_Committees?url=edt/schoolandwork/report.htm.
- Ithaca Group (2016), *Everybody's Core Business: Research into the non-technical capabilities needed for successful participation in work or further study: Final report*, August 2016, https://docs.education.gov.au/system/files/doc/other/everybodys_core_business_-_research_report.pdf.
- Ithaca Group (2018), *Credit Pathways in VET and Higher Education: Research project: Final report*, October 2018, <https://docs.education.gov.au/system/files/doc/other/aqfcreditpathways.pdf>.
- Ithaca Group (2019), *Future Ready: Research on incorporating career education in Australian schools*, January 2019, https://docs.education.gov.au/system/files/doc/other/future_ready_-_research_on_incorporating_career_education_in_the_australian_curriculum.pdf.
- Joyce, S. (2019), *Strengthening Skills: Expert Review of Australia's Vocational Education and Training System*, Department of the Prime Minister and Cabinet, March 2019, https://www.pmc.gov.au/sites/default/files/publications/strengthening-skills-independent-review-australia-vets_1.pdf.
- Karmel, T. and Lim, P. (2013), *Socioeconomic Disadvantage and Participation in Tertiary Education: Preliminary thoughts*, National Centre for Vocational Education Research occasional paper, https://ncver.edu.au/__data/assets/file/0024/9393/socioeconomic-disadvantage-2612.pdf.
- Karmel, T., Lu, T. and Oliver, D. (2013), *Starting Out in Low-skill Jobs*, Longitudinal Surveys of Australian Youth Research Report No. 64, National Centre for Vocational Education Research, https://www.ncver.edu.au/__data/assets/file/0020/5870/starting-out-2649.pdf.
- Koshy, P. (2019), *Equity Student Participation in Australian Higher Education: 2013–2018*, National Centre for Student Equity in Higher Education: Curtin University, https://www.ncsehe.edu.au/wp-content/uploads/2020/04/NCSEHE-Equity-Student-Briefing-Note_2013-18_Accessible_Final_V2.pdf.
- Lamb, S. and Huo, S. (2017), *Counting the Costs of Lost Opportunity in Australian Education*, Mitchell Institute Report No. 02/2017, Centre for International Research on Education Systems, and Mitchell Institute: Victoria University, June 2017, <http://www.mitchellinstitute.org.au/wp-content/uploads/2017/06/Counting-the-costs-of-lost-opportunity-in-Australian-education.pdf>.
- Lamb, S. and Vickers, M. (2006), *Variations in VET Provision across Australian Schools and Their Effects on Student Outcomes*, Longitudinal Surveys of Australian Youth: Research Report 48, Australian Council for Educational Research, March 2006, https://www.ncver.edu.au/__data/assets/file/0017/5930/lsay_lsay48.pdf.
- Lamb, S., Jackson, J., Walstab, A. and Huo, S. (2015) *Educational Opportunity in Australia 2015: Who succeeds and who misses out*, Centre for International Research on Education Systems, and Mitchell Institute: Victoria University, October 2015, <http://www.mitchellinstitute.org.au/wp-content/uploads/2015/11/Educational-opportunity-in-Australia-2015-Who-succeeds-and-who-misses-out-19Nov15.pdf>.
- Mann, A., Rehill, J. and Kashefpakdel, E. (2018), *Employer Engagement in Education: Insights from international evidence for effective practice and future research*, Education and Employers Research, and Education Endowment Foundation, January 2018, https://educationendowmentfoundation.org.uk/public/files/Employer_Engagement_in_Education.pdf.
- Master Builders Australia (2019), 'Submission to COAG Education Council: Review of Senior Secondary Pathways', December 2019, https://www.masterbuilders.com.au/getmedia/293f617d-bdd7-4cb0-beac-919544f90d6a/FINAL_MBA_Submission_pathways_Dec19.pdf.

Milligan, S. and Kennedy, G. (2017), 'To what degree? Alternative micro-credentialing in a digital age', in James, R., French, S. and Kelly, P. (eds), *Visions for Australian Tertiary Education*, Melbourne Centre for the Study of Higher Education: University of Melbourne, https://melbourne-cshe.unimelb.edu.au/__data/assets/pdf_file/0006/2263137/MC-SHE-Visions-for-Aust-Ter-Ed-web2.pdf.

