Framing success for all

A proposal about regulatory arrangements for certification
in Australian senior secondary schooling

LearningCreates
AUSTRALIA

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About Learning Creates Australia

Learning Creates Australia is a growing alliance of people and organisations who are committed to lifting Australia through a new era of learning.

More information on the broader mission of Learning Creates Australia as well as detailed information on the National Social Lab can be found on our website.

Learning Creates Australia partners include The Paul Ramsay Foundation, The Foundation for Young Australians (FYA) and The Impact Assembly at PwC Australia.

Learning Creates would like to acknowledge the traditional custodians of the land throughout Australia who have been learning and educating on Country for over a thousand generations.

We pay our respects to their Elders past, present and emerging for they hold the memories, traditions, cultures and hopes of Aboriginal and Torres Strait Islander Australia.

We acknowledge that Aboriginal and Torres Strait Islander people continue to live in spiritual and sacred relationships with Australia.

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Anthony Mackay is Co-Chair of Learning Creates Australia and CEO and Board Co-Chair of the Washington DC based National Center on Education and the Economy. Anthony is also Deputy Chancellor of Swinburne University, Visiting Professor at Bolton University, UK and Senior Fellow at the Melbourne Graduate School of Education, The University of Melbourne. Anthony is immediate past Chair of the Australian Council for Educational Research and immediate past Deputy Chair of New Zealand's Education Council. He was inaugural Chair of the Australian Institute for Teaching and School Leadership and inaugural Deputy Chair of the Australian Curriculum Assessment and Reporting Authority.

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The question guiding the work of Learning Creates Australia is this: how might we in Australia develop better and trusted ways to recognise learning that enables every young person to thrive in learning, work and the community?

To assist in answering this question, Learning Creates commissioned three research papers from the University of Melbourne's Assessment Research Centre. This is the third in that series.

The first paper (*Recognising Success*) explored how 'success' is currently defined in senior secondary, through mechanisms like the ATAR and senior secondary certificates. It canvassed views about how it should now be defined, drawing on the voices of research, young people, teachers, parents, school leaders and policy makers. It established that the definition of success, as reflected in our current assessment and certification systems needs to be broadened and deepened if learners are to be encouraged to develop the full range of learning they need to thrive.

The second report (*Generating Trust*) presented case studies of 'first mover ' organisations including school systems which have taken on this definition of success, and ensured that it permeates their curriculum, learning designs and assessment and credentialing approach.

Taking the lessons from the second report, this report identifies changes to the regulatory system that are required if Australia expects its senior secondary certificates to support the new definitions of success. It describes how current policies and practices are less than fit-for-purpose. It explores new directions in regulation required to ensure that every young Australian has a qualification that reflects more of who they are, their qualities and talents in a way that generates trust.

It will be of interest to senior-secondary schools and their communities, tertiary education providers and employers, together with the authorising, credentialing and regulatory bodies in post-compulsory education.

At the heart of all of Learning Creates work, and the concerns in this report, is the commitment to equity – at the individual, community and broader society levels – recognising the talents and aspirations of all young people.

It is our hope that *Framing Success* is read by principals, school leaders, policy professionals, leaders in school communities, tertiary institutions, employers and recruiters.
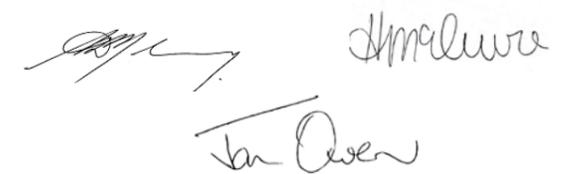
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Executive summary

Australia's long-standing and long-contested approach to recognising learning success for senior secondary school students is administered through institutional arrangements that regulate the curriculum, assessment and recognition of learning.

Arrangements differ in detail in each jurisdiction but are sufficiently similar in form and intent to comprise a nationally consistent approach. They are supported by a broadly common ambition: to set and support high educational standards, to equitably and productively cater for the learning needs of the whole, diverse cohort of young people in senior secondary school, and to smooth their transition from school to work, further study, and productive citizenship.

Since the 1970s, jurisdictions in Australia have worked hard to establish and refine arrangements for recognising educational success of school leavers, and to ensure that the basis for selection into universities is fair and predictive of likely success.

Over the last 50 years, assessment and ranking methods have developed in sophistication, evolving into the current complex arrangements that regulate curriculum, assessment and certification, and rank candidates for the purposes of selection into university.

A key challenge has been the struggle, which continues today, to cater to the steadily increasing proportion of the cohort staying at school beyond the compulsory years. The history of secondary certification is characterised by debate (sometimes heated), review, reform, modification and innovation. Arrangements continue to be the subject of critique, and efforts at improvement.

Chapter two of this report describes key features of the current certification arrangements in each jurisdiction, and current critiques of them. Drawing on the range of contemporary official reviews, research reports and industry commentary, this report concludes that the current certification arrangements address the needs of only a portion of young people, and cover only a portion of what is and should be learned by all young people. Many – and by some calculations most – learners miss out on learning all of what they need, or the benefits of recognition of it.

Chapter three documents contemporary pressures currently challenging or disrupting certification arrangements. Many of these factors have been given greater salience by the COVID pandemic, which has spotlighted cracks in the system, and stimulated a wider realisation that there are different ways of doing things, and an urgent need to explore these.

Broadly, challenges include:

– The desire by employers, government and schools that learning should encompass broader, and deeper ambitions for learning, extending beyond the academic emphasis of the current curriculum;

– The acceptance by schools of new and better methods and technologies that extend capacity for assessing and recognising complex learning outcomes, beyond examinations and standardised assessments of cognition;

– The recognition that changes are needed to the regulatory framework that governs all qualifications in Australia (the Australian Qualifications Framework or AQF);

– The pressure to recognise short-form credentials and/or out-of-school learning;

– The adoption in schools of learner profiles as a method of representing the full range of learning attained – rather than, or in addition to, marks or ranks;

– The reduced reliance on the ATAR in university selection; and

– The increasing use in schools of arrangements for credentialing and warranting other than those provided by jurisdictional agencies.

Chapter four proposes a series of directions aiming to establish a single, unified national qualification approach for senior secondary qualifications that will provide every school leaver with a trusted, useful, official representation of levels of attainment of the range of learning required.

These seven directions are synthesised from current innovative practice, recommendations of authoritative reviews, or advocacy by key stakeholders.

They are:

1. Provide a formal, national statement of purpose, and the learning goals for senior secondary education.

This requires system leaders to mirror schools in articulating the breadth and depth of learning appropriate for senior secondary schooling as a distinct phase of schooling, preparatory to work, further study and active citizenship. This should prioritise the capacity for every learner to master knowledge in depth in areas of interest, but also how to apply that knowledge, to use it to add value to the community, to keep learning in the face of change, and to develop transferrable general capabilities that will stand them in good stead irrespective of their path in life.

Valuing not just what you know, but how you know it, to what depth, and what you do with it

2. Ensure any senior secondary certificate meets the requirements of a clearly defined, unique qualification type in a Revised AQF.

This will provide designers of any senior secondary certificate with a common language and currency to describe learning. Each senior secondary qualification should enable recognition of learning attained in broad domains of learning, each mapped to Revised AQF levels, so that the developmental value of senior secondary schooling for the full cohort can be retained. This will provide a better basis for understanding the opportunities for articulation, with and gaining credit in, any post-school learning.

Senior secondary qualifications that are foundational to all the rest

3. Ensure that the design of any senior secondary certificate is based on robust common standards for reporting attainments, in any domain, expressed as progressions of learning related to Revised AQF bands in domain knowledge, domain skills and general competencies.

This provides the basis for comparable assessment and reporting, and for the maintenance and improvement of standards.

> *Standards that establishes the level of progress attained to date, not pass or fail*

4. Establish learner profiles as the approach to representing attainment in senior secondary certificates.

A profile can represent standards attained in common learning goals and showcase individual strengths.

> *Credentials that showcase not only 'how good is this student' but also 'how this student is good'*

5. Extend the repertoire of assesement and warranting methods used to include judgement-based, standards-referenced, developmental and performance-based assessments rather than just standardised approaches.

This is particularly appropriate in those domains of learning requiring complex competencies and capabilities over and above content mastery.

> *Assessments and warranting methods capable of capturing of all of what we value*

6. Support development of an authorising environment enabling issuance and warranting of a wider range of senior certificates operating within a universal framework.

This involves establishing new regulatory arrangements (re-regulating, not de-regulating) to underwrite trust in certificates and their utility. It would facilitate opportunities for qualifications to be issued by a wider range of authorised organisations (in at least some cases, the learner's school), and to be designed and/or warranted by organisations other than jurisdiction curriculum and assessment authorities.

> *Regulatory redesign so trusted qualifications are issued by those who know the student; and warranted by those who understand the learning design*

7. Design senior secondary certificates as the necessary and sufficient guides for post-school selectors and recruiters.

This involves designing qualifications to efficiently, fairly, and validly provide the information required by selectors and recruiters, enabling them to match the suitability of candidates to the requirements of any particular post-school or employment opportunity.

> *Selection of candidates based on matching, not ranking*

These seven directions represent a coherent, internally consistent set of elements, not to be read as proscriptions for incremental, unrelated improvements. They provide a coherent logic for thinking about and framing success for all senior secondary students, alternative to that of the current flagship certificates.

The 'new' may run in parallel with the 'old' for a time. However, over time, the adoption of new arrangements and implementation of new practices should become dominant.

It should be emphasised that these directions do not seek to overturn the last 50 years of evolution. Examinations, for instance, should still play a key role in attesting to depth of mastery of content. But neither do the directions suggest that simple supplementation or adjustment is sufficient.

These proposals are made in the context of an unusual and unprecedented combination of circumstances in and around senior secondary schooling that combine to offer an opportunity to attain what has previously seemed impossible: a unified, standards-based senior secondary certification.

The proposed approach is based around creating a universal and inclusive qualification type that works for all students, provides the community with confidence in the attainment reached by our young people, and allows each student to work at the standard that suits them best. It embeds the orientation that senior secondary is transitional, and developmental, allowing learners to chart their progress towards requisite standards, and to link directly with the next stage of learning.

It allows young people to take more responsibility for their own learning, to better engage their own interests and passions, and to add value to their communities.

It proposes the use of profiles to represent successes, and a reliance on matching, not ranking, as the basis for articulation and selection. It requires re-regulation of qualifications to extend authority for issuing trusted certificates to where that is best placed, with the establishment of different types of warranting processes to match.

In the concluding Chapter five, this report canvasses issues and raises questions which could frame future discussion about the practicalities of *how*, *what*, and *who*. Areas of contestation in the education community are identified.

The report acknowledges that some readers may support the ideas but find it hard to envisage what they would look like in practice, or how this approach could be enacted, as response is often dominated by 'path dependency' in policy formulation. Others might be daunted by the time and effort required.

However, in Australia there are already practical, high-quality, scalable, evidenced precedents and solutions, usually in 'first mover' environments operating to some extent outside the dominant regulatory environment.

Behind these are the many respected educational leaders in Australia including teachers, students, school leaders, parents, researchers, policy analysts, employers, technologists, and tertiary education providers – for whom elements of the new are already part of day-to-day work, and whose experience and understanding can be tapped to develop a blueprint to guide patient, evolutionary implementation. A first step would be to convene these leaders and mobilise their collaboration.

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1. Introduction

This is the third in a series of reports by the University of Melbourne commissioned by Learning Creates Australia to support its exploration of how Australia might articulate, design, assess and credential learning to better reflect the diverse knowledge, skills and capabilities that 15-19 year-olds attain as they move through compulsory and post-compulsory schooling.

The first report examined what 'success' should look like for school leavers to equip them to thrive in learning and in life. It explored what young people should learn, and what they want to learn, and how they can demonstrate this. The report was based on a review of national and international work and policy, on the work of schools and on listening to young people themselves.

The second report focused on school-based innovations aimed at better equipping students to thrive in the modern world. It provided case studies of 'first mover' schooling organisations around the world who had broadened their learning ambitions and established learning designs, assessment designs and credential designs to match. These organisations have been able to create and sustain deeper success for a broad range of senior secondary students.

The report aimed to establish 'what it would take' for any school to provide to their learners the same opportunities that are provided by first mover school organisations.

This third report develops the thinking of the first and second reports by examining the current arrangements for the regulation of senior secondary certificates. These certificates provide the official attestations as to what, and how well a student has learned. They can be thought of as the flagships of learning in Australian schools, a de facto definition of success for learners.

The current arrangements for senior secondary certification are the result of continual adjustment over the last 50 years, as schools have struggled, and continue to struggle, to cater to the steady increase in the proportion of the cohort who stay at school beyond the compulsory years. When the current system was put in place in the 1960s, barely 10 per cent of learners continued through to Year 12. This figure is now over 80 per cent.[1]

The history of secondary recognition arrangements is consequently characterised by debate (sometimes heated), review, reform, modification, and innovation. Arrangements continue to be the subject of critique, and of efforts at improvement. In only the last five years a dozen key reports by governments and academics have been produced that directly address the matter.

This report describes key features of the certification arrangements in the various jurisdictions and current critiques of them. It reviews emerging contemporary pressures and initiatives challenging or disrupting certification arrangements, many of which have been given greater salience by the COVID pandemic.

The report, in essence, addresses the questions: Are the current arrangements for the regulation of senior secondary certification fit for purpose? And, if not, what needs to be done?

The report is written with deep appreciation of the current arrangements, arrived at incrementally over 50 years through great dedication and effort by previous and current generations of educationalists, and which are now held in place by a complex web of policy and institutional arrangements.

However, a key consideration has been to question the degree to which the current arrangements have been affected by the institutional complexities, and by the knotty dynamics of path dependency[2]. This is a feature of entities (organisations, policies, systems) in which decisions become insufficiently shaped by current conditions, because the costs of departing from it come to exceed the costs of following it. The familiar can become the ideal, and habits can become hard to shift, possibly to the detriment of the whole system.

The paper examines the appropriateness of the regulatory framework that holds the current senior secondary certificates in place and suggests a new approach.

2. Current arrangements for certification of learning success in senior secondary schooling

2.1 How success is established in flagship certificates

Official arrangements, for recognition of the degree of success in learning a student has attained in their senior secondary schooling, are overseen and administered by curriculum and assessment authorities in each of eight jurisdictions. Each aims to cater for the learning needs of a diverse cohort of young people by providing high quality, universally available, senior secondary opportunities. All commit to maintaining high standards, and all seek to smooth the transition of young people from school to work, further study, and productive citizenship.

Each jurisdiction offers one or more 'flagship' senior secondary certificates, as listed in Table 1, which attest to successful completion of a learner's 12 years of schooling. A student leaving school is awarded a certificate if they meet the requirements and standards set by the relevant authority. These requirements typically define the amount of study (number of eligible subjects required), the pattern of subject selection (most require study of English), the content to be covered in each subject, the assessment requirements and the standards to be attained in each, and other requirements such as attendance at a school registered to offer the subjects.

Certificates and their definitions of what a learner must do to earn one are very similar across jurisdictions. The certificates themselves typically include a list of up to a dozen or so subjects of study a student has enrolled in and passed during the last two years (sometimes longer).

Authorities warrant that the numbers and letters identifying the levels of attainment provide a fair and accurate representation of the extent to which a student has mastered the prescribed content of the units of study, as taught by a qualified organisation (usually but not always a school), assessed according to set rules.

There is considerable diversity among students who aspire to attain one of these certificates. This is addressed by each jurisdiction authority through provision of a menu of subjects (or units). For example, NESA offers a menu of over 140 Authority-developed courses, plus a further 111 NESA-endorsed courses (including amongst others 70 vocational education sector courses, and six developed by universities).[4] Schools in a jurisdiction make a selection from that menu to offer to their students, and learners select from their school's menu, usually about 5-10 subjects during their two senior years.

Subject specifications range from 'academic' to 'vocational', and from 'hard' to 'easy', creating opportunities for tracks to form, some high status, some low. There is a status hierarchy: high status subjects are the more academic and theoretical, less applied, more tied to traditional disciplines and to university entry, developed and approved by the regulator rather than by another organisation, and more likely to be assessed in external standardised examination.

A key design feature of these arrangements is that students who wish to earn entry to university or to be considered for other competitive post-school options can opt into a centralised, competitive ranking system. They select their subjects from a subset of high status 'premium' subjects in which standardised assessments focus on content mastery.

Each student's results are supplied by the jurisdictional authorities to university-owned tertiary admissions centres[5] in each state that statistically generate a percentile ranking of each student against all others. In effect, this is a comparison of the aggregate mastery of content taught.

Known as the Australian Tertiary Admissions Rank or ATAR, this ranking is determined separately, using slightly different rules in each jurisdiction, but is taken in the community to be equivalent across jurisdictions. An individual ranked at the 90.5 percentile in one jurisdiction is thought to have attained a level of success in learning equivalent to the person ranked 90.5 in the next.

Notwithstanding the desire of education regulators to provide comprehensively for all students, the single hierarchy of the ATAR is the preeminent indicator of success for senior secondary schooling, generated from scores in premium subjects in flagship certificates.

Rankings, often and inaccurately referred to as 'scores', constitute the dominant **currency of success** – based on relative performance in standardised tests of individual cognition, understood as demonstrating mastery of discrete packages of content as taught in classrooms.

Students who score well under the current arrangement are, by and large, 'good at the books', those who are not or are less than inspired by them, are deemed less successful or even unsuccessful.

Table 1: Official 'flagship' certificates used to recognise the degree of success in learning attained by senior secondary students in Australian jurisdictions

Certificate	Jurisdiction authority that issues the certificate
ACT Senior Secondary Certificate	ACT Board of Senior Secondary Studies
Northern Territory Certificate of Education and Training (NTCET).	NTCET is based on the SACE and administered by the SACE Board of South Australia
NSW Higher School Certificate (HSC)	NSW Educational Standards Authority (NESA)
Queensland Certificate of Education (QCE)	Queensland Curriculum and Assessment Authority (QCAA)
South Australian Certificate of Education (SACE)	SACE Board
Tasmanian Certificate of Education (TCE)	Office of Tasmanian Assessment, Standards and Certification (TASC)
Victorian Certificate of Applied Learning (VCAL) [Until 2023³]	Victorian Curriculum and Assessment Authority (VCAA)
Victorian Certificate of Education (VCE)	Victorian Curriculum and Assessment Authority (VCAA)
Western Australian Certificate of Education (WACE)	School Assessment and Standards Authority in WA (SCSA)

2.2 Institutional arrangements supporting flagship certificates

Scores and ranks function as a 'success currency' for Australia school leavers. The value of the currency is generated and maintained by expensive, complex, institutionally embedded arrangements for regulating what it is taught, and how success is assessed and represented.

The key components of these arrangements are summarized in Table 2. Figure 1 gives some indication of the scale of the operation within each jurisdiction.

The specific arrangements differ from jurisdiction to jurisdiction, but they are sufficiently similar in form and intent for this report to argue that there is a nationally consistent approach that produces a nationally recognised currency.

Arrangements that generate trust in senior secondary

Content of learning is specified: In pre-packaged 'subjects', 'studies' or 'units' by jurisdictional authorities (or are recognised by them if they are provided by other education providers). The packaging is usually organised around discipline or domain-based knowledge. Standard curriculum documents set out the content knowledge and understandings to be covered in each package. Passing a subject accrues credit points towards the certificate.	**Assessment is standardised:** often invigilated and objectively scored. Students are assessed on the degree of mastery of the specified content in which they have been instructed. Typically, this relies on written evidence demonstrated by writing essays or reports or doing examinations, usually involving the application of common, calibrated yardsticks, for which the Bloom and Solo taxonomies are the assessment bibles: simple memory in an area of knowledge at one end of the success continuum, and capacity for complex cognitive analysis and synthesis at the other. Requirements to demonstrate competence in authentic performances are typically required only in subjects related to the performing arts, languages other than English, or design.
Rules of study are set: The authorities establish the standard rules students must follow for selection of these packages (*e.g. must do at least one English subject, must select at least four ATAR subjects to get an ATAR*).	Assessments are designed by the authorities. They set the examinations and establish common assessment rules or tasks that shape the school-based components of assessments, all established to enable a learner to demonstrate how much of the set curriculum they have mastered, and to what depth.
Student work: The nature of student work for the high-status subjects typically involves mastery of content taught in order for students to remember facts, rehearse or develop arguments, master theorems and theories, and solve abstract problems by applying established techniques (e.g., solving quadratic equations in mathematics, balancing equations in chemistry, literary critique in literature, and narrative construction in history).	Standardised approaches to scoring are used. This means that the performance tasks are typically the same or similar for everyone (including examinations). These are designed carefully so that cultural or linguistic or social references that might create advantage of one group over another (other than the dominant cultural, social or language group) are removed. Examinations are written, printed and distributed in secret, to make sure that no learner gets advance warning of what is on the test. Testing is often invigilated to discourage cheating. Work submitted for assessment must be the work of the individual. Examinations are scored objectively, by experts (or by automated agents), reducing halo effects or nepotism.
Teaching methods are clear, and teachers are well trained: Teaching methods rely on a skillful balance of direct instruction, coaching and supervised exploration, suited to support individual learning in a group teaching environment, in classrooms. Learning is supervised by well-trained teachers, usually with a subject specialisation, who aim to maximise examination scores as well as instill a love of their subject.	**Scoring is moderated:** using statistical and social consensus methods, to optimise comparability of standards across all schools and subjects.
	Results can be analysed easily: and are provided in the form of numbers that are easily reported, compared, analysed, and/or aggregated for various purposes, such as certification, feedback, monitoring of school performance, or selection and recruitment of learners for post-school options.
	Schools are registered: to provide the teaching services.

2.3 Trust in the currency

The complex arrangements provide the basis for trust in the certificates. They are based on deep professional expertise, especially in assessment methods, and on explicit, public rules that are the same for everyone. The rules and their application are supported and implemented by schools, which are regulated to ensure equity. Standards are underpinned by set curriculum content. Assessments are standardised, often invigilated, and objectively scored, comparable and reliable.

Functioning at a large scale and with the apparatus of administration centralised in school jurisdictions, assessment and certification arrangements are efficiently administered, and provide a relatively inexpensive method for universities and employers to sift and sort candidates. Cumulative over a two-year period of effort by each learner, assessments are thought to motivate students over the final years of their secondary schooling.

On these grounds, mainstream certificates are commonly seen as a way of providing fair, inclusive, motivating and equitable ranking and grading of learner success, of maintaining commitment to high standards, and of ensuring assessment integrity.

Some statistics for the 2021 cohort for the Higher Schools Certificate in NSW

The 2021 cohort	Examination logistics
The 2021 cohort	– more than **700,000** exam papers printed
– **90,674** in the cohort in 2018	– **26 km** of security wrapping
– **76,399** enrolled in one or more HSC courses	– **51 km** of security strapping
– **68,710** on track to complete their HSC program	– **7,000** boxes
The exams	– **17,000** consignments tracked
– **110** written examinations	– **35,000** papers quality checked
– **96** exam committees develop the written exam papers	– **40,000** return envelopes
– **750** exam centres	– **1,975,000** items to pack
– over **7,500** supervisors and presiding officers	– **50 tonnes** of steel cabinets
	– **8,200,000** exam pages scanned

2.4 Flagship certificates and their authorising arrangements in context

Flagship certificate programs are not the only option for students and schools, and their authorising organisations are not the only regulators in the field. There is a complex ecosystem of provision in which the flagship qualifications and their administrators play only a part.

One alternative option is the International Baccalaureate (IB) program. Administered by the Geneva-based IB Organisation, it provides an alternative to the flagship certificates. The IB has attained 'equivalence' to the flagship programs in a range of jurisdictions. Its learning and assessment designs derive from much the same thinking as the flagship certificates.[7]

A second option is the International Big Picture Learning Credential (IBPLC), administered by Big Picture Australia, also providing an alternative to the flagship certificates. It is based on different learning, assessment and qualification designs[8], and, although not accorded an equivalence with the flagship certificates, is accepted as the basis for admission by a number of Australian universities.

A third option is that each jurisdictional authority provides official options for recognition of learning other than the flagship certificates. For instance, the Queensland Certificate of Individual Achievement (QCIA)[9] is an official record for students who have completed at least 12 years of education studying under an individual plan.

Schools offer this under guidelines and quality assurance processes organised by the QCAA. It is an 'information-rich certificate' containing two items: a Statement of Achievement, which provides an overview of the student's demonstrated educational achievements, and a Statement of Participation, which includes the names or titles of activities a student has undertaken. There must be no duplication with any QCE studies, including Vocational Education and Training (VET) learning. Other jurisdictions provide similar options and records.

A fourth option open to schools is to offer studies regulated within the VET sector. This is important to the schooling sector, because a learner can enroll in a vocational education offering while they are at school under a range of arrangements. For instance, with support from their school, a learner might undertake vocational studies run by TAFE organisations, or other Registered Training Organisations (RTO)[10], or at a school auspiced by an RTO, and have it credited to their senior secondary certificate (typically Certificate I, II or III qualifications or credit towards these). An indicative list of vocational courses registered for inclusion in a senior secondary qualification in various jurisdictions is provided in Appendix 1.

Students may also be enrolled in apprenticeships or traineeships and combine this with senior secondary programs and part-time employment. Some schools have gone even further, registering as RTOs themselves to improve the provision of subjects to their learners. In Victoria, for example, there were over 50 schools also registered as RTOs in 2020[11].

The participation of Australian senior secondary students in VET is high. There were 241,000 secondary students participating in vocational education sector programs in 2020[12], nearly 18,000 of which were apprenticeships and traineeships, which is a significant number. They provide strong opportunities for learners, especially in developing know-how skills. However, they are usually not included in the premium subject lists for certification purposes, and the Firth Review in Victoria found in 2020 that the quality of educational provision may be uneven, and student access can be limited, especially in work-related partnerships. General perceptions of these programs may be poor.

A fourth option open to schools is to offer one or more 'special programs', most of which are developed and run at the local level, often by schools themselves or by philanthropic or community organisations. There may be no certification or recognition attached to these programs. A study of flexible learning options in secondary schools conducted in 2014[13] identified over 900 programs, in which over 70,000 secondary students participated each year. These programs are diverse in structure, curriculum, and student populations. Just over half supported attainment of senior secondary credentials, and some offered accredited VET certificates across a wide range of industries.

Almost all programs indicated that they target young people who are early school leavers or at risk of non-completion, reflecting a common mission of providing education opportunities for young people who may otherwise miss out on crucial secondary schooling.

The regulatory framework for all these options is very complex, much of it operating on top of, or beside, the activities of the authorities looking after the flagship credentials referenced in Table 1.

For instance, in Victoria, the VCAA is itself regulated by another authority, the Victorian Registrations and Qualifications Authority (VRQA). The VRQA accredits senior secondary qualifications awarded by VCAA, or anyone else, and it currently has three on its books: Victorian Certificate of Education (VCE), Victorian Certificate of Applied Learning (VCAL, soon to be folded into the VCE) and International Baccalaureate Diploma. Further, it registers organisations to award these senior secondary qualifications.

In Victoria, there are two awarding bodies: the Victorian Curriculum and Assessment Authority which issues the Victorian Certificate of Education (VCE) and the Victorian Certificate of Applied Learning (VCAL), and the International Baccalaureate which issues the International Baccalaureate Diploma.

A further level of complexity is added by the establishment in 2008 of the Australian Assessment and Reporting Authority (ACARA). Its purpose is to be the authoritative source of advice on, and delivery of, national curriculum, assessment and reporting for all Australian education ministers. Most of its work focuses on the compulsory years of schooling but it does provide a statement of an Australian National Curriculum for Senior Secondary Years.

This specifies a list of 15 subjects all focused on traditional, discipline-based knowledge, in five areas: English, Mathematics, Science, History and Geography. Jurisdiction-based curriculum and assessment authorities have 'integrated' this into their curriculum. The Australian National Curriculum for Senior Secondary Years was initially endorsed in 2013.[14]

The Australian Qualifications Framework (AQF) provides yet a further layer of administration. The AQF was first agreed by governments across Australia in 1995 and is integral to the architecture of the Australian education and training system. It sets the overall framework for the design and quality assurance of qualifications covering the senior secondary education, vocational education and training, and higher education sectors. It provides a common language for the design and description of qualifications and for the articulation of, and transfer of credit between, qualifications.

The AQF defines types (categories) of qualifications.[15] Each qualification type may contain hundreds of individual qualifications. Each type is referenced to a (currently) 10-level hierarchy[16] of skills and knowledge defining increasing levels of complexity, independence and sophistication in the learning required.

For example, the qualification type Certificate I is defined by requiring learning principally at the lowest Level 1 of sophistication; Degrees are at Level 5; and Doctorates at Level 10. The levels are intended to guide credit and articulation across the sectors. For instance, it provides a guide for school leavers and careers advisors as to the level of study required in tertiary sector courses. The AQF, however, has had little impact on the design of senior secondary flagship qualifications, despite the fact that they are technically covered as a qualification type in the AQF.

Another layer of regulatory complexity covers the vocational sector offerings in senior secondary schooling.[17] For instance there are three regulating bodies: the Australian Skills Quality Authority, the VRQA (mentioned above) in Victoria, and the Training Accreditation Council (TAC) in WA. These bodies can authorise a Registered Training Organisation (RTO), which is then able to advertise, offer, deliver and assess vocational courses.

The design of such courses is regulated by Australian Industry and Skills Committee and State and Tertiary Training Authorities (STAs) are responsible for regulation of apprenticeships and traineeships within jurisdictions. Various employer and industry groups also play a role in the vocational education sector regulatory framework.

This ecosystem is very complex.

2.5 Contemporary critiques of the current arrangements

The senior secondary authorities have carried the weight of the responsibility for setting and recognising learning attained by an increasingly diverse group of learners over the last 50 years. As stated previously, each authority seeks to meet the learning needs of a diverse cohort of young people. They aim to provide high quality, universally available, senior secondary school opportunities. All commit to maintaining high standards, and all seek to smooth the transition of young people from school to work, further study and productive citizenship.

Senior secondary authorities, including certification authorities, have been in the vanguard of continuous improvement polices dictated by both ongoing economic and social change and the gradual expansion of the senior secondary cohort. For instance, these organisation have included the introduction of moderated school-based assessments to supplement examinations, to support the ongoing widening of the curriculum menu to attempt to cater for all students.

NESA has introduced a standards base for assessments[18] into HSC subjects, which enable teachers and students to understand the standards that apply to grades in subjects (and across subjects in mathematics and English.) This provides a good basis for thinking about how standards attained might be referenced and used as currency for certification, rather than just marks, and a means to assist with credit and articulation with tertiary opportunities.

The SACE Board,[19] is reconceptualising the relationship between curriculum, assessment and certification, based around six elements considered essential for a thriving learner: 'zest for life, agency, deep understanding and skillful action, connectedness, transfer of learning, and belonging, in order to enact change'. SACE projects are tackling, among other things, learner profiling, the introduction of capabilities for learning transfer, new approaches to teaching, and education for young Aboriginal and/or Torres Strait Islander people.

In Victoria, VCAA is leading the implementation of the Firth Review[1], folding VCAL, with its focus on applied and vocationally-oriented learning, into the VCE. This is in order to provide a universal approach, reducing the need to stream, and seeking to enable all students to access both academic and applied studies. In Western Australia, the SCSA is exploring how to recognise out-of-school learning in their Student Statement of Attainment, and in NSW the Education Department is working on a digital wallet.[20] The NSW University Admissions Centre (UAC) is playing a key role[21] in developing technology-based learner passports and digital credential management.

These and other efforts notwithstanding, long-familiar critiques of the flagship arrangements continue.

The failure to achieve universal participation – that is, ensuring all young people are catered for to continue their learning –probably constitutes the most severe criticism. Current arrangements fail to capture and motivate the interests of many young people, who in consequence drop out or become apathetic or depressed by their final years of schooling.

Apparent retention rates in school from Year 10 to Year 12 in 2019[22] settled at about 82 per cent, down a little from the 2017 peak of 82.8 per cent, with the trend showing little improvement since 2014. For Indigenous students the retention rate to Year 12 (as distinct from the certification rate) is hovering at 60 per cent. For the entire 15-19 year-old cohort participation in study and/or work is stable at 87 per cent, well below 'universal'.

University selection processes and associated examinations within them continue to be criticised for their dominance over, and impact on, curriculum (narrow, and academic), pedagogy (dominated by instructional coaching of cognitive capacity), and assessment (dominated by a focus on cognition using standardised, one-size-fits-all approaches). It creates high and low status tracks within the jurisdictional qualifications.

There are status differentials between flagship qualifications and others that have become entrenched in public consciousness. For instance, the Firth Review found that separate forms of credentials (in this case the VCAL and VCE), however well-intentioned, continue to "reinforce outdated stereotypes and dichotomies of academic versus vocational learning, of applied versus theoretical learning." Firth points out that because it is not the VCE, the VCAL is perceived as 'the other' and is "defined by what it is not."[1]

There is some evidence[23] that young people themselves increasingly perceive the definition of successful learning inherent in the flagship arrangements as less relevant to their life choices. For instance, in 2018, 4 per cent of Victorian senior secondary students opted for a non-scored VCE, which means they did not get an ATAR. That proportion rose to 7.7 per cent in 2019, and to 8 per cent in 2021.

There is also concern about the level of trust the community can have in the quality in non-flagship courses. There are high quality non-flagship provisions, possibly providing a broader and deeper range of learning than the more narrowly focused flagships. However, the flagships attract the regulatory emphasis in all jurisdictions.

The lack of clearly defined measures of outcome in vocational and applied learning has also contributed to a general regulatory silence. It is difficult, Firth says, to report on outcomes for which there are no clear or agreed measures and no way of demonstrating quality. The pattern of effort in current arrangements is skewed, reflecting the origins of those arrangements established at a time when only 10 per cent of students matriculated.

An independent assessment of current arrangements was provided in a 2019 study by a review team lead by Professor Polesel from the University of Melbourne:[24]

'There is no consistent and shared view of the purpose of the senior secondary certificates, no consistent approaches to dealing with disadvantage, and continuing difficulties in meeting the needs of the full range of young people in the senior years, particularly those from regional and remote areas, Indigenous communities and low socio-economic status students.

There is also considerable variability in retention rates and rates of attainment of the senior secondary certificates as well as the calculation of the Australian Admissions Tertiary Rank (ATAR) score which was primarily designed for university selection purposes.

The certificates also have limited emphasis on capabilities in their design and considerable variation in the manner in which literacy and numeracy minimum standards are defined, set and assessed. Furthermore, there is no consistent approach regarding compulsory subjects or a core curriculum, the design and implementation of VET courses and the evolving role of the ATAR.'

For all courses, in all sectors, there is increasing disquiet about omission of requirements to develop, assess and recognise other than knowledge-related skills. A 2020 study by Lamb and colleagues[25] used a range of performance indicators, principally drawn from OECD data, to identify who 'succeeds', and who 'misses out' in schooling in Australia.

His summation for the senior secondary stage of schooling noted that over 18 per cent of learners missed out on getting any form of certificate (over 58,000 young people). Perhaps more damning: 28 per cent of the cohort missed out on meeting international benchmarks for mathematics, science and reading; 35 per cent missed out on exhibiting proficiency in creative problem solving; 26 per cent did not possess a strong sense of self-efficacy; and 35 per cent missed out on viewing key civic engagements as being important to citizenship.

Further, those who missed out were skewed toward those young people who come from families classified as 'low socio-economic' or Indigenous, or from rural and isolated communities.

In this context, it is worth recapping an earlier statement from Lamb and his colleagues[26] about the concept of 'missing out', and what causes it:

'*It is important to state that we do not view young Indigenous Australians, or young Australians living in households with low income, or those living in remote or isolated regions, or those of a particular language background or ethnicity or race as intrinsically disadvantaged because of who they are. Indigenous status is not a source of disadvantage, nor is it a 'risk factor' and nor are the communities in which Indigenous young people live.*

The same is true for young people living in rural or remote parts of Australia and for those living in families that have less wealth. Every young Australian is worthy of the greatest respect and should have equal opportunity to succeed. Being 'disadvantaged' is not a quality of people, it is a feature or an outcome of what happens to some young people by virtue of their experiences in some of our institutions.

Some young Australians become disadvantaged through what they experience in their education and training journeys and the way they are treated, so it is our great challenge to change the mechanisms through which such disadvantage arises.'

Much effort over many years by regulators notwithstanding, being recognised as a success and being successful in senior secondary schooling still eludes many and, by some calculation, perhaps most young people.

Curricula are still too academic, and what is assessed and formally recognised no longer reflects the full range of learning needed by secondary school leavers if they are to thrive as citizens and workers. Current arrangements do not cater to the full range of learners. All young people in this formative period need broader and deeper learning than is currently certificated.

3. Current arrangements for certification of learning success in senior secondary schooling

Long-standing debate about the capacities and limitations of senior secondary certification is now taking new and unprecedented turns, shaped by a series of pressures on the system.