Misko, J., Korbelt, P. and Blomberg, D. (2017), *VET in Schools Students: Characteristics and post-school employment and training experiences*, National Centre for Vocational Education Research, https://www.ncver.edu.au/__data/assets/pdf_file/0037/887716/VET-in-Schools-students-characteristics-and-post-school-employment-and-training-experiences.pdf.

Mission Australia (2018), *Youth Survey Report 2018*, <https://www.missionaustralia.com.au/what-we-do/research-impact-policy-advocacy/youth-survey>.

Mission Australia (2019a), *Can We Talk? Seven year youth mental health report: 2012–2018*, <https://www.missionaustralia.com.au/publications/youth-survey>.

Mission Australia (2019b), *Youth Survey Report 2019*, <https://www.missionaustralia.com.au/what-we-do/research-impact-policy-advocacy/youth-survey>.

Mitchell Institute, Victoria University, submission to the review (unpublished).

Monash Commission (2018), *Three Recommendations for Renewal of Post-Compulsory Education in Australia: The report of the 2018 Monash Commission*, Monash University, https://www.monash.edu/__data/assets/pdf_file/0010/1762507/19P-0131-The-Monash-Commission-24p-final.pdf.

Musset, P. (2019), *Improving Work-based Learning in Schools*, OECD Social, Employment and Migration Working Paper No. 233, Organisation for Economic Co-operation and Development, 25 September 2019, [http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=DELSA/ELSA/WD/SEM\(2019\)12&docLanguage=En](http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=DELSA/ELSA/WD/SEM(2019)12&docLanguage=En).

National Centre for Student Equity in Higher Education submission to the review (unpublished).

National Centre for Vocational Education Research (2018), 'Historical time series of apprenticeships and traineeships in Australia from 1963 to 2018', 4 December 2018, <https://www.ncver.edu.au/research-and-statistics/data/all-data/historical-time-series-of-apprenticeships-and-traineeships-in-australia-from-1963-to-2018>.

National Centre for Vocational Education Research (2019a), *Australian Vocational Education and Training Statistics: Total VET students and courses 2018*, https://www.ncver.edu.au/__data/assets/pdf_file/0031/6925090/Total-VET-students-and-courses-2018.pdf.

National Centre for Vocational Education Research (2019b), 'Australian vocational education and training statistics: VET in Schools 2018', https://www.ncver.edu.au/__data/assets/pdf_file/0016/7120132/VET_in_Schools_2018_publication.pdf.

National Centre for Vocational Education Research (2019c), 'Generation Z: Leaving school', infographic, Longitudinal Surveys of Australian Youth, 2 December 2019, <https://www.lsay.edu.au/publications/search-for-lsay-publications/generation-z-leaving-school>.

National Centre for Vocational Education Research (2020a), *Longitudinal Surveys of Australian Youth (LSAY) Analysis: Literature review: Final Report*, unpublished, February 2020.

National Centre for Vocational Education Research (2020b), *Review of Senior Secondary Pathways: Supplementary report*, unpublished.

National Centre for Vocational Education Research, 'Total VET students and courses' statistical collection, <https://www.ncver.edu.au/research-and-statistics/collections/students-and-courses-collection/total-vet-students-and-courses>.

National Centre for Vocational Education Research, VOCSTATS, <https://www.ncver.edu.au/research-and-statistics/vocstats>.

National Disability Insurance Scheme, 'Leaving school', webpage (accessed 7 May 2020), <https://www.ndis.gov.au/participants/finding-keeping-and-changing-jobs/leaving-school>.