This chapter reviews a range of these pressures, which include: the emergence of new ambitions for learning that extend beyond the scope of the current curriculum; reconsideration by government of the overarching framework for the administration of qualifications in Australia; the increasing use of short-form credentials for the recognition of learning for secondary students; the advent of new methods, techniques and technologies for assessing and recognising complex learning outcomes beyond the cognitive; adoption of profiling as a method of reporting on learning in schools; changes to university selection practices that reduce the utility of the ATAR; and the increasing need of schools for alternative arrangements for managing issuance and warranting of school credentials.

Most of these pressures have been amplified and given impetus by the COVID pandemic. All over the world, and in Australia, and in all educational sectors, examinations and assessments have been disrupted,[27] along with everything else. Questions have been raised about how examinations can be run (online or in person), whether or not they are really needed (many coped without them) and how fair they really are. The role of algorithms in ranking and scoring has been spotlighted, to the horror of some of those whose destiny is shaped by them.[28] Arguments for the importance of including 'soft skills' in the curriculum have been given practical impetus, as learners respond with resilience and adaptability (or not) to the ways in which their learning lives have been disrupted. Students have missed free access to their coaches, mentors and peers.

Against the backdrop of added urgency precipitated by COVID, the contemporary pressures on Australian senior secondary certification are examined briefly here.

3.1 The emergence of new ambitions for learning

Many governments, agencies, organisations and schools in Australia and beyond are re-thinking what school leavers need to know and be able to do in order to thrive as workers and citizens. A broader and deeper conception of student success is emerging.

Economic arguments tend to dominate discussions. The OECD,[29] the World Economic Forum[30] and employer groups, for example, see the need for workers to be able to cope with and respond to deep social, economic and technological change, globalization, and climate change. Workplace AI systems are anticipated to require high levels of skill in areas where computers are unable to do what humans can do. Computers can perform many analytical, routine and transactional tasks more rapidly and accurately than humans, but humans are much better at managing ambiguity, responding to changed circumstances, collaborating, interpreting nuance, and managing social interaction.

The economic arguments provide a strong rationale for change in senior secondary curricula, giving greater emphasis in education to mastering generalisable, transferrable[31] skills such problem solving, flexibility, capacity to communicate, critical thinking skills and collaboration.

A further impetus for change is the desire of schools[32] and teachers and many educational jurisdictions around the world[33] to generate what can be thought of as greater productivity in developing high-quality learning, generating learning success for all, and building skills that enable all to thrive. In response, schools and school systems in Australia and elsewhere have committed to incorporating general transferrable capabilities into the formal curriculum. For instance, general capabilities were incorporated into the Australian curriculum for the compulsory years of schooling in 2012. Many schools have extended this to their senior student years, as have increasing numbers of tertiary and higher education institutions.[34]

Precisely what comprises 'new' learning ambitions has been distilled in an earlier Learning Creates report[35] from a large number of reports and documents:

- Depth and application of knowledge, not just mastery of set content: Learners should be to be able to develop basic literacies, but also deep competence in several domains of study, including mastery of terminology, concepts, theories, structures and processes that make up the disciplines, vocations and cultural domains; as well as competence in applying that knowledge to build, design, provide services, perform, and grow or create things of value. Learners must be supported to pursue such activities in areas of interest or passion.

- General transferrable capabilities: learners should develop the complex, transferrable, learnable capabilities required to learn and keep learning as knowledge and technology change (often referred to as 'general capabilities' or 'graduate attributes'), including capabilities in communication, collaboration, critical thinking, creative thinking, citizenship, ethical behavior, and intercultural capability, among others.

- Learning agency: Learners should become active agents in their own learning, not just recipients of learning set by others. They need the capacity to chart their own learning towards expertise in a chosen path, to take risks, invest in learning to attain their purposes, harness interests, and take responsibility for the results attained.

- Community connectedness: Learners should develop capacity to create and sustain valuable connections to wider communities in which they can and will continue to participate and contribute as workers, community members, and citizens.

  Formal recognition approaches need to reflect the importance of place-based educational philosophies, now common in considerations of curriculum and pedagogy, and now increasingly practiced by Indigenous communities, rural communities, and communities facing deep economic or social challenges.

Success thus incorporates mastery of specific, taught content, but it also requires understanding what can be done with that knowledge and how to do it by building, designing, constructing and performing.

It requires being a competent learner, being able to learn under one's own steam and in collaboration with others in pursuit of a goal, and being persistent in learning. It requires taking responsibility for one's own learning and supporting others in theirs, and using what is learned to contribute in ways that are of value to one's community and society.

These learning ambitions are sometimes thought of as an imperative for schools serving educationally disadvantaged students, those unmotivated by traditional academic schooling, or those who are vocationally bound. These skills are indeed vital for these students, and making them explicit, and having them taught and learned in school, can make a qualitative difference to their capacity to thrive. But the need is not confined to these students and their schools. The need is universal.

A number of recent reviews[1] have sought to move the curriculum in these directions. For instance, the NSW Curriculum Review (Masters Review) advocates a stronger integration of theory and application in senior secondary curriculum, recommending that the NSW senior secondary syllabuses be re-written to combine theory with the practical application of knowledge, and that every student be required to undertake a major investigative project. Similarly, the Review of Senior Secondary Pathways (Shergold Review), the AQF (Noonan Review) and that of Gonski all advocate greater emphasis on generalised skills.[1]

In addition, learning ambitions of this kind are deeply embedded in the Alice Springs (*Mparntwe*) Education Declaration,[37] yet do not have official support in the expression of the curriculum provided for flagship certificates, or in the national curriculum established by ACARA. Schools seeking to design more holistic offerings are by necessity required to fall back for guidance on a miscellany of frameworks[38] such as the Australian Core Skills Framework, the Australian Core Skills for Work Framework, the Australian National Curriculum for the compulsory years, the Australian Qualifications Framework, or frameworks provided by universities or educational collectives.

3.2 Reconsideration of the Australian Qualifications Framework

A recent review of the AQF[1] (the Noonan Report), was conducted to assist a system confronted by rapid growth and changes in knowledge, by a proliferation of education and training providers, and the increasing use of short-form credentials.

A worldwide scan of the trends in and pressures on qualifications found that governments and educators everywhere are scrambling to ensure that qualifications remain a trusted and useful currency, underpinned by standards, comparable, and useful for learners and employers alike. The review reported in 2020, making a range of recommendations for substantial redesign of the Framework.

Despite the fact that senior secondary certificates are nominally covered by the AQF it has played little part in their design, partly because school qualifications are quite different from tertiary qualifications. For a start, senior secondary certificates are not easily allocated to a particular level. Because they cater for the whole cohort, standards of attainment can span up to five AQF levels, from Certificate 1 to undergraduate degree level. Many senior secondary students undertake studies at school that count towards a certificate and can provide credit for tertiary qualifications.

The review suggested that the qualification type for the Senior Secondary Certificate of Education should be more clearly defined and represented in the AQF in terms of its role in preparing young people for a range of pathways, at different levels.

The review endorsed the idea that any Australian qualification should include general capabilities (digital literacy, ethical decision-making, etc.) as appropriate, and that these should be taught, assessed, recognised and reported.

It also suggested the explicit use of the common and revised language for reporting levels of the AQF, to support better information about obtaining credit for and the articulation of different level of learning, including secondary study with tertiary and higher education qualifications. This would also support the AQF from being a regulatory tool to also supporting qualification designers.

To facilitate this, the AQF review recommended revision of the defining and reporting standards and levels of attainment. In brief, it recommends moving away from a qualification being locked to a single level description, by using an eight-band hierarchy of knowledge outcomes and a six-bands taxonomy of skills, together with separate progressions in the general capabilities (such as digital literacy and ethical decision making).

This means that reporting of learning outcomes can be defined more flexibly by charting learner progression in each of the three areas. Further, for any qualification, the level of attainment in these bands is not expected to be locked one to the other. In essence, the argument in the review was that different qualifications at one level may have different profiles of the main categories of learning: knowledge in a domain, and skills in a domain, and level of general capabilities. A national credit points system was proposed to support credit transfer and recognition between such qualifications.

These direction are similar in many respects to the direction being seen in the schooling sector: use of progressions to define standards (as in literacy and numeracy and general capabilities), reporting on levels attained (as in NAPLAN and the HSC subject reporting), and reporting against standards in learner profiles (as in the International Big Picture Learning Certificate).

These directions, if adopted in the AQF would make the Revised AQF much more useful to the design of senior secondary qualifications. A Revised AQF could provide a strong basis for a new qualification type (senior secondary certifications) and the bands and levels could provide the basis for a common language for reporting standards of attainment in senior secondary qualification, aligned and articulated with those in tertiary and higher education.

The thinking underpinning the AQF review also has relevance to senior secondary schooling, because secondary certificates provide the foundation for further qualifications, and they are intended to smooth the transfer of secondary school graduates to tertiary study. Better articulation, and support for credit transfer between senior secondary and the tertiary qualifications would help learners.

3.3 Increasing relevance of short-form credentials

Short-form credentials are increasingly prominent features of the Australian tertiary education sector[39] and they are entering more strongly into secondary schooling.

This is not a new idea for schools. Many students create portfolios to illustrate the breadth of their engagement and learning. Others earn short-form credentials (micro-credentials, badges, certificates, awards) for learning attained outside the bounds of school classrooms that provide credit toward senior secondary credentials, although policies are not consistent across jurisdictions. A high level of attainment in sport or a credential in coding or programing from an IT company, for example, provide bonus or credit points towards senior secondary certification and/or an ATAR.

Appendix 1 lists over 900 instances of credit provision in senior secondary certificates, all from external providers, many providing badges, certificates or some other form of recognition, with varying degrees of formality in warranting.

Further, schools are increasingly relying on external providers of specialist teaching services to supplement their offerings. For instance, Grock Learning, and Young Change Agents, provide learning programs in computing, and entrepreneurship respectively, some of which can be badged.

In the tertiary sector, considerable effort is being put into regularising the recognition of learning attained in short-form courses. The Micro-credentials Marketplace is an Australian Government initiative[40] aimed at creating consistent language, forms and databases in a burgeoning and complex market for courses of widely-varying length and content.

The ambition is to enable students and graduates to compare education and training offerings more easily, employers and education providers to better understand candidate capabilities, policymakers to analyse offerings and their match/mismatch with need and demand, providers to learn from and collaborate with each other, and schools to help students understand and select from future learning options.

The Marketplace is also expected to help students 'stack' short-courses and credentials to build credit value and contribute to larger qualifications or skill sets. The associated National Credentials Platform, a collaborative initiative of the Federal Government, Universities Australia, the Universities Admissions Centre and Higher Ed Services (now HES), aims to help students transition from education to employment by showcasing their achievements and capacities, irrespective of where these are acquired, in a consistent manner. Several commercial platforms[41] have similar ambitions.

For the schooling sector, a myriad of short-form credentials are recognised (See Appendix 1) to provide credit, but the practice is not as developed as those for tertiary students and for credentialing purposes it is more complex an issue.

There is inconsistency from jurisdiction to jurisdiction, in whether or not an activity is recognised, and in how much it is 'worth' for recognition purposes. Much of the out-of-school learning by secondary learners is not recognised or badged at all, and it would need to be in order for the system to be fair.

For example, how might the cultural knowledge of Indigenous students, the management and employability skills developed by self-employed students, or the skills of students working in family businesses be recognised? How would it be possible to ensure that differences in resources available to families, schools and communities do not translate into differences in capacity to have learning recognised?

The growth in the importance of short-form credentials and the increased opportunities for recognising out-of-school learning both present a challenge for regulators of senior secondary credentials. An obvious next step would be to find a consistent and fair way to fold recognition of short-form credentials into senior secondary certificates.

3.4 Advances in methodology and technology supporting the assessment of complex competencies at scale

Writing in 2012, eminent economist of education Henry M. Levin[42] reviewed an extensive literature on the predictive value of measures of cognitive attainment. He found that test scores explain a relatively modest proportion of the relationship between educational attainment and success (and failure) in the labour market and the workforce. He argued that the impact of schooling on such outcomes cannot be explained without taking into account interpersonal and intrapersonal skills and capabilities.

Levin also marshaled considerable evidence to suggest that – contrary to widespread assumptions – non-cognitive capabilities can be taught and learned in a school setting. The problem lay, he argued, not only in the unfounded faith in the predictive capacity of measures of cognitive learning, but also in the fact that such outcomes can be easily measured in relatively straightforward and efficient ways. By contrast, there was difficulty in measuring non-cognitive learning and capacities accurately, efficiently and at scale.

Levin's findings as to this experience in the US and elsewhere obtained in Australia also. There has been an enduring debate about whether it is possible to measure some of these non-cognitive, complex capabilities, and other practical concerns as well, such as appropriately training the workforce.[43]

However, the problems in measuring non-cognitive capacities that Levin reports in 2012 have been largely solved. Robust, practical alternative assessment methodologies are now available that use different assessment tools and different assessment designs. There is now an abundance of evidence[44] that these alternate methods are able to assess complex learned attributes of the kind required, reliably, accurately, and at scale, if they are deployed with the same degree of support currently accorded to standardised methods. They are more than capable of underpinning certification, especially via profiling (see below).

Standards-based, and focused on development or growth, these methods employ assessment frameworks and associated rubrics and progressions to support the aggregation of expert rater judgments. They can use a rich array of non-standardised evidence to assess quality and scope of learning. They put learners and teachers at the heart of the assessment design.

They permit agency in what and how students demonstrate their attainments. They do not deskill teachers or require the assessment environment to be stripped of cultural, linguistic and social references relevant to a learner. A summary of this method of assessment is provided in an accessible, easily remembered form in Figure 2.

Assessment is
...a process
of gathering evidence about a learner
(what they say, do, make or write)
in various realistic contexts
to support a reliable judgement
about the position of a learner
on a scale of competence from less expert to more expert
in a valued domain of learning
explaining what they can do
and what they need to learn next
with sufficient degree of confidence
to support learning and teaching
and recognition of the level of learner attainment
that people trust

It would not have been practical or feasible to scale use of these new assessment approaches a decade ago. But educational technologies have quickly followed where new thinking, practice and research have led.

Applications[45] that can support schools and teachers in collecting rich evidence of attainment (such as portfolios and digital repositories) are now available. So are applications[46] that can support the very different nuts and bolts of administration and quality control for these methods: recording assessments, facilitating collaboration between assessors, moderating, involving students and others in the process, quality assurance, scaling, standards referencing, mapping to national or other important standards, and representing learner attainment in profiles. Purpose-built digital media can distribute and socialise results through credential platforms and the like.

It seems appropriate to put aside the concerns articulated by Levin a decade ago and ensure that senior secondary learners can be the beneficiaries of modern assessment approaches, so that they can attest to the full scope of learning they attain while at school.

3.5 Adoption of profiling as a method of recognising learning

The Shergold Report (2020) recommended that Australian schooling should adopt learner profiling for all learners in senior secondary schooling, to broaden recognition of learning success and to encompass the full range of knowledge, skills, attitudes and values that learners need to thrive and to continue learning throughout their lives.

The report argued that profiles can supplement or replace current systems and include a record of attainment in the range of skills, knowledge and attributes that young people need to participate fully in school, social, economic, and civic life. Profiles might also include attestation of learning attained in co-curricular activities, in work experience, in pursuit of personal interests, in conducting family responsibilities or cultural practices, or in their involvement in community.

At present many schools in Australia or overseas are experimenting with or adopting learner profiling, typically with the focus on general capabilities.[47] Other schools are moving in this direction, acting on their own or forming or joining organisations that provide support for finding alternative ways of representing attainments and warranting their results.

Perhaps the most developed of many uses of profiling in Australia at present is in the Big Picture schools, where a profile constitutes the centerpiece of each qualification issued by Big Picture (IBPLC) as an alternative to the senior secondary certificates.

It covers attainments in areas such as quantitative thinking, empirical thinking, social reasoning, and communication as well as general capabilities such as communications and knowing how to learn. IBPLC is provided with a warrant for the quality of the representation of learner's attainments issued by the Assessment Research Centre from the University of Melbourne, using audit criteria that attest to the validity and reliability, standards-base, comparability, and fairness of assessments.

At present, profiles are used by some as a replacement for senior secondary certificates, by others as a supplement, and by others, not at all. It seems likely that profiles are an appropriate, and feasible means of certificating the level and scope of learning using standards of attainment, for any school graduate, in any areas or domain of learning.

In this context, there is merit in ensuring that there is a common form and approach that would assist parents, learners, employers and other stakeholders to interpret and use such a credential. Table 3 shows how the use of learner profiles currently applied to general capabilities could be adapted to a more general approach.

Below are worked examples of three profiles of hypothetical learners, referenced to standards established to a hypothetical Revised AQF. The learning domains have been selected to reflect (but not adhere strictly to) content domains identified as appropriate to senior secondary schooling by Masters in the NSW Curriculum Review. Learners would develop domain knowledge and skills in these areas. The general capabilities reflect those found in common secondary and tertiary frameworks. It is assumed that the AQF level runs from 1 to 8, and is derived from assessments of skills and knowledge attained, referenced to standards in the AQF bands for knowledge, and skills. A person working within that band could be awarded a pass or a distinction. It is assumed that the levels of attainment on general capabilities are based on assessments using 5-level set of standards.

Learner 1 is a strong sportsperson, good at the books too, comes from a family who has English as a second language, and is prominent in leadership roles in community sports organisations. Learner 2 is a very strong performer in mathematics and science who is interested in entry into higher education engineering, design or similar. Another, Learner 3, is a learner interested in becoming a childcare worker or nurse who has a background strong in community volunteering, is a very competent musician who plays in a band. For each the profiles reference the AQF standards and levels, and reflect the breadth and depth of learning attained in domains of interest and relevance to them.

Table 3: Hypothetical profiles

	AQF LEVELS OF COMPETENCE ATTAINED		
CONTENT DOMAINS	LEARNER 1	LEARNER 2	LEARNER 3
Business and finance			
Community service	4		4 Distinction
Engineering and design		3	
English language	3	3	3
Languages other than English	3 Distinction		3
Mathematics	4	4 Distinction	2
Physical health and sports	5 Distinction		3
Production and manufacturing			
Sciences	4 Distinction	4 Distinction	
Social sciences		3	3
Visual and performing arts		3	4 Distinction
GENERAL CAPABILITES	LEARNER 1	LEARNER 2	LEARNER 3
Active citizenship	4		4
Learning agency	4	3	3
Communication	5	3	4
Digital literacy		3	
Ethical development			4
Leadership	4		
Planning and organising		2	4
Team work and collaboration	4	4	4
Thinking skill (critical and creative thinking and problem solving)	3	4	

LEARNER 1

AQF LEVELS OF COMPETENCE ATTAINED (D = distinction):
1, 1D. 2, 2D, 3, 3D, 4, 4D. 5 and 5D

LEARNER 2

AQF LEVELS OF COMPETENCE ATTAINED (D= distinction):
1, 1D. 2, 2D, 3, 3D, 4, 4D. 5 and 5D

LEARNER 3

AQF LEVELS OF COMPETENCE ATTAINED (D= distinction):
1, 1D. 2, 2D, 3, 3D, 4, 4D. 5 and 5D

3.6 Reduced reliance on the ATAR in university selection

Australian universities, by and large, trust the ATAR to provide a reasonable guide to likely success in their first year courses. It is extensively used to manage selection into over-subscribed courses, but less often than has previously been the case and with increasing awareness of its limitations.

Doubts about the broader predictive capacities of academic attainments have long been an issue. While high ATARs reliably predict success in first year university studies, low ATARS do not reliably predict failure. Also, ATAR is less reliable in predicting whether or not a young person will thrive in the later years of university, or beyond.

ATAR does not assess the qualities involved, such as capacity to persist in an area of interest, to mobilise oneself and take responsibility for learning, to have the capacity to follow passions, to add value to a community of interest, to communicate, to persuade, to lead, to collaborate or to success in a chosen occupation. As expressed by the Tertiary Admissions Centre in NSW:

The ATAR is an efficient and effective measure of academic achievement and potential but it does not consider equity issues and says nothing about a student's life goals, passions and broader personality, beyond being resilient, motivated and organised enough to have achieved the HSC. What's missing in the current debate about ATAR is balance.[48]

The 2009 introduction of demand-driven funding of undergraduate places after the report of the Bradley review[49] created much demand for higher education places and also encouraged diversity in the university population. There is now a myriad of alternative entry pathways that may or may not include an ATAR minimum. In 2016 one third of all universities indicated that 30 per cent of school-leavers admitted to a university course did so on bases other than ATAR alone.[50] Some of these alternative pathways for school leavers are described in Table 4.

Alternative programs aim to do what the ATAR cannot – find a close match between learner and opportunity. They seek candidates from among those who did not do well at school and who can do well at university and beyond and identify candidates among those who *did* do well at school but who are less suited to their chosen path.

University selectors use a myriad of selection processes, including examination of portfolios of candidate achievements across many spheres of life. Success in employment is often indicative. Candidates may be auditioned if they have particular performance capacities. Interviews may be used to check presentation and communication skills.

Candidates may be asked to argue for their entry through an additional written exercise or in person. References may be checked to assess character and integrity. Particular weight is often given to the recommendation of the principal of the candidate's school.

Use of these pathways is expanding rapidly, for better or for worse.[51] The Australian Catholic University, for example, is reported as tripling its alternative pathways offers from 3,000 in 2020 to nearly 9,000 in 2021. The University of Canberra doubled its intake in the same period, while Flinders University made 2,026 offers in 2021, up from just 181 in 2019. Western Sydney University early offers rose from 7,000 in 2019 to 15,000 in 2020.
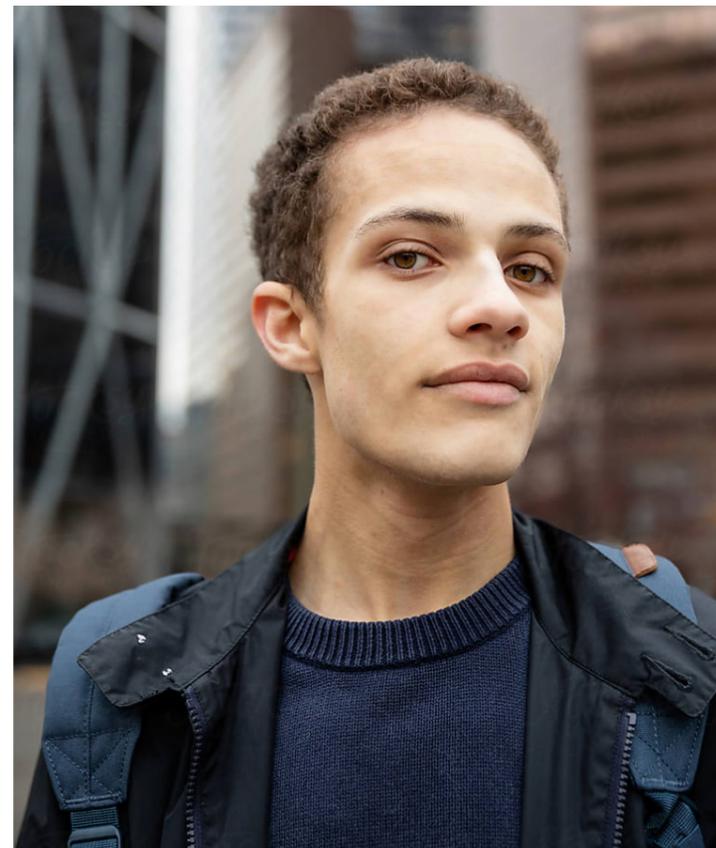
Table 4: Pathways to alternative entry to university

Examples of alternative university entry pathways open to school students or school leavers for which an ATAR is not required or is set lower.	
Pathway programs: into undergraduate degrees. These include enabling programs, bridging programs, foundation programs, diplomas, associate degrees, certificates and so on. Programs differ, though most provide recognition or credit towards one or more degrees, typically with guaranteed second year entry on completion. Either an ATAR is not required, or it is set lower and accessible to most.	**Special consideration for entry:** Universities give special consideration to students who can demonstrate special circumstances. It may apply to those who are Indigenous, live in a regional, rural or remote area, attend a school that is under-represented in higher education, come from a non-English speaking background, or are first in family to attend university. The University of New South Wales, for example, gives priority to those who come from low socioeconomic regions. The UNSW Gateway significantly adjusts the ATAR requirements for preferred UNSW degrees and provides students with an early conditional offer to UNSW.
VET entry pathway: Based on the results of study in a recognised VET course, this pathway is applicable for school leavers who have completed a vocational education qualification, such as Certificate IV, undertaken during or after secondary school.	**Early offer schemes:** These schemes have burgeoned recently (some in response to uncertainty about the ATAR due to COVID). 'Predicted ATAR Entry' or 'Early Conditional Offers' are made to students who complete their Year 11 or are starting their Year 12. This pathway allows those students to use a predicted ATAR endorsed by their school to apply for admission to a selection of tertiary courses. At the University of Western Australia, the Predicted ATAR entry pathway is not applicable for Direct Pathways to Medicine, Dentistry, Pharmacy and Podiatry or undergraduate Medical Sciences. Early entry is sometimes tied to attendance at specific schools, or participation in university programs conducted parallel with their schooling.

Figure 3: An example of an entry scheme that does not require, or supplements an ATAR
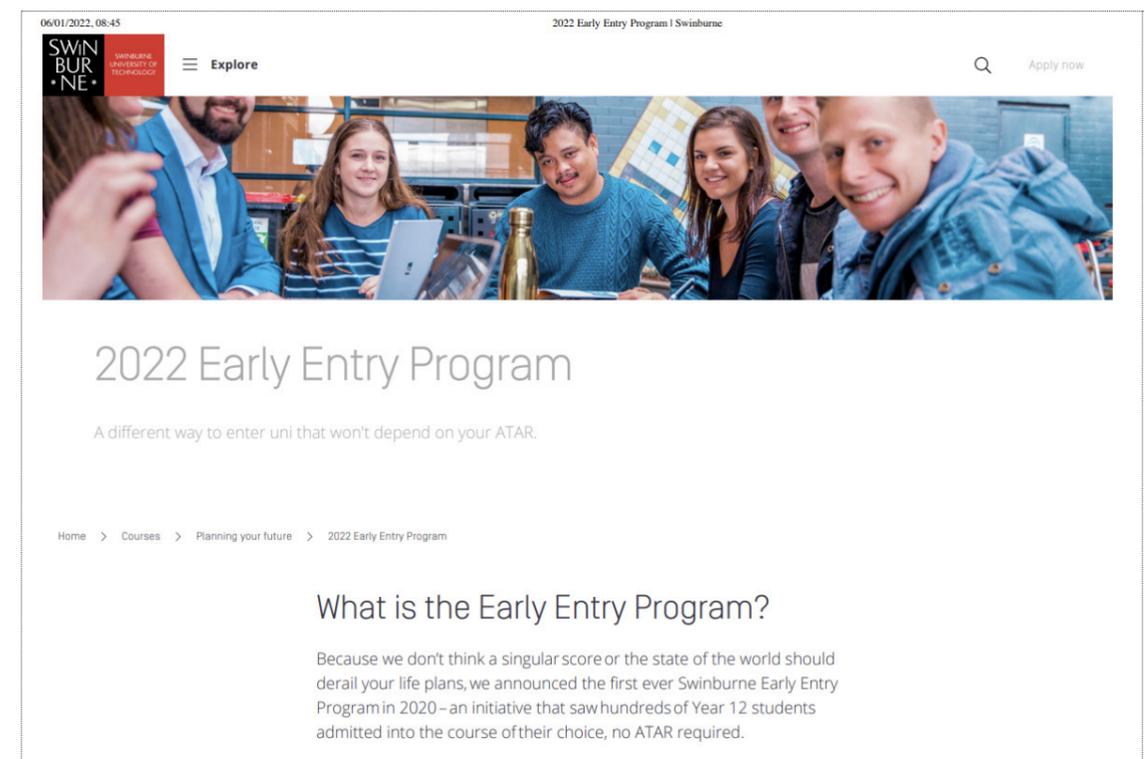
While most young people and most schools welcome the advent of these alternative programs, in some respects they do harm as well as good. Early entry schemes, for instance, have been criticised by school authorities[51] for undermining school programs. Guaranteed entry at Year 11, for example, can encourage complacency, a problem for the individual, for their peers, and the school's ethos.

The number and diversity of alternative pathways make an already complex, competitive system more complex, less predictable and transparent, and potentially less fair. The precise criteria for selection are frequently unstated. Some schools are more effective than others in establishing formal links that ease the way into university. There is little or no accountability; some schemes seem to be little more than marketing efforts to secure supply in a competitive market for students. Portfolios and the like take scarce time to develop, and to assess.

There is a range of other initiatives[52] in which schools and universities are jointly exploring how to either supplement or replace the ATAR with more reliable, valid, trusted, and fair information about a candidate's learning track record. Learners and schools can easily generate this information as part of routine assessment processes, and Universities can use it to ensure selection is easy to manage, fair and transparent.

The aim is to strike a better balance, to create information that is more relevant and a process that is more transparent, fair and manageable. At present the senior secondary certificate provides little assistance in this regard.

3.7 Requirement for different markers of trust and utility

As indicated in Chapter 2 above, many schools provide curriculum or learning experiences that are provided outside of the official arrangements for administering the flagship senior secondary certificates. An enduring challenge for these schools is to reassure their stakeholders — learners, parents, recruiters and selectors – that the quality of their programs is high, that learners learn something of value, that any certification is an accurate attestation of what the learner knows and can do, and that recruiters and selectors can be confident in the graduates.

For those who employ a flagship certificate, that is all taken care of by the authorities and the tertiary admissions centres. But ensuing this trust and utility for others is less straightforward.

In meeting this challenge, solutions vary. Some schools harness the trust and utility mechanisms provided by the vocational education sector by registering as an RTO or by collaborating with one. They can then issue recognised qualifications or claim credit towards one, relying on the strength of the warrant provided by the vocational education authorities.

Other schools work hard within their communities to generate local trust in what they do, and local recognition.[53] For instance, a recent project based in Rockhampton sponsored by Learning Creates Australia has highlighted the particular importance of place-based recognition for Indigenous communities, suggesting that each community should develop a pact with its school, to build trust and utility, ensuring that the cultural, social and economic goals of the community are embedded in the learning expectations, methods of teaching, and in recognition of learning. In another example, Beenleigh High School in Queensland has designed its own certificate and badges and has attained the warrant of local employers for their students' school profiles targeting local employment opportunities.

Other schools are developing their own partnerships with local universities to secure a trusted pathway for their students, so they don't have to rely only on the pathways generated by the senior secondary credential and associated tertiary admission processes. Benefits have accrued to learners through these methods and an associated benefit is that the schools and learners have developed closer and more productive relationships with the community.

Yet others are working with external warrantors to underpin trust and utility.[8] For instance, the Diploma for the International Baccalaureate (IB) is warranted by the Geneva based IB Organisation, which itself has sought equivalence to the flagship certificates.

The IBPLC, with its innovative learning design, is warranted by the Assessment Research Centre at the University of Melbourne, as is the Latrobe Valley Enterprise Credential, which has been developed to attest to the enterprise skills a person has developed, assessed independently of any particular courses of study.

In these many ways, schools have demonstrated a desire to replace or supplement mainstream methods of warranting trust in and utility of their credentials. The schools have placed themselves as central to the recognition process, to attest to a wider range of attainments by their students.

They can do this because they know the students and their communities, and they understand the broader societal demands for trust as well. They do *not* reject the need for wider recognition, the importance of academic standards, or the use of schooling results to allocate places beyond school.

Rather, they want to assess and recognise what students know and can do and to draw every student into worthwhile learning, recognised and trusted by their community and more widely.

A key point about all of this is that the schools are seeking a warrant for their certification that goes well beyond attesting to equivalence to flagship qualifications.

The purpose of warranting for them is to ascertain the degree to which a stakeholder is justified in trusting the representation of the attainments of a learner on their qualification, in which learning ambitions go beyond the academic. The process necessarily incorporates different qualification designs and warranting needs, to include judgments about school level practice, and local stakeholder requirements.

At school level this also requires assurance of comparability of representations to those of other schools. For certification based on school-based assessments of complex competencies, warranting involves: use of reliable, developmental, standards-referenced, performance-based assessments, reviewing evidence relating to the reliability and comparability of the assessment designs in use, ensuring alignment to the learning design adopted by the school; assessing the strength of moderation processes; checking inter-rater reliability and rater confidence; ensuring inclusiveness for cultural, linguistic and social differences; reviewing threats to integrity of results; ensuring a high degree of learner agency in learning and assessment; checking utility for students and other stakeholders post school; and ensuring the alignment of learning goals, learning design and assessment design.

Fortuitously, in Australia there are already practical, high-quality, scalable, evidenced precedents and solutions, usually in 'first mover' environments operating to some extent outside the dominant regulatory environment. Behind these are the educational leaders in Australia teachers, students, parents, researchers, warrantors, employers, researchers, technology providers, and tertiary education providers, for whom elements of the new are already are part of day-to-day work and whose experience and understanding can be tapped to develop a blueprint to guide patient implementation.

A first step would be to mobilise these leaders, to scope the blueprint for evolutionary change.

Figure 4: Benchmarks in use of selection using matching not ranking

Benchmarks and their use in selection using matching not ranking

Using the data the case of the three learners profiled provide above in Table 3 above, it is possible to illustrate how a profile might help establish benchmarks for selection. For example, for a entry to a hypothetical bachelor of science degree, (including coverage of sports science, mathematics and biology) a university might set as its benchmarks for attainment of a high Level 4 in the academic domain of mathematics, and science; Level 3 for English language competence and the general capabilities of critical thinking, communication, and collaboration. On the basis of these benchmarks, Learner 3 would not attain entry but both Learners 1 and 2 would be eligible candidates. Learner 1 might attain higher standing for entry if the orientation of the course was academic, but Learner 2 might be a stronger contender for a course oriented to professional application.

4. Seven directions for regulatory change

Chapter two outlined some of the enduring critiques of the arrangements for senior secondary certification and Chapter three detailed some of the contemporary pressures for change, and how they are being responded to.

These critiques and pressures were discussed with awareness of the long history of ongoing reform to and debate about changes in senior secondary schooling. They suggested that the current arrangements are under pressure, increasingly unable to support today's senior secondary students and of meeting the needs of the community or the economy. These chapters also suggest some areas for action.

In this chapter a set of seven directions for change are proposed.

4.1 The directions

Direction 1

Provide a formal, national statement of purpose, and the learning goals for senior secondary education.

This requires leaders to articulate the breadth and depth of learning appropriate to senior secondary schooling as a distinct phase of schooling undertaken in preparation for work, further study and active citizenship.

A national statement should encompass expectations of learning for every learner in their senior secondary years.

It should prioritise the capacity for every learner to master knowledge in depth, in areas of their interest, but also the capacity to apply that knowledge, to use it to add value to the community, to keep learning in the face of change, and to develop transferrable and general capabilities that will stand them in good stead no matter what they do.

> *Valuing not just what you know, but how you know it, to what depth, and what you do with it*

Students should not irrevocably specialise at this stage of their learning. There should be a line of sight from the general curriculum of compulsory schooling, to post-school learning opportunities in which learners specialise. Learners in senior secondary should be able to see a path through which they can continue to develop breadth while exploring areas of strength and interest.

The statement would differ in some ways from statements about learning appropriate to the compulsory years of schooling, as it should establish the expectation that the learning of every senior secondary learner in their final years should reflect their own interests and the social, cultural and economic interests of their community.

It should reflect the view of a wide array of stakeholders, including recruiters and selectors, and particular community groups. It should be competency based, so that it captures what students know and can do, and how they can add value to their community in their areas of potential specialisation.

It should allow them to give expression in their learning to their personal aspirations and goals, and provide for them to connect to communities of interest, using their learning to contribute to those communities.

Direction 2

Ensure that any senior secondary certificate meets the requirements of a clearly defined, unique qualification type in a Revised AQF

Senior secondary certificates should be regarded as a key part of the Revised AQF and be shaped by it.

A purpose of aligning senior secondary qualifications with the Revised AQF framework is to support the various qualification designers in secondary schooling by providing a common language and currency for description of domains of learning and levels of attainment.

A senior secondary qualification type would be distinctive in enabling representation of learning attained at a range of the Revised AQF levels (let's say levels 1 to 5) without streaming, so that the developmental goal of senior secondary schooling for the full cohort can be retained. In each senior secondary qualification, assessment of levels of attainment should reflect that the cohort of school students has great diversity in patterns and levels of attainment across domains of human learning.

If standards in the senior secondary qualification type are aligned to Revised AQF levels, then it is possible to provide the basis of comparable reporting, and to provide the bases for better understanding of opportunities for articulation with and gaining credit in, post school learning.

For example, attainment of school students in mathematics will range from standards at a very basic level to those commonly attained at university level. Standards of practical aptitude in areas such as the arts or sport or the trades can similarly range from the novice level to the highest professional standards of performance. A student's depth and level of learning should not be limited by standardised content specifications and they should be eligible to earn credit for their work in tertiary qualifications if that is appropriate.