- NSW Business Chamber (2019), *Workforce Skills Survey 2019*, https://www.nswbusinesschamber.com.au/NSWBC/media/Policy/Workplace%20Skills/Recent%20submissions%20and%20publications/2019-Workforce-Skills-Survey-Report-FINAL_1.pdf.
- NSW Department of Education (2019), 'NSW Secondary Students' Post-School Destinations and Expectations: 2018 early school leavers', <https://www.cese.nsw.gov.au/images/stories/PDF/Post-school-destinations-2018-early-school-leavers.pdf>.
- NSW Education Standards Authority (2019), *Nurturing Wonder and Igniting Passion: Designs for a future school curriculum: NSW Curriculum Review interim report*, October 2019, <https://nswcurriculumreview.nesa.nsw.edu.au/pdfs/interimreport/chapters/NSW-Curriculum-Review-Interim-Report.pdf>.
- O'Connell, M. and Torii, K. (2016), 'Vocational learning in schools – an international comparison', in Committee for Economic Development of Australia (2016), *VET: Securing skills for growth*, August 2016, https://www.ceda.com.au/CEDA/media/ResearchCatalogueDocuments/Research%20and%20Policy/PDF/31760-CEDAVETReportAugust2016Final_flattened.pdf.
- O'Connell, M., Milligan, S. and Bentley, T. (2019), *Beyond ATAR: A proposal for change*, Australian Learning Lecture position paper, September 2019, https://www.all-learning.org.au/sites/default/files/resources/beyond_atar_proposal_for_change_all.pdf.
- Organisation for Economic Co-operation and Development (2017), *Social and Emotional Skills: Well-being, connectedness and success*, [https://www.oecd.org/education/school/UPDATED%20Social%20and%20Emotional%20Skills%20-%20Well-being,%20connectedness%20and%20success.pdf%20\(website\).pdf](https://www.oecd.org/education/school/UPDATED%20Social%20and%20Emotional%20Skills%20-%20Well-being,%20connectedness%20and%20success.pdf%20(website).pdf).
- Organisation for Economic Co-operation and Development (2019a), *Education at a Glance 2019: OECD indicators*, https://www.oecd-ilibrary.org/education/education-at-a-glance-2019_f8d7880d-en.
- Organisation for Economic Co-operation and Development (2019b), *Trends Shaping Education 2019*, summary, https://www.oecd-ilibrary.org/education/trends-shaping-education-2019_trends_edu-2019-en.
- Parliamentary Library (2016), 'Developments in the youth labour market since the GFC', Parliament of Australia, Research Paper Series, 2016–17, 31 August 2016, https://parlinfo.aph.gov.au/parlInfo/download/library/prspub/4789032/upload_binary/4789032.pdf.
- Paxton, G., Smith, N., Ko Win, A., Mulholland, N. and Hood, S. (2011), *Refugee Status Report: A report on how refugee children and young people in Victoria are faring*, Victorian Department of Education and Early Childhood Development, July 2011, <https://www.education.vic.gov.au/Documents/about/research/refugeestatusreport.pdf>.
- Pechenkina, K. and Anderson, I. (2011), *Consultation Paper on Indigenous Australian Higher Education: Trends, initiatives and policy implications*, Commonwealth Department of Education, Employment and Workplace Relations, September 2011, https://docs.education.gov.au/system/files/doc/other/pechenkina_and_anderson_2011.pdf.
- Pilcher, S., Torii, K. and Andow, J. (2018), *Evidence Scan of Educational Interventions for Children and Young People Disengaged from Education*, Mitchell Institute: Victoria University, September 2018, <https://www.socialventures.com.au/assets/SVA-Perspective-Education-Evidence-scan-for-Children-and-young-people-disengaged.pdf>.
- Polesel, J., Klatt, M., Blake, D. and Starr, K. (2017), 'Understanding the nature of school partnerships with business in delivery of vocational programmes in schools in Australia', *Journal of Education and Work*, vol. 30, no. 3.
- PricewaterhouseCoopers (2017), *Career and Skills Pathways: Research into a whole-of-system approach to enhancing lifelong career support mechanisms for all Australians: Final report*, June 2017, <https://cica.org.au/wp-content/uploads/Career-and-Skills-Pathways-Project-June-2017.pdf>.
- Productivity Commission (2016), *National Education Evidence Base*, Productivity Commission Inquiry Report No. 80, 9 December 2016, <https://www.pc.gov.au/inquiries/completed/education-evidence/report/education-evidence.pdf>.
- Productivity Commission (2017), *Shifting the Dial: 5 year productivity review*, inquiry report no. 84, 3 August 2017, <https://www.pc.gov.au/inquiries/completed/productivity-review/report/productivity-review.pdf>.