> *Senior secondary qualifications that are foundational to all the rest*

Direction 3

Ensure that the design of any senior secondary certificate is based on robust common standards for reporting attainments in any domain, expressed as progressions of learning related to revised AQF levels in knowledge, skills and general competencies domains.

Standards in any domain can be based on progression in learning, in much the way they have been in Australian Curriculum literacy and numeracy domains, or in the way that they are in professional standards.

When standards are expressed as progressions, learners, teachers, assessors and other stakeholders can more easily understand the behaviours associated with performance at different standards of learning, and can better distinguish performance at different levels of expertise.

Because the range in standards of attainment in senior schools is wide, it is unnecessary to set minimum or expected levels of attainment in any area (domain knowledge, domain skills, and general capabilities). It is sufficient that attainments are reported using a common currency of standards that can be understood by parents, students, employer or tertiary institutions. This allows all students to participate and progress in learning, at their own rate, and according to their own interests and abilities. This allows recruiters and selectors to set their own benchmark standards in particular domains for particular purposes.

In the first instance effort in this area might focus on areas such as competencies that require complex performances, such as general capabilities, and learning ambitions such as connectedness and agency. These domains of learning present a problem for standardised assessment methods, partly because they can be developed in the context of any content, and partly because they cannot be assessed using evidence from individual, written tasks.

Eventually such an approach might be applied in all domains of learning, including deep mastery of knowledge and application of specific areas of content. A slightly finer level of distinction might be required in domains within the bands set by the Revised AQF, but it should provide the basis of leveling, as outlined in Table 3 and Figure 4.

> *Standards that establishes the level of progress attained to date, not pass or fail*

Direction 4

Establish learner profiling as the approach to representing attainment in senior secondary certificates.

Every student should leave school with a transparent, trusted, useful, authorised, comparable, and inclusive learner profile, representing standards of learning attained in a range of domains.

This should cover common learning goals as well as allowing for focus on the domains of particular interest and/or strength of the individual and their community.

> *Credentials that showcase not only 'how good is this student' but also 'how this student is good'*

Direction 5

Extend the repertoire of assesement and warranting methods to include judgement based, standards-referenced, developmental, and performance-based assessments rather than just standardised approaches.

This approach is becoming more common in those domains of learning requiring complex competencies and capabilities over and above content mastery, such as in professional learning and learning of general transferable competencies.

Much of senior secondary learning necessarily aims to develop competence or capability in students. Deep competence requires a complex amalgam of knowledge, skills, attitudes and values, in which capacity to perform is much more than the sum of the parts. In these cases, assessment design needs to shift its balance from the predominant use of standardised, written assessments (all the same, cognitively oriented, common scorers) to encompass standards-referenced, developmental, performance-based assessment. This enables assessment design in a school to align with the broader and deeper learning ambitions, and more productive learning design.

It is recognised that, for many students, teachers, assessors and regulators, the capacity to use and warrant the methods, techniques and technologies associated with this approach will necessitate an expansion of their professional repertoire.

> *Assessments and warranting methods capable of capturing of all of what we value*

Direction 6

Support development of the authorising environment to enable issuance and warranting of a wider range of senior secondary certificates operating within a universal framework

This involves establishing new regulatory arrangements (re-regulation not de-regulation) to ensure trust in and utility of a wider range of qualifications to be issued by a qualified organisation (in at least some cases, the learner's school).

There should be expanded opportunity for senior secondary education providers (including schools) to choose a qualification designed by and/or warranted by organisations other than their local jurisdictional authorities. Quality control and warranting processes appropriate to other qualification designs should not rely on equivalence to existing flagship qualifications, or be regulated through reliance on standardised, common assessments of cognition, and mastery of pre-defined content. The purpose of warranting is to ensure that the learning meets community expectation and to ascertain the degree to which a stakeholder is justified in trusting the representation of the attainments of a learner on a qualification. The process can often necessitate warranting processes very different to those adopted by the warrantors of flagship senior secondary certificates.

The people best placed to *issue* an authorised (warranted) qualification, which attests to what a student knows and can do, are those who know the student best, and who understand the learning design and the learning ambitions of the learner and their community. For school leavers, this may be a school, or network of schools, or a system of schools in or across jurisdictions or a jurisdiction authority. A school knows and understands the student and is in the best position to assist them to represent their learning in a productive, comparable, accurate and fair manner.

A school, or group of schools, or a system of schools might opt in to be an issuer when they feel confident that they can manage it, at a time of their choosing.

Allowing a school or school organisation to issue a qualification of its choice, warranted by an authorised warrantor, under a national framework, represents a change in the current approach to senior secondary certification, although it is not unprecedented. Schools that rate RTOs, for example issue VET certificates.

> *Regulatory redesign so trusted qualifications are issued by those who know the student; and warranted by those who understand the learning design*

Direction 7

Design senior secondary certificates as the necessary and sufficient guides for post-school selectors and recruiters.

Senior secondary certificates should efficiently, fairly, and validly provide the information required by selectors and recruiters to match the suitability of candidates to benchmarks for particular post-school and employment opportunities in relevant domains.

Selectors and recruiters should be able to use representations of learning on the proposed universal national qualification to do this in an efficient manner, using matching algorithms as well as human judgment. The aim would be to ensure that the representations of learning in senior secondary qualification are both necessary and sufficient to optimise the match between the learning attainment of school leaver candidates, and the requirements of opportunities on offer. This can be done by establishing requisite benchmarks for the levels of attainment (with reference to national standards) in any domain which is pre-requisite for successful entry.

> *Selection of candidates based on matching, not ranking*
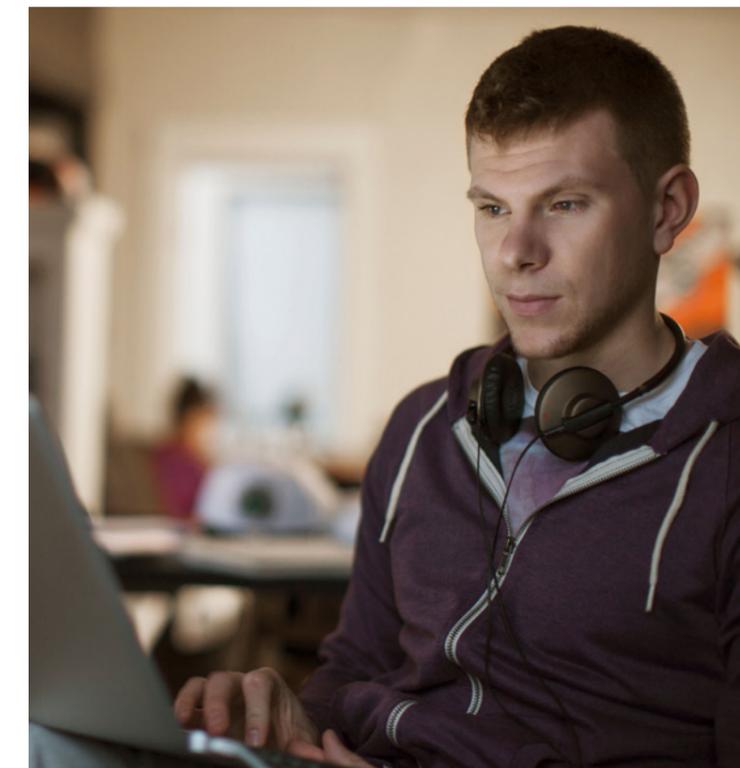
4.2 A single approach

In this proposal, these seven directions represent an internally consistent set of elements, not to be read as proscriptions for incremental improvement. Together, they have been selected to add up to a coherent alternative **logic** for thinking about and framing the success of all senior secondary students. The proposed approach is based around embedding new orientations into senior secondary certification.

One orientation is towards **universality and inclusion**, working for all students, and away from the enduring segmentation and fragmentation in certification. Every student should get a senior secondary certificate that is understood, trusted and interpretable by all, that recognises and highlights strengths in what they know and can do, and conveys a sense of who they are after their 12 years of schooling.

Another orientation is to embed the idea that senior secondary schooling is transitional. Schooling is still preparatory to shaping citizens and workers, but these young people can also be regarded as self-determining, being guided to take responsibility for shaping their own learning, and engaging their own interests and passions, adding value to their communities. They need to have agency in their learning in the process of navigating into future opportunities. They need to connect to and contribute to their local community and communities of interest. Learning, assessment and qualification designs need to reflect this. Reliance on coaching students through predigested packages of learning is insufficient.

A related orientation is that senior secondary schooling should be regarded as developmental, so it is important to remove any pass/fail mentality in favour of charting progress, which can be slow, stellar, or sufficient for some purpose or other. Progressions are now commonly adopted in the professions.

The sorting and selection functions of senior secondary schools are important, and for fairness, the senior secondary certificates should be the necessary and sufficient mechanism to support this. But '**profiling**' and '**matching**' should be the bases, rather than ranking on academic skill, or having to having to find a path through a maze of alternative pathways.

This approach is based on the need to **expand authority for issuing certificates** to where it is best placed in a complex digital society, and establishing **different types of warranting** to match.

5. Implementation, and a way forward

5.1 Issues of implementation

These directions, and their underlying logic, are designed to frame reforms to senior secondary certification. The directions are firm, but not fixed. They are presented for discussion and, if or as appropriate, for revision. We acknowledge that this new approach raises the bar for ambitions for the reform of secondary education.

The directions emerge from an unusual and perhaps unprecedented combination of circumstances in and around senior secondary schooling, amplified by the impact of the COVID pandemic, offering an opportunity to attain what has previously seemed impossible: a unified, standards-based senior secondary certification framework.

Our main anxiety is that some elements or aspects of the proposal will be seized upon, adopted in part or piecemeal by players, either established or new. '*We are already doing it*' is a common, and to a degree accurate, response from many innovators.

However, it is the *regulatory system* that is the focus of change in this paper, and it is this system which needs to be shaped to sustain changes that work. Piecemeal or partial responses may eventuate, especially in the absence of policy leadership, in a way that draws too much from the patterns of past senior secondary certification.

We also acknowledge that the approach encompasses ideas actively contested in the education community. Some argue that change in this direction will upset the good things in the current system: such as objectivity and fairness. How can you, they ask, ensure fairness and objectivity in areas which cannot be assessed by examination?

Others see the sort of logic as most appropriate for non-academic learners, fearing that a commitment to breadth implies a trade-off with depth, diluting quality education, or representing a rejection of academic standards.[54] Some worry that adoption of profiles, and use of micro-credentials might advantage the already educationally advantaged, a high probability if things are left to market forces.

Others do not see the need to change the academic curriculum, believing against the evidence that if you do well in examinations you can be assumed to have all the other skills you need, like collaboration, communication, critical thinking skills, and learner agency. Another fear is that change for change's sake is being entered into without any guidance from objective measures of improvement.

Some readers will think, perhaps, that the directions might be sound and interesting, but they find it hard to envisage what it would look like in practice, or how it would be enacted in Australia. In this context, readers might ask:

– **How could an agenda to adopt a new approach be led in Australia, informed by experience, while not bowing to the phenomenon of path dependency?** There is no one agency, authority or commission in Australia that has the authority, competence or mandate to commence planning such an endeavor. Even the governance structures around the AQF, which has a Commonwealth legislative base, is not equipped to take the matter in hand.

– **Under what authority or authorities could a national statement of learning for senior secondary schools be issued? Or a set of standards within each learning domain be agreed? Or common templates for profiles be designed? Or methods for using matching for selection be adopted?** Senior secondary school policy represents the confluence of many interests, including two levels of government, thousands of schools, dozens of school systems, seven school jurisdictions, each with their own curriculum and assessment authorities, as well as interests in vocational education, higher education, and employment. It centrally involves hundreds of thousands of learners themselves, and their families and communities. There is no single table around which competent crafters of a new logic could be gathered.

– **What would be the characteristics of an authorising environment in which alternate credentials can be designed, and authorised to have parity with the flagships?** This is particularly a question for those credentials based on designs unlike or not interchangeable with flagship certificates.

– **In what circumstances and using what evidence could a school be authorised to issue certificates themselves, and have their assessments warranted as valid, reliable and comparable?**

– **What sorts of organisations could supply a warrant to a school to issue such a certificate, and how would this be done to ensure trust and utility?**

– **How would we tell if any change was improving matters, not just altering forms?** This raises the issue of appropriate metrics for quality education if we go beyond exam results and participation, and on to the ambition that all students might thrive.

These are all real questions that need real, agreed-upon answers.

5.2 A first step

Fortuitously, for each question, there are already practical, high quality, scalable, evidenced precedents and solutions. Some of these have been around for years; others are at the prototype stage.

Behind each of these precedents and solutions are the many 'first mover' educational leaders in Australia, for whom elements of the new logic are already integral to their work. They include learners, parents, school leaders, teachers, tertiary institutions, First Nations communities, technologists, and those responsible for new kinds of qualifications. Their experience and understanding should be tapped.

A first step would be to convene the first movers, to canvas ways forward, out of which which a blueprint could be sketched and agreement reached on evolution of the approach. With an evolutionary plan, and patient implementation, it is feasible to ensure that Australia has an approach to senior secondary certification that generates success for all.

Appendix

Credit allowance for out-of-school activities in various senior secondary certificates

Note: this list has not been analysed in any detail. It is provided for information to illustrate the complexity, variety, variability and scope of recognition, as presented on the SACE, SCSA, QCAA and VCAA websites. It should not be relied on to estimated credit you can earn for your certificate.

Program	SACE	WACE	QCE	VCE
Number of Credits/Units Requirements	200 Credits	20 Units	20 Credits	16 Units
Associated Board of the Royal School of Music				
Practical Music Grade 5	10 Credits			
Grade 6-7 in any dance/musical courses or instruments	10 Credits		1 Credit	
Grade 8 in any dance/musical courses or instruments	10 Credits		2 Credits	
Performance only ARSM Diploma	10 Credits		2 Credits	
Music Performance Diplomas (Dip ABRSM, LRSM and FRSM)	20 Credits		2 Credits	
Australian Airforce Cadets				
Home Training- Proficiency	20 Credits	1 Unit		
Home Training- Advanced	20 Credits	1 Unit		
Home Training Qualified	20 Credits	1 Unit		
Basic Stage Training		1 Unit		
Junior Non-commissioned Officers Course		1 Unit		
Senior Non-commissioned Officers Course		1 Unit		
Under Officers Course		2 Units		
Warrant Officer Course		2 Units		
Australian Business Week Limited				
Enterprise Education	10 Credits	1 Unit		
Australian Dance Association				
Classical Ballet Pre-Elementary			1 Credit	
Classical Ballet Elementary			1 Credit	
Jazz Pre-Elementary			1 Credit	
Jazz Elementary			1 Credit	
Tap Pre-Elementary			1 Credit	
Tap Elementary			1 Credit	
Australian Music Examination Board (AMEB)				
AMEB Award Program- Bronze		2 Units		
AMEB Award Program- Silver		3 Units		
AMEB Award Program- Gold		4 Units		
Grade 5-7 Practice of Music	10 Credits	1 Unit	1 Credit	
Practice of Music Grade 8	10 Credits	1 Unit	2 Credits	
Practice of Music Associate Diploma		2 Units	2 Credits	
Practice of Music Advancing Step 3		1 Unit		
Practice of Music Advancing Step 4		2 Units		
Practice of Music Certificate of Completion		2 Units		
Practice of Music Certificate of Performance		2 Units		
Practice of Music Licentiate Diploma		2 Units		
Music Performance Grade 5-8	10 Credits	1 Unit		
Level 4 Diploma in Music Performance		2 Units		
Level 6 Licentiate in Music Performance		2 Units		
Music Production		1 Unit		
Music Theory Grade 3		1 Unit		
Music Theory Grade 4-7		1 Unit	1 Credit	
Music Theory Grade 8		1 Unit	2 Credits	
Solo Speech Performance Grade 4-7		1 Unit	1 Credit	
Solo Speech Performance Grade 8	20 Credits	1 Unit	2 Credits	
Solo Speech Performance Associate in Professional Communication Australia	20 Credits	2 Units	2 Credits	
Solo Speech Performance Licentiate in Speech Performance	20 Credits	2 Units	2 Credits	
Solo Speech Performance Associate in Speech Performance	20 Credits	2 Units	2 Credits	
Solo Speech Performance Certificate in Speech Performance	20 Credits	2 Units	2 Credits	
Solo Speech Performance Certificate in Voice and Communication	20 Credits	2 Units	2 Credits	
Speech and Performance Theory Grade 2-3		1 Unit		
Speech and Performance Theory Grade 4-5		1 Unit	1 Credit	
Speech and Performance Theory Grade 6	10 Credits	1 Unit	1 Credit	
Speech and Performance Theory Grade 7	10 Credits	1 Unit	1 Credit	
Theory of Music Grade 3		1 Unit		
Theory of Music Grade 4-7		1 Unit	1 Credit	
Theory of Music Grade 8		1 Unit	2 Credits	
Theory of Music Associate Diploma		2 Units	2 Credits	
Theory of Music Licentiate Diploma		2 Units	2 Credits	
Grade 4-7 in any dance/musical courses or instruments			1 Credit	
Grade 8-9 in any dance/musical courses or instruments			2 Credits	
Associate Diploma in any dance/musical courses or instruments			2 Credits	
Licentiate Diploma in any dance/musical courses or instruments			2 Credits	
Certificate of Performance in any dance/musical courses or instruments			2 Credits	
Certificate of Speech and Performance in any dance/musical courses or instruments			2 Credits	

Course	Credits	Units	Credits
Associate of Speech and Performance in any dance/musical courses or instruments			2 Credits
Australian and New Zealand Cultural Arts Limited			
Grade 4-7 in any dance/musical courses or instruments			1 Credit
Grade 8 in any dance/musical courses or instruments			2 Credits
Associate Diploma in any dance/musical courses or instruments			2 Credits
Performance Diploma in any dance/musical courses or instruments			2 Credits
Licentiate Diploma in any dance/musical courses or instruments			2 Credits
Grade 6 Practical	10 Credits	1 Unit	1 Credit
Grade 7 Practical	10 Credits	1 Unit	1 Credit
Grade 8 Practical	10 Credits	1 Unit	1 Credit
Diploma in Music Performance		2 Units	1 Credit
Fellowship in Music Performance		2 Units	1 Credit
Licentiate in Music Performance		2 Units	1 Credit
Grade 3 Music Theory		1 Unit	
Music Theory Grade 4-7		1 Unit	1 Credit
Music Theory Grade 8		1 Unit	
Australian Army Cadets			
Cadet Training	10 Credits	1 Unit	
Junior Leaders	10 Credits	1 Unit	
Cadet Level 2	10 Credits	1 Unit	
Cadet Level 3	10 Credits	1 Unit	
CDT Leadership – Cadet Corporal/Cadet Lance Corporal	10 Credits	2 Unit	
CDT Leadership – Cadet Sergeant	10 Credits	2 Unit	
CDT Leadership – Cadet Warrant Officer / Cadet Under Officer	10 Credits	2 Units	
Radio communication course		1 Unit	
Australian Sailing			
Out-There Sailing	10 Credits		
Australian Guild of Music Education			
Practical Grade 5-8	10 Credits	1 Unit	
Practice of Music Proficiency Certificate		1 Unit	
Practice of Music Diploma		2 Units	
Practice of Music Licentiate		2 Units	
Speech and Drama Practice Grade 4-7		1 Unit	
Speech and Drama Proficiency Certificate		1 Unit	
Speech and Drama Theory Grade 4-8		1 Unit	
Theory of Music Grade 3-8		1 Unit	
Australian Institute of Classical Dance			
Borovansky Syllabus in Advanced I		2 Units	
Borovansky Syllabus in Advanced II		3 Units	
Borovansky Syllabus in Intermediate		1 Unit	
Borovansky Syllabus in Advanced V		1 Unit	
Borovansky Syllabus in Advanced VI		1 Unit	
Australian Navy Cadets			
Able Seaman Qualifying Course		1 Unit	
Chief Petty Officer Qualifying Course		1 Unit	
Leading Seaman Qualifying Course		1 Unit	
Midshipman Course		1 Unit	
Petty Officer Qualifying Course		1 Unit	
Seaman Qualifying Course		1 Unit	
Warrant Officer Qualifying Course		2 Units	
Australian Science Innovations			
Australian Science Olympiads- Biology		2 Units	
Australian Science Olympiads- Chemistry		2 Units	
Australian Science Olympiads- Earth and Environment		2 Units	
Australian Science Olympiads- Physics		2 Units	
Australian Swimming Coaches and Teacher Association			
Swim Australia Teacher of Swimming and Water Safety		1 Unit	
Australian Teachers of Dancing Ltd			
Classical Ballet- Elementary	20 Credits	2 Units	1 Credit
Classical Ballet- Advanced	20 Credits	2 Units	1 Credit
Classical Ballet- Intermediate	20 Credits	2 Units	1 Credit
Classical Ballet- Gold Medal		1 Unit	
Classical Ballet- Gold Star		1 Unit	
Contemporary Dance- Level 5-8		2 Units	1 Credit
Hip Hop- Level 5-8		1 Unit	
Hip Hop- Level 9-12	10 Credits	2 Units	1 Credit
Jazz B Gold Bar	10 Credits		
Jazz- Elementary	10 Credits		
Jazz- Intermediate	20 Credits		
Jazz- Advanced	20 Credits		
Jazz Moves- Elementary	10 Credits	2 Units	1 Credit
Jazz Moves- Intermediate	20 Credits	2 Units	1 Credit
Jazz Moves- Advanced	20 Credits	2 Units	1 Credit
Jazz Moves- Gold Medal		1 Unit	
Jazz Moves- Gold Star		1 Unit	
Tap- Elementary (Gold Bar)	10 Credits	2 Units	1 Credit
Tap- Elementary Seal	10 Credits	2 Units	1 Credit
Tap- Intermediate		2 Units	1 Credit

Tap- Intermediate Seal	20 Credits	2 Units	1 Credit	
Tap- Advanced		2 Units	1 Credit	
Tap- Advanced Seal	20 Credits	3 Units	1 Credit	
Tap- Gold Medal		1 Unit		
Tap- Gold Star		1 Unit		
AVP WA				
Peaceful Pathways to Conflict Resolution		1 Unit		
Ballet Australia				
Ballet Grade 5-6			1 Credit	
Ballet Pre-Elementary			1 Credit	
Ballet Elementary			1 Credit	
Ballet Intermediate			1 Credit	
Ballet Advanced			2 Credits	
Solo Seal			2 Credits	
Tap Elementary-Intermediate			1 Credit	
Tap Advanced			2 Credits	
Jazz Grade 5			1 Credit	
Jazz Elementary-Intermediate			1 Credit	
Jazz Advanced			2 Credits	
Hip Hop Grade 4-5			1 Credit	
Hip Hop Elementary			1 Credit	
Baptist Care SA				
Tumbelin	20 Credits			
Basketball				
Advanced Referee	10 Credits			
Grade 1 Referee Coach	10 Credits			
Boys' Brigade Australia				
Queen's Badge		4 Units		
Sir William A Smith Award		2 Units		
Brisbane Broncos Rugby League Club Ltd.				
Beyond the Broncos Learning Course			1 Credit	
Cambridge Assessment International Education				
Cambridge International General Certificate of Secondary Education- Global Perspectives		2 Units		
Cecchetti Ballet Australia				
Grade 5-6		1 Unit		
Advanced 1	20 Credits	2 Units		
Advanced 2		3 Units		
Dance Spectrum 1		1 Unit		
Dance Spectrum 2		2 Units		

Charlesworth Ballet Institute				
College Program		2 Units		
Chevron Australia				
Powering Careers in Energy		2 Units		
Children's Health, Queensland Hospital and Health Services				
Good Start Program: Health Promotion for Maori and Pacific Islander Communities			1 Credit	
Cisco Networking Academy				
CCNA Introduction to Networks		2 Units		1 Unit
CNAA Switching , Routing and Wireless Essentials		2 Units		1 Unit
Enterprise Networking, Security and Automation		2 Units		1 Unit
Connecting Networks		2 Units		1 Unit
IT Essential 7.0		2 Units		
Introduction to the Internet of Everything, Cyber security and Entrepreneurship		1 Unit		
Networking Essentials		1 Unit		
Codemaster Institute Pty Ltd				
Wed-development for Industry Module 1 Front-end Design		1 Unit		
Wed-development for Industry Module 2 Web Programming		1 Unit		
Wed-development for Industry Module 3 Back-end Development and Hosting		1 Unit		
Wed-development for Industry Module 4 Frameworks and Industry Requirements		1 Unit		
Commonwealth Society of Teachers of Dancing				
Modern Jazz Grade 4-5			1 Credit	
Modern Jazz Grade 6-7	10 Credits		1 Credit	
Modern Jazz Grade 8-9	20 Credits		1 Credit	
Modern Jazz Teacher Certificate			2 Credits	
Theatrical and Performing Arts- Pre-advanced	10 Credits		1 Credit	
Theatrical and Performing Arts- Advanced	10 Credits		1 Credit	
Theatrical and Performing Arts Teacher Certificate			2 Credits	
Classical Ballet Sub-Elementary Grade 7	10 Credits		1 Credit	
Classical Ballet Elementary Grade 7	10 Credits		1 Credit	
Classical Ballet Intermediate Grade 7	10 Credits		1 Credit	
Classical Ballet Advanced Grade 7			1 Credit	
Classical Ballet Teacher Certificate			2 Credits	
Classical Ballet Grade 4-6			1 Credit	
Tap Dance Advanced Gold	10 Credits			
Tap Dance Advanced Gold Bar	10 Credits			
Tap Dance Advanced Gold Star	10 Credits			
Tap Dance Grade 4-9			1 Credit	
Teacher Certificate Tapping			2 Credits	

Teacher Diploma Tapping			2 Credits	
Jason Winters Contemporary Level 3-5			1 Credit	
Community Sailing Initiative INC				
Sail to Success Youth Program		1 Unit		
Construction Industry Training Board				
Doorways 2 Construction in Schools Program – Part A (semester length)	20 Credits			
Doorways 2 Construction in Schools Program (full year)	40 Credits			
Department of Biodiversity, Conservation and Attractions				
Bush Rangers WA Level 1		2 Units		
Bush Rangers WA level 2		1 Unit		
Bush Rangers WA level 3		1 Unit		
Department of Fire and Emergency Services				
Cadets Level 1		1 Unit		
Cadets Level 2		1 Unit		
Cadets Level 3		1 Unit		
Department of Transport				
Expedition Seatrek		1 Unit		
WA Recreational Skipper's Ticket		1 Unit		
Development Netball NT				
Netball Australia – Foundation Coach	10 Credits			
Netball Australia – 'C' Badge Umpire	10 Credits			
Duke of Edinburgh's Award				
Bronze	10 Credits	1 Uints	1 Credit	
Silver	10 Credits	2 Units	1 Credit	2 Units
Gold	10 Credits	4 Units	2 Credits	3 Units
Enhanced Learning Educational Services				
Study Skills Handbook		1 Unit		
Equestrian Australia				
Introductory Horse Management	10 Credits	1 Unit		
Introductory Riding Program	10 Credits	1 Unit		
Introductory General Coaching Program	10 Credits	1 Unit		
Level 1 Horse Management Program	10 Credits	1 Unit		
Level 1 Dressage Riding Program	10 Credits	2 Units		
Level 2 Dressage Riding Program		4 Units		
Level 1 General Riding Program	10 Credits	2 Units		
Level 2 Horse Management Certificate Program	10 Credits	1 Unit		
Level 2 Riding Certificate (Olympic Disciplines) Program	10 Credits	4 Units		
Girl Guides Australia				
Gold Endeavour Award		2 Units		
Interest and Focus Award		2 Units		
Queen's Guide Award	30 Credits and 20 Credits	4 Units		
Global Drone Solutions				
Remote Pilots License		1 Unit		
Great Southern Training Hub				
The Core Project		1 Unit		
Higher Education Approved Studies				
CQ University				
Accounting, Learning and Online Education				1 Unit
Introductory Financial Accounting				2 Units
Digital Marketing				2 Units
Marketing Fundamentals				1 Unit
Curtin University				
UniReady Program Applying Mathematics		1 Unit		
Curtin Row AHEAD program- Clontarf to Curtin		1 Unit		
Uniready Program Fundamentals in Academic Writing		1 Unit		
UniReady Program Foundations of Communication		1 Unit		
UniReady Program Introduction to Commerce		1 Unit		
UniReady Program Introduction to Humanities		1 Unit		
UniReady Program Introduction to Health Sciences		1 Unit		
FIRST Robotics Competition		1 Unit		
Central Queensland University				
Start Uni Now (SUN)- Basic Aeronautical Knowledge		1 Unit		
Start Uni Now (SUN)- Foundations of Business Law		1 Unit		
Start Uni Now (SUN)- Education as a Profession		1 Unit		
Start Uni Now (SUN)- Foundations of Psychological Research		1 Unit		
Start Uni Now (SUN)- Human Resource Management		1 Unit		
Start Uni Now (SUN)- Introduction to Law		1 Unit		
Start Uni Now (SUN)- Introduction to Business		1 Unit		
Start Uni Now (SUN)- Introduction to Nursing		1 Unit		
Deakin University				
Philosophy				1-2 Units
Sport Management				1-2 Units
Robotics and Data Science				1-2 Units
Management Studies				1-2 Units
Public Relations				1-2 Units
Law				1-2 Units

Subject				
Physical Education and Sport Science				1-2 Units
Marketing				1-2 Units
Journalism				1-2 Units
Disability, Diversity and Inclusion				1-2 Units
Accounting				1-2 Units
Health Practice and Research				1-2 Units
Psychological Science				1-2 Units
Criminology				1-2 Units
Economics				1-2 Units
Construction Management				1-2 Units
Food and Nutrition				1-2 Units
Management and Law				1-2 Units
Management and Marketing				1-2 Units
Property and Real Estate				1-2 Units
Edith Cowan University				
Preparation Course Learning Skills	1 Unit			
Preparation Course Academic Writing	1 Unit			
Preparation Course Mathematics	1 Unit			
Preparation Course Humanities	1 Unit			
Preparation Course Science	1 Unit			
Federation University				
Health and Human Development				1-2 Units
Business				1-2 Units
Accounting				1-2 Units
Humanities				1-2 Units
Early Childhood and Education				1-2 Units
Information Technology				1-2 Units
Maths and Analysis				1-2 Units
Biology				1-2 Units
La Trobe University				
Business				1-2 Units
Sociology				1-2 Units
Law				1-2 Units
Human Bioscience				1-2 Units
Aboriginal Studies and Anthropology				1-2 Units
Accounting				1-2 Units
Criminology				1-2 Units
Economics				1-2 Units
Event Management				1-2 Units
Media and communication				1-2 Units

Subject				
Politics, Philosophy and Economics				1-2 Units
Writing and Literature				1-2 Units
Health Science				1-2 Units
Science				1-2 Units
Royal Melbourne Institute of Technology				
Asian Media and Culture				1-2 Units
International Studies and Development				1-2 Units
Landscape Architecture				1-2 Units
Calculus and Analysis				1-2 Units
Statistics and Data Analysis				1-2 Units
Discrete Mathematics and Algebra				1-2 Units
Project Management				1-2 Units
Biology				1-2 Units
Sustainability and Urban Planning				1-2 Units
Murdoch University				
FlexiTrack High	4 Units			
Learning for Tomorrow- Headstart	1 Unit			
Southern Cross University				
UniStart for Schools		1 Credit		
University of Melbourne				
Philosophy				1-2 Units
Chemistry				1-2 Units
Environmental Science				1-2 Units
Art History				1-2 Units
Biology				1-2 Units
Economics				1-2 Units
French				1-2 Units
German				1-2 Units
Hebrew				1-2 Units
Media and communication				1-2 Units
Indonesian				1-2 Units
Japanese				1-2 Units
Literature				1-2 Units
Mathematical Methods and Specialist Mathematics				1-2 Units
Physics				1-2 Units
Psychology				1-2 Units
Holyoake Institute				
DRUMBEAT Social Development Program	1 Unit			
Horse Vision Centre				
Equine Assisted Supporting Youth Program	1 Unit			

Ignite Award			
Level 1		1 Unit	
Level 2		1 Unit	
Level 3		2 Units	
Level 4		2 Units	
Impowered Pty Ltd			
Developing social skills		1 Unit	
The Employment Advantage		1 Unit	
Instrument Music School Services			
Instrumental and Ensemble Music Performance		1 Unit	
International Baccalaureate Organisation			
Any Core Courses or Subjects			4 Credits
IB Career-related Programme (IBCP)			1 Credit
Extended Essay			1 Credit
Theory of Knowledge			1 Credit
International Music Examinations Board of Australia			
Practical Music Grade 5	10 Credits		
Practical Music Grade 6	10 Credits		
Practical Music Grade 7	11 Credits		
Practical Music Grade 8	12 Credits		
Just Start IT International Pty Ltd			
Industry-driven Innovation Program		1 Unit	
Just Start IT		1 Unit	
Kwinana Industries Council			
iProjects		1 Unit	
Languages			
Hanyu Shuiping Kaoshi (HSK) Chinese Language Proficiency Course and Test – Level 6			2 Credits
Leeuwin Ocean Adventure Foundation			
Youth Explorer Voyage		1 Unit	
Life Business Consultancy			
Coaching Young People for Success- Career Coaching Program		1 Unit	
Coaching Young People for Success- Life Coaching Program		1 Unit	
Life Skills			
ASDAN Silver Award			1 Credit
ASDAN Gold Award			1 Credit
Independent Living Skills – Nutrition and wellbeing			2 Credits
Lion Club International			
Leo Club		1 Unit	

London Academy of Music and Dramatic Act			
Level 2 Award in Communication Grade 4-8		1 Unit	
Level 3 Certificate in Communication Grade 6-8		1 Unit	
Level 3 Certificate in Performance Grade 6-8		1 Unit	
Level 2 Award in Musical Theatre Grade 4-5		1 Unit	
Level 2 in Award in Performance Grade 4-5		1 Unit	
Level 3 in Award in Performance Grade 6-8		1 Unit	
Mathematics			
QMEA Science Maths and Related Technologies for Engineering and Electrical School-based Apprentices			2 Credits
QMEA Science Maths and Related Technologies for Engineering and Electrical School-based Apprentices			2 Credits
MIE Lab Pty Ltd			
Shark Tank eSchool Program		1 Unit	
Microsoft Credentials			
Microsoft Certification Program	10 Credits		
Microsoft Office Specialist (MOS)		1 Unit	1 Credit
Microsoft Technology Associate (MTA)			
Adobe Certified Associate		1 Unit	1 Credit
Autodesk Certified User		1 Unit	1 Credit
Microsoft Technology Associate		1 Unit	
Manufacturing and Engineering Structured Workplace Learning (SWL) Program			2 Credits
Operation Flinders Foundation			
Certificate of Achievement	20 Credits		
Relationships Australia			
Rize Above Mentor Program	10 Credits		
Outward Bound Australia			
Navigator Program		2 Units	
School Program		1 Unit	
Phoenix Academy			
Phoenix Communication for Global Citizens Program		1 Unit	
Pony Club WA			
Proficiency A Standard		2 Units	
Proficiency B Standard		1 Unit	
Proficiency C Standard		1 Unit	
Proficiency C* Standard		1 Unit	
Level 1 General Coaching		1 Unit	
Level 1 General plus Mounted Games Coaching		1 Unit	
Level 1 Games Specific Coaching		1 Unit	

Proficiency K Standard		1 Unit		
Preliminary Coaching		1 Unit		
Premiere Classes		1 Unit		
Restons Formes		1 Unit		
Professional Association of Diving Instructors				
Advanced Open Water Diver		1 Unit		
Open Water Diver		1 Unit		
Queensland Ballet Academy				
Academy Program Level 1			2 Credits	
Academy Program Level 2			2 Credits	
Academy Program Level 3			1 Credit	
RAID International				
Open Water 20 Diver		1 Unit		
Explorer 30 Diver		1 Unit		
Advanced 35 Diver		1 Unit		
Randit Ram Sahai Sangit Vidyalaya Indian Music and Dance				
Bansuri Grade 6-7			1 Credit	
Bansuri Grade 8			2 Credits	
Carnatic Vocal Certificate			2 Credits	
Carnatic Vocal Diploma			2 Credits	
Carnatic Vocal Grade 6-7			1 Credit	
Carnatic Vocal Grade 8			2 Credits	
Hindustani Vocal Grade 6-7			1 Credit	
Hindustani Vocal Grade 8			2 Credits	
Kathak Grade 6-7			1 Credit	
Kathak Grade 8-9			2 Credits	
Sitar Grade 6-7			1 Credit	
Sitar Grade 8			2 Credits	
Tabla Grade 6-7			1 Credit	
Tabla Grade 8-9			2 Credits	
Re-engineering Australia Foundation				
4*4 in Schools		2 Units		
F1 in Schools Technology Challenge		1 Unit		
Rotary International				
Interact		1 Unit		
Royal Academy of Dance				
Ballet Dance Grade 6		1 Unit	1 Credit	
Ballet Dance Grade 7		1 Unit	1 Credit	
Ballet Dance Grade 8		1 Unit	2 Credits	
Ballet Advanced Foundation	10 Credits	2 Units	2 Credits	