- Quality Indicators for Learning and Teaching (2019a), *2018 Student Experience Survey: National report*, March 2019, <https://www.qilt.edu.au/docs/default-source/default-document-library/2018-ses-national-report.pdf>.
- Quality Indicators for Learning and Teaching (2019b), 2019 Graduate Outcomes Survey national tables, Table 15, <https://www.qilt.edu.au/qilt-surveys/graduate-employment>.
- Queensland Department of Employment, Small Business and Training (2019), 'Micro-credentialing Pilots Program', fact sheet, https://desbt.qld.gov.au/__data/assets/pdf_file/0012/11019/micro-credentialing-pilots-program-fact-sheet.pdf.
- Queensland Government submission to the review (unpublished).
- Ranasinghe, R., Chew, E., Knight, G. and Siekmann, G. (2019), *School-to-Work Pathways*, National Centre for Vocational Education Research, https://www.ncver.edu.au/__data/assets/pdf_file/0029/6547412/School_to_work_pathways.pdf.
- Rapid Research Information Forum (2020), 'Differential learning outcomes for online versus in-class education', 1 May 2020, <https://www.science.org.au/covid19/learning-outcomes-online-vs-inclass-education>.
- Regional Education Expert Advisory Group (2019), *National Regional, Rural and Remote Education Strategy: Final report*, Commonwealth Department of Education, https://docs.education.gov.au/system/files/doc/other/national_regional_rural_and_remote_tertiary_education_strategy.pdf.
- Restaurant and Catering Australia (2019), *Submission to the Education Council Review of Senior Secondary Pathways into Work, Further Education and Training*, December 2019, <http://rca.asn.au/rca/wp-content/uploads/2019/12/RCA-Submission-to-Education-Council-Review-of-Senior-Secondary-Pathways-into-Work-Further-Education-and-Training.pdf>.
- Schwab, K. (2016), 'The Fourth Industrial Revolution: What it means, how to respond', World Economic Forum, 14 January 2016, <https://www.weforum.org/agenda/2016/01/the-fourth-industrial-revolution-what-it-means-and-how-to-respond>.
- Shiple, B. and Stuble, W. (2018), *After the ATAR II: Understanding how Gen Z makes decisions about their future*, Year13 and YouthSense, <https://youthsense.com.au/research/after-the-atar-ii>.
- Skilling Australia Foundation and McCrindle, *Perceptions Are Not Reality: Myths, realities and the critical role of vocational education and training in Australia*, May 2017, <https://2qean3b1jdd1s87812ool5ji-wpengine.netdna-ssl.com/wp-content/uploads/work/Skilling-Australia-Vocation-Education-Report.pdf>.
- Skillsroad (2018), *Skillsroad Youth Census Report 2018*, <https://www.skillsroad.com.au/youth-census-2018>.
- Smith, E. and Foley, A. (2019), *Young Futures: Education, training and employment decision-making in non-metropolitan areas*, executive summary, Federation University, September 2019, <https://www.researchgate.net/project/Young-futures-Education-training-and-employment-decision-making-in-non-metropolitan-areas-in-Australia>.
- Smith Family (2013), 'Sport, culture and the internet: Are Australian children participating?', research report, June 2013, <https://www.thesmithfamily.com.au/-/media/files/research/reports/participation-research-report-june-2013.pdf>.
- Snell, D. and Gekara, V. (2016), *Examining the transferability of skills developed within the Australian vocational education and training system: Support document 2*, National Centre for Vocational Education Research.
- Social Deck (2020), *Wagga Wagga Youth Forum*, unpublished report.
- Soland, J., Hamilton, L. and Stecher, B. (2013), *Measuring 21st-Century Competencies: Guidance for educators*, RAND Corporation and Asia Society, Global Cities Education Network report, November 2013, <http://asiasociety.org/files/gcen-measuring21cskills.pdf>.
- South Australian Commissioner for Children and Young People (2019), letter to the Honorable Dan Tehan, federal Minister for Education, 6 December 2019, <https://www.cryp.com.au/wp-content/uploads/2020/04/2019-12-06-Review-of-Senior-Secondary-Pathways-Submission.pdf>.
- South Australian Government (2018), *SACE Stage 2 Review*, September 2018, <https://www.education.sa.gov.au/sites/default/files/sace-stage-2-review.pdf>.
- South Australian Government (2019), *A Review of VET for School Students: Repositioning VET within secondary education in South Australia*, <https://www.education.sa.gov.au/sites/default/files/vet-for-school-students.pdf>.

Stanwick, J. Forrest, C. and Skujins, P. (2017), *Who Are the Persistently NEET Young People?*, National Centre for Vocational Education Research, https://www.ncver.edu.au/_data/assets/pdf_file/0016/1073041/Who-are-the-persistently-NEET-young-people.pdf.

Tasmanian Government (2019), 'Years 9 to 12 Curriculum Framework', fact sheet, version 3, April 2019, <https://publicdocumentcentre.education.tas.gov.au/Documents/Education%209-12%20Frameworks%20A3%20WEB%20POSTER.pdf>.

Torii, K. (2018), *Connecting the Worlds of Learning and Work: Prioritising school–industry partnerships in Australia's education system*, Mitchell Report No. 02/2018, Mitchell Institute: Victoria University, July 2018, <http://www.mitchellinstitute.org.au/wp-content/uploads/2018/07/Connecting-the-worlds-of-learning-and-work.pdf>.

Universities Admissions Centre submission to the review (unpublished).

Universities Australia (2019), 'Submission to the Review of Senior Secondary Pathways', 6 December 2019, <https://www.universitiesaustralia.edu.au/wp-content/uploads/2019/12/191127-Submission-Senior-secondary-pathways.pdf>.

University of Western Australia submission to the review (unpublished).

Van Dyke, N. and Jackson, J. (2019), *Unlocking the Value of VET for School Students: Submission to the Review of VET for School Students in South Australia*, Mitchell Institute: Victoria University, <http://www.mitchellinstitute.org.au/wp-content/uploads/2019/09/Submission-to-SA-VET-in-Schools-Review.pdf>.

VicHealth, Data61, CSIRO and Multicultural Youth Advocacy Network (2017), *Bright Futures: Spotlight on the wellbeing of young people from refugee and migrant backgrounds*, Victorian Health Promotion Foundation, <https://www.vichealth.vic.gov.au/media-and-resources/publications/bright-futures-spotlight-refugee-migrant-youth>.

Victorian Council of Social Service (2019), *Pathway to a Positive Future: VCOSS Submission to the Education Council's Review of Senior Secondary Pathways into Work, Further Education and Training*, December 2019, <https://vcoss.org.au/policy/pathway-to-a-positive-future>.

Victorian Department of Education and Training (2018), *Transforming Career Education in Victorian Government Schools: Connecting today's learning with tomorrow's jobs*, https://www.education.vic.gov.au/Documents/school/teachers/teachingresources/careers/Transforming_Career_Education.pdf.

Victorian Department of Health and Human Services, 'Early intervention in mental illness', webpage (accessed 3 December 2019), <https://www2.health.vic.gov.au/mental-health/prevention-and-promotion/early-intervention-in-mental-health>.

Victorian TAFE Association (2019), *Review of Senior Secondary Pathways into Work, Further Education and Training: Victorian TAFE Association response*, December 2019, <https://www.vta.vic.edu.au/doctest/publications/position-and-discussion-papers/967-coag-pathways-review-victorian-tafe-association-response-final/file>.

Waters, S., Cross, D. and Runions, K. (2009), 'Social and ecological structures supporting adolescent connectedness to school: A theoretical model', *Journal of School Health*, vol. 79, no. 11, <https://onlinelibrary.wiley.com/doi/abs/10.1111/j.1746-1561.2009.00443.x>.

Watters, J., Pillay, H. and Flynn, M. (2016), *Industry–School Partnerships: A strategy to enhance education and training opportunities*, Queensland University of Technology, April 2016, <https://eprints.qut.edu.au/98390>.

Watterston, J. and O'Connell, M. (2019), *Those Who Disappear: The Australian education problem nobody wants to talk about*, Melbourne Graduate School of Education: University of Melbourne, <https://education.unimelb.edu.au/mgse-industry-reports/report-1-those-who-disappear>.

Wehman, P. et al. (2014), 'Predictors of successful transition from school to employment for youth with disabilities', *Journal of Occupational Rehabilitation*, vol. 25, no. 2, <https://link.springer.com/article/10.1007/s10926-014-9541-6>.

World Economic Forum (2018), *The Future of Jobs Report 2018*, http://www3.weforum.org/docs/WEF_Future_of_Jobs_2018.pdf.

Wyman, N., McCrindle, M., Whatmore, S., Gedge, J. and Edwards, T. (2017), *Perceptions Are No Reality: Myths, realities and the critical role of vocational education and training in Australia*, Skilling Australia Foundation, May 2017, <https://2qean3b1j.jd1s87812ool5ji-wpengine.netdna-ssl.com/wp-content/uploads/work/Skilling-Australia-Vocation-Education-Report.pdf>.

Year13 (2020), *Regional and Rural Living Survey: Research results, findings and conclusions*, unpublished.



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