Ballet Advanced 1	10 Credits	2 Units	2 Credits	
Ballet Advanced 2	10 Credits	3 Units	2 Credits	
Solo Seal Award	10 Credits	4 Units	2 Credits	
Ballet Dance Intermediate		2 Units	1 Credit	
Ballet Dance Intermediate Foundation		2 Units	1 Credit	
Royal Life Saving Society				
Bronze Medallion + First Aid Certificate	10 Credits	1 Unit		
Bronze Cross	10 Credits			
Award of Merit	10 Credits			
Distinction	10 Credits			
Pool Lifeguard	10 Credits			
SA Country Fire Service				
Basic Firefighting 1	20 Credits			
School Drug Education and Road Aware				
Keys for life- Plus		1 Unit		
Scuba Schools International Australia				
Advanced Adventurer		1 Unit		
Open Water Diver		1 Unit		
Science				
Data Science Application in R			2 Credits	
Senior Astronomy			2 Credits	
Senior Astrophysics			2 Credits	
Senior STEM and Data Science			4 Credits	
Southern Federation of Dance				
Jazz Level 7-9			1 Credit	
Classical Pre-Elementary-Intermediate			1 Credit	
Tab Level 7-10			1 Credit	
State Schools - Performance, Department of Education				
Brass in any courses Grade 7-10			1 Credit	
Percussion in any courses Grade 7-10			1 Credit	
Strings in any courses Grade 7-10			1 Credit	
Woodwind in any courses Grade 7-10			1 Credit	
St Cecilia Music Examinations				
Bassoon Grade 4-7			1 Credit	
Bassoon Grade 8			2 Credits	
Bassoon Advanced Recital Certificate			2 Credits	
Bassoon Associate Diploma (Performance)			2 Credits	
Bassoon Concert Certificate 4-7			1 Credit	
Bassoon Concert Certificate 8			2 Credits	

Qualification	Unit	Credits
Bassoon Fellowship Diploma		2 Credits
Bassoon First Recital Certificate		1 Credit
Bassoon Licentiate Diploma		2 Credits
Certificate of Performing Arts Grade 4-7		1 Credit
Certificate of Performing Arts Grade 8		2 Credits
Clarinet Grade 4-7		1 Credit
Clarinet Grade 8		2 Credits
Clarinet Advanced Recital Certificate		2 Credits
Clarinet Associate Diploma		2 Credits
Clarinet Concert Certificate 4-7		1 Credit
Clarinet Concert Certificate 8		2 Credits
Clarinet Fellowship Diploma (Performance)		2 Credits
Clarinet First Recital Certificate		1 Credit
Classical Guitar Grade 4-7		1 Credit
Classical Guitar Grade 8		2 Credits
Classical Guitar Advanced Recital Certificate		2 Credits
Classical Guitar Associate Diploma (Performance)		2 Credits
Classical Guitar Concert Certificate 4-7		1 Credit
Classical Guitar Concert Certificate 8		2 Credits
Classical Guitar Fellowship Diploma (Performance)		2 Credits
Classical Guitar First Recital Certificate		1 Credit
Classical Guitar Licentiate Diploma (Performance)		2 Credits
Contemporary Guitar Grade 4-7		1 Credit
Contemporary Guitar Grade 8		2 Credits
Concert Certificate Grade 5-8	1 Unit	
Double Bass Grade 4-7		1 Credit
Double Bass Grade 8		2 Credits
Double Bass Advanced Recital Certificate		2 Credits
Double Bass Associate Diploma (Performance)		2 Credits
Double Bass Concert Certificate 4-7		1 Credit
Double Bass Concert Certificate 8		2 Credits
Double Bass Fellowship Diploma (Performance)		2 Credits
Double Bass First Recital Certificate		1 Credit
Double Bass Licentiate Diploma (Performance)		2 Credits
Drum Kit Concert Certificate 4-7		1 Credit
Drum Kit Concert Certificate 8		2 Credits
Drum Kit Grade 4-7		1 Credit
Drum Kit Grade 8		2 Credits
Drum Kit First Recital Certificate		1 Credit
Drum Kit Advanced Recital Certificate		2 Credits

Qualification	Credits
Drum Kit Associate Diploma (Performance)	2 Credits
Drum Kit Licentiate Diploma (Performance)	2 Credits
Drum Kit Fellowship Diploma (Performance)	2 Credits
Drum Kit Concert Certificate 4-7	1 Credit
Electronic Keyboard Grade 8	2 Credits
Electronic Organ Grade 4-7	1 Credit
Electronic Organ Grade 8	2 Credits
Electronic Keyboard Advanced Recital Certificate	2 Credits
Electronic Keyboard Associate Diploma (Performance)	2 Credits
Electronic Keyboard Concert Certificate 4-7	1 Credit
Electronic Keyboard Concert Certificate 8	2 Credits
Electronic Keyboard Fellowship Diploma (Performance)	2 Credits
Electronic Keyboard First Recital Certificate	1 Credit
Electronic Keyboard Licentiate Diploma (Performance)	2 Credits
Electronic Organ Advanced Recital Certificate	2 Credits
Electronic Organ Associate Diploma (Performance)	2 Credits
Electronic Organ Concert Certificate 4-7	1 Credit
Electronic Organ Concert Certificate 8	2 Credits
Electronic Organ Fellowship Diploma (Performance)	2 Credits
Electronic Organ First Recital Certificate	1 Credit
Electronic Organ Licentiate Diploma (Performance)	2 Credits
Flute Grade 4-7	1 Credit
Flute Grade 8	2 Credits
Flute Advanced Recital Certificate	2 Credits
Flute Associate Diploma (Performance)	2 Credits
Flute Concert Certificate 4-7	1 Credit
Flute Concert Certificate 8	2 Credits
Flute Fellowship Diploma (Performance)	2 Credits
Flute First Recital Certificate	1 Credit
Flute Licentiate Diploma (Performance)	2 Credits
Modern Piano/Jazz Grade 4-7	1 Credit
Modern Piano/Jazz Grade 8	2 Credits
Modern Piano/Jazz Advanced Recital Certificate	2 Credits
Modern Piano/Jazz Associate Diploma (Performance)	2 Credits
Modern Piano/Jazz Concert Certificate 4-7	1 Credit
Modern Piano/Jazz Concert Certificate 8	2 Credits
Modern Piano/Jazz Fellowship Diploma (Performance)	2 Credits
Modern Piano/Jazz First Recital Certificate	1 Credit
Modern Piano/Jazz Licentiate Diploma (Performance)	2 Credits

Qualification			
Music Performance Grade 5-8	10 Credits	1 Unit	
Associate Diploma of Music Performance		2 Units	2 Credits
Licentiate of Music Performance		2 Units	2 Credits
Fellowship Diploma in Performing Arts			2 Credits
Oboe Grade 4-7			1 Credit
Oboe Grade 8			2 Credits
Oboe Advanced Recital Certificate			2 Credits
Oboe Associate Diploma (Performance)			2 Credits
Oboe Licentiate Diploma (Performance)			1 Credit
Oboe Concert Certificate 4-7			2 Credits
Oboe Concert Certificate 8			2 Credits
Oboe Fellowship Diploma (Performance)			1 Credit
Oboe First Recital Certificate			1 Credit
Pianoforte Grade 4-7			1 Credit
Pianoforte Grade 8			2 Credits
Pianoforte Fellowship Diploma (Performance)			2 Credits
Pianoforte First Recital Certificate			1 Credit
Pianoforte Advanced Recital Certificate			2 Credits
Pianoforte Associate Diploma (Performance)			2 Credits
Pianoforte Concert Certificate 4-7			1 Credit
Pianoforte Concert Certificate 8			2 Credits
Pianoforte Licentiate Diploma (Performance)			2 Credits
Recorder Grade 4-7			1 Credit
Recorder Grade 8			2 Credits
Recorder Advanced Recital Certificate			2 Credits
Recorder Associate Diploma (Performance)			2 Credits
Recorder Concert Certificate 4-7			1 Credit
Recorder Concert Certificate 8			2 Credits
Recorder Fellowship Diploma (Performance)			2 Credits
Recorder First Recital Certificate			1 Credit
Recorder Licentiate Diploma (Performance)			2 Credits
Saxophone Grade 4-7			1 Credit
Saxophone Grade 8			2 Credits
Saxophone Advanced Recital Certificate			2 Credits
Saxophone Associate Diploma (Performance)			2 Credits
Saxophone Concert Certificate 4-7			1 Credit
Saxophone Concert Certificate 8			2 Credits
Saxophone Fellowship Diploma (Performance)			2 Credits
Saxophone First Recital Certificate			1 Credit
Saxophone Licentiate Diploma (Performance)			2 Credits

Qualification		
Singing Advanced Recital Certificate		2 Credits
Singing Associate Diploma (Performance)		2 Credits
Singing Concert Certificate 4-7		1 Credit
Singing Concert Certificate 8		2 Credits
Singing Fellowship Diploma (Performance)		2 Credits
Singing First Recital Certificate		1 Credit
Singing Licentiate Diploma (Performance)		2 Credits
Theory of Music & Composition Associate Diploma		2 Credits
Singing Grade 4-7		1 Credit
Singing Grade 8		2 Credits
Theory of Music Grade 3	1 Unit	
Theory of Music Grade 4-7	1 Unit	1 Credit
Theory of Music Grade 8	1 Unit	2 Credits
Theory of Music & Composition Licentiate Diploma		2 Credits
Theory of Music and Composition Fellowship Diploma		2 Credits
Trombone Grade 4-7		1 Credit
Trombone Grade 8		2 Credits
Trombone Concert Certificate 4-7		1 Credit
Trombone Concert Certificate 8		2 Credits
Trombone Fellowship Diploma (Performance)		2 Credits
Trombone First Recital Certificate		1 Credit
Trombone Advanced Recital Certificate		2 Credits
Trombone Associate Diploma (Performance)		2 Credits
Trombone Licentiate Diploma (Performance)		2 Credits
Trumpet Grade 4-7		1 Credit
Trumpet Grade 8		2 Credits
Trumpet Advanced Recital Certificate		2 Credits
Trumpet Associate Diploma (Performance)		2 Credits
Trumpet Concert Certificate 4-7		1 Credit
Trumpet Concert Certificate 8		2 Credits
Trumpet Fellowship Diploma (Performance)		2 Credits
Trumpet First Recital Certificate		1 Credit
Trumpet Licentiate Diploma (Performance)		2 Credits
Viola Grade 4-7		1 Credit
Viola Grade 8		2 Credits
Viola Advanced Recital Certificate		2 Credits
Viola Associate Diploma (Performance)		2 Credits
Viola Concert Certificate 4-7		1 Credit
Viola Concert Certificate 8		2 Credits

Viola Fellowship Diploma (Performance)			2 Credits
Viola First Recital Certificate			1 Credit
Viola Licentiate Diploma (Performance)			2 Credits
Violin Grade 4-7			1 Credit
Violin Grade 8			2 Credits
Violin Advanced Recital Certificate			2 Credits
Violin Associate Diploma (Performance)			2 Credits
Violin Concert Certificate 4-7			1 Credit
Violin Concert Certificate 8			2 Credits
Violin Fellowship Diploma (Performance)			2 Credits
Violin First Recital Certificate			1 Credit
Violoncello Grade 4-7			1 Credit
Violoncello Grade 8			2 Credits
Violin Licentiate Diploma (Performance)			2 Credits
Violoncello Advanced Recital Certificate			2 Credits
Violoncello Associate Diploma (Performance)			2 Credits
Violoncello Concert Certificate 4-7			1 Credit
Violoncello Concert Certificate 8			2 Credits
Violoncello Fellowship Diploma (Performance)			2 Credits
Violoncello First Recital Certificate			1 Credit
Violoncello Licentiate Diploma (Performance)			2 Credits
Stage Door School of Performance Arts			
Program in Acting		2 Units	
Program in Dance		2 Units	
Program in Music Theatre		2 Units	
Scouts Australia			
Queen's Scout Award	50 Credits	4 Units	3 Units/Points
Endeavour Award		2 Units	
Venturer Award		1 Unit	
South Australian National Football League (SANFL)			
Development Field Umpire	10 Credits		
Development Boundary Umpire	10 Credits		
Development Goal Umpire	10 Credits		
St John Ambulance Australia Cadets			
Health Care and Caring	10 Credits		
Food and Nutrition	10 Credits		
Communication	10 Credits		
Surf Life Saving			
Bronze Medallion	10 Credits	1 Unit	

Inflatable Rescue Boat Crewperson Certificate		1 Unit	
Inflatable Rescue Boat Driver		1 Unit	
Tapatak Oz			
Senior Advanced Performer		2 Units	
Junior Associate		2 Units	
Pre-Senior Advanced One		1 Unit	
Pre-Senior Advanced Two		1 Unit	
Senior Advanced One		1 Unit	
Senior Advanced Two		1 Unit	
Teen Advanced One		1 Unit	
Teen Advanced Two		1 Unit	
The Church of Jesus Christ of Latter-day Saints			
Seminary- Book of Mormon		2 Units	
Seminary- Doctrine and Covenants		2 Units	
Seminary- New Testament		2 Units	
Seminary- Old Testament		2 Units	
The Girls' Brigade			
The Pioneer Pin		2 Units	
The Queen's Award		4 Units	
The Graduate College of Dance			
Classical Ballet Graduate Level 1		4 Units	
Classical Ballet Graduate Level 2		4 Units	
Classical Ballet Graduate Level 3		4 Units	
The Law Society of WA			
Mock Trial Competition- Advanced Level		1 Unit	
Mock Trial Competition- Standard Level		1 Unit	
The Pacific Institute			
PX2 Learned Optimism		1 Unit	
Toastmaster International			
Competent Communicator Award		2 Units	
Trinity College London			
Music Performance Grade 5-8	10 Credits	1 Unit	
Associate in Music Performance		2 Units	
First Concert Certificate		1 Unit	
Licentiate in Music Performance		2 Units	
Performer's Certificate		1 Unit	
Music Literacy Grade 3-8		1 Unit	
Associate in Music Theory		2 Units	
Licentiate in Music Theory		2 Units	

Drama and Speech Grade 4-8		1 Unit		
Associate Diploma in Performing		2 Units		
Licentiate Diploma in Performing		2 Units		
UN Association of Australia				
Global Citizen Award	10 Credits	1 Unit		
VET certificates				
Certificate I	5 Credits for 35 hours of successful completion	2 Units		
Certificate II	10 Credits for 70 hours of successful completion	2 Units	1-4 Credits	Credit based
Certificate III		2 Units	5-8 Credits	on hours of study
Certificate IV and Diploma		2 Units	5-8 Credits	completed
WA Dispute Resolution Association				
Schools Conflict Resolution and Meditation		1 Unit		
WA/La Reunion Student Exchange (Inc)				
Student Exchange Program		2 Units		
WA Police Rangers				
First Class Ranger Training Program		2 Units		
Senior Ranger Training Program		1 Unit		
WA Debating League Incorporated				
Senior Debating Program		1 Unit		
World Challenge Australia				
World Challenge Expedition		4 Units		
YMCA				
Youth Parliament		1 Unit	1 Credit	

Notes and references

1 Major national reports that cover aspects of senior curriculum, assessment or recognition in the last five years, and which have been heavily drawn on, include:

– Gonski, D., Arcus, T., Boston, K., Gould, V., Johnson, W., O'Brien, L., Perry, L. & Roberts, M. (2018). *Through growth to achievement: Report of the review to achieve educational excellence in Australian schools.* Commonwealth of Australia.

– Education Council. (2020). *Looking to the Future: The Report of the Review of Senior Secondary Pathways into Work, Further Education and Training* [Shergold Report]. https://uploadstorage.blob.core.windows.net/public-assets/education-au/pathways/Final%20report%20-%2018%20June.pdf

– Department of Education [Australia]. (2019). *Review of the Australian Qualifications Framework Final Report 2019* [Noonan Report]. https://docs.education.gov.au/system/files/doc/other/aqf_review_2019_0.pdf

– Bean, M., & Dawkins, P. (2021) *Review of University-Industry Collaboration in Teaching and Learning.* Department of Education, Skills and Employment [Australia].

Reports in various state jurisdictions have also been examined:

– Firth, J. (2020). *Review into Vocational and Applied Learning Pathways in Senior Secondary Schooling.* Department of Education and Training [Victoria].

– Masters, G. (2020). Nurturing wonder and igniting passions: Designs for a new school curriculum. NSW curriculum review. NSW Education Standards Authority. https://nswcurriculumreview.nesa.nsw.edu.au/pdfs/phase-3/final-report/NSW_Curriculum_Review_Final_Report.pdf

Key issues in senior secondary education are also reviewed as addressed in academic or industry reports such as:

– O'Connell, M., Milligan, S. K., & Bentley, T. (2019). *Beyond ATAR: A proposal for change.* https://www.all-learning.org.au/sites/default/files/resources/beyond_atar_proposal_for_change_all.pdf

– Milligan, S.K., Kennedy, G. & Israel, D. (2018). *Assessment, credentialing and recognition in the digital era: recent developments in a fertile field* [Seminar Series 272]. Centre of Strategic Studies.

– Milligan, S., Luo, R., Johnston, J., & Hassim, E. (2020). *Future proofing students: What they need to know and how educators can assess and credential them.* https://education.unimelb.edu.au/mgse-industry-reports/report-2-future-proofing-students

– O'Connell, M., Milligan, S. K., & Bentley, T. (2019). *Beyond ATAR: A proposal for change.* https://www.all-learning.org.au/sites/default/files/resources/beyond_atar_proposal_for_change_all.pdf

– Pilcher, S., & Torii, K. (2018). *Crunching the number: Exploring the use and usefulness of the Australian Tertiary Admission Rank (ATAR).* http://vuir.vu.edu.au/38696/1/Crunching-the-number_ Exploring-the-use-and-usefulness-of-the-ATAR.pdf

– Polesel, J., Gillis, S., Suryani, A., Leahy, M. & Koh, S. (2020). *The Australian Senior Certificates: after 50 years of reforms. Australian Educational Researcher,* 48(3), pp. 565-584. doi:10.1007/s13384-020-00403-x

2 **Path dependency** is a feature of entities (organisations, policies, systems) in which decisions are not sufficiently shaped by current conditions, but rather are formed as a continuation of sequences of past actions. https://en.wikipedia.org/wiki/Path_dependence.

Glyn Davis, former Vice Chancellor for the University of Melbourne used this idea to explain the similarity in university structures across Australia. The same argument might be applied to the striking similarity in senior secondary certification across jurisdictions. The theory holds that once a pathway has been established, as it has with senior secondary certificates, the costs of departing from it may come to exceed the costs of following it, so the familiar becomes the ideal, and habit becomes forming, possibly to the detriment of the whole.

3 From 2023 Victoria is moving to a new integrated senior secondary certificate that will bring together the Victorian Certificate of Education (VCE) and the Victorian Certificate of Applied Learning (VCAL) to give students greater choice and flexibility to pursue their strengths and interests and develop the skills and capabilities needed to succeed in further education, work and life. This arises from the Firth review (see Note 1).

4 A full list of syllabuses from NESA that are provided for schools to select from is provided at https://educationstandards.nsw.edu.au/wps/portal/nesa/11-12/Understanding-the-curriculum/syllabuses-a-z

5 The tertiary admissions centres in Australia include:
– University Admissions Centre (UAC), which manages admissions for universities in NSW and the ACT
– The Victoria Tertiary Admissions Centre (VTAC), which manages admissions for universities in Victoria
– The South Australian Tertiary Admissions Centre (SATAC), which manages admissions for universities in South Australia and the Northern Territory
– The Tertiary Institutions Service Centre (TISC), which manages admissions for universities in Western Australia
– Queensland Tertiary Admissions Center (QTAC) which manages admissions for universities in Queensland

In Tasmania, all applications go directly to the University of Tasmania.

6 See NESA facts and figures: Accessed January 2022. https://educationstandards.nsw.edu.au/wps/portal/nesa/11-12/hsc/about-HSC/HSC-facts-

7 The IB does not have an identical approach to that of the flagship certificates, but it is not dissimilar, and is based on the same view of subject structure and examinations. See, for example, this guide to assessment: https://www.ibo.org/contentassets/4d92e48d38a4415a87e11555e143a39f/assessment-guide-for-teachers-and-coordinators-en.pdf.

It is given 'equivalence' in a flagship number of jurisdictions. See, for example, how one jurisdiction authority rates equivalence: https://www.qcaa.qld.edu.au/downloads/senior/qce_recognised_int_bacc_org.pdf

8 A detailed description of the learning designs, and the assessment and recognition designs of six organisations, are provided in a previous Learning Creates report. The cases reviewed include: International Baccalaureate Career Program, The Big Picture International Learning Credential, High Tech High in San Diego, the Mastery Learning Consortium, The Alternative Learning System, in the Philippines, and the Action Learning Institute in Australia. See: Milligan, S., Hassim, E., Rice, S., and Kheang, T. (2021) *Generating Trust and Utility in Senior Secondary Certification. Case studies of first moves and there warranting networks.* Learning Creates Australia, Melbourne, https://www.learningcreates.org.au/findings/report-generating-trust-and-utility-in-senior-secondary-qualifications

9 For more information on the QCIA, see: Queensland Certificate of Individual Achievement. *QCAA handbook* (2022). https://www.qcaa.qld.edu.au/senior/certificates-and-qualifications/qce-qcia-handbook/3-qcia

10 An RTO is a training organisation registered in the vocation training sector by the national regulator ASQA (or a state equivalents) to deliver nationally recognised vocational and training qualifications. Technical and Further Education Institutes (TAFE) are government owned RTOs. Registration by ASQA or state authorities confirms that the provider is capable of meeting rigorous government standards and is permitted to issue nationally recognised qualifications.

11 Victorian Registration and Qualification Authority (VRQA) (2021, March 2). *Registered Training Organisations Statistics.* https://www.vrqa.vic.gov.au/aboutus/Pages/RTOstatistics.aspx#link33

12 NCVER. (2022). *Latest VET Statistics.* https://www.ncver.edu.au/research-and-statistics/visualisation-gallery/latest-vet-statistics

13 te Riele, K. (2014). *Putting the jigsaw together: Flexible learning programs in Australia.* http://vuir.vu.edu.au/31758/1/ TheVicInstitute_PuttingTheJigsawTogether.pdf

14 Australian Curriculum, Assessment and Reporting Authority (ACARA) https://www.acara.edu.au/about-us

See more about the senior secondary curriculum sponsored by ACARA at: *Australian Currriculum, Assessment and Reporting Authority ACARA (2009) National Curriculum in the Senior Secondary Years Position Paper.* https://www.australiancurriculum.edu.au/senior-secondary-curriculum/

15 There are a currently 14 qualification types in the AQF, and 10 levels. A level can hold more than one qualification type. The Masters Degree specifies the Masters Degree (Research), the Masters Degree (Coursework) and the Masters Degree (Extended). The Doctoral Degree specifies the Doctoral Degree (Research), the Doctoral Degree (Professional) and the Higher Doctorate.

16 The Review of the AQF (see Note 1, Noonan Report) supported this general approach of having a hierarchy of levels for knowledge and skills but suggested that it take the form of more than one hierarchy. It suggests 8 levels in one (for 'knowledge') and 6 in the other (for 'skills'). Other levels may added for general capabilities.

17 The ASQA website provides a good overview of the component parts of VET sector regulation which ultimately all contribute to the regulatory framework for schools. https://www.asqa.gov.au/about/vet-sector

18 Bennett, J., Tognolini, J. & Pickering, S. (2012) Establishing and applying performance standards for curriculum-based examinations, Assessment in Education: Principles, Policy & Practice, 19:3, 321-339, DOI: 10.1080/0969594X.2011.614219

19 SACE Board. (2020). *Leading educational change and student transformation: SACE Board strategic framework 2020-2023.* https://www.sace.sa.edu.au/thrive/downloads/SACE_Board_Strategic_Plan_2020-2023.pdf

20 WA is working to upgrade its formal record of student achievements, and the NSW Department of Education is developing a Learner Profile or digital wallet: https://education.nsw.gov.au/public-schools/career-and-study-pathways/nsw-student-learner-profile---digital-wallet

21 UAC has a Business Solutions division created for and dedicated to servicing institutions' individual needs. They offer institutions 'an expanding product suite that optimises our existing admissions processes with innovative, leading-edge technologies'. They are developing the first microcredentials marketplace and a National Credentials Platform. See: https://www.uac.edu.au/about/business-solutions

22 ACARA. (2019). Apparent retention rates for student year 10-Year 12, Australia, time series. *National Report on Schooling in Australia Data Portal.* https://www.acara.edu.au/reporting/national-report-on-schooling-in-australia/national-report-on-schooling-in-australia-data-portal/apparent-retention#view2

23 Longbottom, J. (2021, September 2). Amid COVID lockdowns and new university pathways, VCE students drop ATAR goal [newspaper article]. *The Age* [Melbourne]. https://www.abc.net.au/news/2021-09-02/victorian-students-opting-for-unscored-vce/100424074

24 Polesel, J., Gillis, S., Suryani, A., Leahy, M. & Koh, S. (2020). The Australian Senior Certificates: after 50 years of reforms. *Australian Educational Researcher,* 48(3), 565-584. doi:10.1007/s13384-020-00403-x

25 Lamb, S., Huo, S., Walstab, A., Wade, A., Maire, Q., Doecke, E., Jackson, J. & Endekov, Z. (2020). *Educational opportunity in Australia 2020: Who succeeds and who misses out.* Centre for International Research on Education Systems, Victoria University for the Mitchell Institute.

26 Lamb, S., Jackson, J., Walstab, A., & Huo, S. (2015). *Educational opportunity in Australia: Who succeeds and who misses out.* Centre for International Research on Education Systems, Victoria University for the Mitchell Institute. (Page 3) https://www.vu.edu.au/sites/default/files/educational-opportunity-australia-2015-who-succeeds-who-misses-out-mitchell-institute.pdf

27 There are authoritative reviews that the interested reader could follow up, including:
– Cairns, R. (2020). Exams tested by Covid-19: An opportunity to rethink standardized senior secondary examinations [online ahead of print]. *Prospects (Paris)* 2020 Oct 23, 1–15. https://pubmed.ncbi.nlm.nih.gov/33110277/ doi: 10.1007/s11125-020-09515-9
– Doll, K., Ragan, M., Calnin, G., Mason, S., & House,K. (2020). Adapting and enduring: Lessons learned from internal school educators during COVID 19. *Journal of Research in International Education,* 20(2), 114–133. doi: 10.1177/14752409211034399

28 See this August 2020 London School of Economics Impact Blog by Daan Kolkman. It gives a pithy indication of how examination changes made as a response to COVID played out in the UK. https://blogs.lse.ac.uk/impactofsocialsciences/2020/08/26/fk-the-algorithm-what-the-world-can-learn-from-the-uks-a-level-grading-fiasco/

29 Organisation for Economic Co-operation and Development [OECD]. (2018). *The Future of Education and Skills: Education 2030.* https://www.oecd.org/education/2030/E2030%20Position%20Paper%20(05.04.2018).pdf

30 World Economic Forum. (2016). *New vision for education: Fostering social and emotional learning through technology.* https://www.weforum.org/reports/new-vision-for-education-fostering-social-and-emotional-learning-through-technology

31 Transferability of general capabilities: There are debates about the transferability of general capabilities. One argument holds that they are not transferable, because domain knowledge and experience is typically needed to demonstrate expertise in a field. That statement, of course, is true, but misses the point of transferability of general capabilities.

To take the example of the general capability of problem solving, the question of transferability is this: will a person who is a good problem solver in one circumstance be a good problem solver in another?

The question is complicated by, but not answered by, the fact that to be a good problem solver a person generally needs to know something about the field in which they are solving the problems. A plumber who is a great problem solver in plumbing may not reasonably be expected to effectively solve a problem in aged care, or in manufacturing, because they know little about the methods, technique and tools available in aged care or manufacturing.

The transferability argument, however, hinges on the view that problem solving is itself a skill, able to be taught and learned, requiring techniques, attitudes and skills such as the ability to recognise a novel situation that requires a non-standard approach; willingness to pause, analyse and consider a novel problem, rather than, perhaps, just diving in or walking away; to weigh evidence and ideas; to seek advice; and to practice careful trial and error. What is transferable is that capability and orientation, not the expectation that they will solve any particular problem, especially if the particular problem requires deep domain knowledge.

A plumber who knows a lot about plumbing may or may not prove to be a good problem solver when faced with a previously-unmet, or novel and knotty problem in plumbing. And, If a good problem-solving plumber is placed in a novel problem, in plumbing or elsewhere, they will habitually deploy problem solving skill regardless of their level of domain knowledge. Having this capability benefits the person whatever their context.

Employers value the transferability of such capabilities, because they understand that employees may often be novices in the particular methods and techniques in a domain of interest, but that they will become more expert if they bring together the skills of problem solving with the capacity to master domain understanding.

For assessment purposes, to assess the degree of capability of a person in general capabilities such as problem solving, an assessor requires evidence from multiple sources and contexts before a judgment can be made. An assessor needs to make an on-balance judgment of the degree to which a person deploys the capability in any novel circumstance, regardless of their level of domain knowledge.

32 See examples of case studies of innovative work in schools:
– Hannon, V., & Peterson, A. (2021). *The purpose of schools in a changing world*. Cambridge University Press.
– Milligan, S., Luo, R., Johnston, J., & Hassim, E. (2020). *Future proofing students: What they need to know and how educators can assess and credential them*. https://education.unimelb.edu.au/mgse-industry-reports/report-2-future-proofing-students.
– Milligan, S., Hassim, E., Rice, S., & Keang, T. (2021). *Generating trust and utility in senior secondary certification: Case studies of first movers in their warranting networks*. Learning Creates Australia. https://www.learningcreates.org.au/findings/report-generating-trust-and-utility-in-senior-secondary-qualifications

33 See for example: Taylor, R., Fadel, C., Kim, H., & Care, E. (2020). *Competencies for the 21st century: Jurisdictional progress*. Brookings Institute. https://www.brookings.edu/research/competencies-for-the-21st-century-jurisdictional-progress

34 Oliver, B., & Jorre de St Jorre, T. (2018). Graduate attributes for 2020 and beyond: Recommendations for Australian higher education providers. *Higher Education Research and Development*, 37(4), 821-836. Retrieved from https://doi.org/10.1080/07294360.2018.1446415

35 Milligan, S., Luo, R., Kamei, T., Rice, S.,& Kheang, T. (2020). *Recognition of Learning Success for all*. Learning Creates Australia. https://www.learningcreates.org.au/findings/report-recognition-of-learning-success-for-all

36 Examples of place-based educational philosophies are evident in Australia. A selection of literature is listed below. It is notable that the application of place-based philosophies to recognition practices is rarely canvassed.
– Ngaanyatjarra Lands School: https://www.nglandschool.wa.edu.au/:// www.nglandschool.wa.edu.au/locations/warburton-campus/
–   Milgate, G. (2016). Building empowering partnerships between schools and communities, in *Learning and Teaching in Aboriginal and Torres Strait Islander Education, Third Edition*. N. Harrison & J. Selwood (Eds.). Oxford University Press.
– Victorian Department of Premier and Cabinet. (2020). *A framework for place-based approaches*.
– Best, M., MacGregor, D., & Price, D., (2017). Designing for diverse learning: Case study of place-based learning in design and technologies pre-service teacher education. *Australian Journal of Teacher Education*, 42/3 Article 6.

37 Education Council. (2019). *Alice Springs (Mparntwe) Education Declaration*. http://www.educationcouncil.edu.au/Alice- Springs--Mparntwe--Education-Declaration.aspx

38 Commonly referenced frameworks used by senior secondary schools in Australia include:
– the Australian Core Skills Framework: https://www.dese.gov.au/skills-information-training-providers/australian-core-skills-framework:
– The Australian Core Skills for Work Framework: https://www.dese.gov.au/skills-information-training-providers/core-skills-work-developmental-framework
– The New Pedagogies for Deep Learning 6 Cs: https://www.michaelfullan.ca/wp-content/uploads/2014/09/Education-Plus-A-Whitepaper-July-2014-1.pdf
– The general capabilities defined by ACARA for compulsory schooling: https://www.australiancurriculum.edu.au/f-10-curriculum/general-capabilities/

39 Oliver, B. (2019). *Making microcredentials work for learners, employers and providers*. https://dteach.deakin.edu.au/2019/08/02/microcredentials/

40 See the work commissioned by the Commonwealth Government of Australia to institute a micro credentials marketplace for the tertiary sector: https://www.uac.edu.au/media-releases/uac-to-provide-the-first-australian-microcredentials-marketplace

41 See, for example, the work of Credential Engine in the US: https://credentialengine.org/

42 Levin, H. (2012). More than just test scores. *Prospects 42*, 269-284. https://link.springer.com/content/pdf/10.1007/s11125-012-9240-z.pdf

43 Masters, G. (2017, July 31). But can we measure it? *Teacher Magazine* [weekly online newsletter]. Australian Council for Educational Research. https://www.teachermagazine.com/au_en/articles/but-can-we-measure-it

   Other than the question of whether it is possible to measure these attributes, there are a range of related concerns which are not examined in our report that go to a range of practical issues to do with skilling the workforce to use the new methods. There are concerns that any alternate method will create extra workload for teachers, or that assessors won't know how to use the new methods, or that it will result in reduced standards in areas of learning that can still be assessed by standardised testing.

44 There are a range of technical papers developed in the Australian context explaining how assessments can be undertaken in a wide range of environments. For example:
– Griffin, P. (2017). *Assessment for Teaching: Second edition*. Cambridge University Press,
– Kim, H., & Care E. (2020). *Optimising assessment for all: Classroom-based assessments of 21st century skills in the Democratic Republic of Congo, The Gambia and Zambia*. Brookings Institute.
– Milligan, S., Luo, R., Johnston, J., & Hassim, E. (2020). *Future proofing students: What they need to know and how educators can assess and credential them*. https://education.unimelb.edu.au/mgse-industry-reports/report-2-future-proofing-students.
– Scoular, C. (2018). *Equipping teachers with tools to assess and teach general capabilities*, [conference paper]. Australian Council for Educational Research. https://research.acer.edu.au/research_conference/RC2018/13august/10
– Tognolini, J. (2020). The beginning of a journey to assessment and data literacy for teachers. *Journal of Professional Learning* (JPL), 2020/Semester 2. 2020. https://cpl.asn.au/journal/semester-2-2020/the-beginning-of-a-journey-to-assessment-and-data-literacy-for-teachers

45 There are a range of technologies available to schools and other education providers, mainly available through commercial providers, that enable learners to compile portfolios of their work, (e.g see https://www.teachthought.com/technology/create-digital-portfolios) that support education providers in supplying students with collector badges or micro-credentials, and that allow students to socialize them. (e.g. see https://www.goodreads.com/book/show/26536567-digital-badges-in-education).

46 For instance, Ruby Resources is a platform developed by the University of Melbourne, used in Australian schools, and designed to support administration of developmental, standards-based assessment and certification of complex competencies. It supports teachers to assess students using developmental progressions, multiple evidence sources, and expert judgment of complex performances. It supports collection of assessment data, aggregation of information, different evidence sources, different contexts, and different raters, and supports careful moderation, aggregation, warranting and quality control at school and system levels. https://education.unimelb.edu.au/research/projects/modern-technology-and-assessment-and-certification-introducing-ruby

47 There are many examples of the use of profiles. See, for example:
– Case studies of the work of first movers schooling organisations, including of International Big Picture Schools, the Alternative Learning System in the Philippines, and the Mastery Transcript Consortium, referenced by Milligan et al. in the report referenced in Note 8.
– Individual schools like Beenleigh High School in Queensland (https://pursuit.unimelb.edu.au/articles/future-proofing-australian-students-with-new-credentials), Thomas More College in SA (https://www.facebook.com/thomasmorecollege/posts/tmc-is-proud-to-present-an-exciting-addition-to-reporting-on-student-progress-fr/3295499273826984/), and the Latrobe Valley Authority (https://engage.vic.gov.au/micro-credentialing-trial) have made innovative use of learner profiles.
– A consortium of SA schools operating under the joint auspices of the Association of Independent Schools of South Australia (AISSA), Catholic Education South Australia (CESA) and the South Australian Secondary Principals' Association (SASPA) has been exploring how to generate learner profiles since 2019: See https://www.saspa.com.au/2020/02/24/learner-profile-pilot-project/
– Forty New Metrics schools are operating in a research partnership to develop profiles of students in general capabilities. See https://education.unimelb.edu.au/new-metrics-for-success

48 Manny, A., Tam H., & Lipka, R. (2019, October). *The usefulness of the ATAR as a measure of academic achievement and potential*. University Admission Centre. [NSW].

49 Bradley, D., Noonan, P., Nugent, H., & Scales, B. (2008). *Review of Australian Higher Education: final report* [Bradley review]. Department of Education, Employment and Workplace relations [Australia]. http://hdl.voced.edu.au/10707/44384.

50 Pilcher, S. & Torii, T. (2018, March 21). Your ATAR isn't the only thing universities are looking at [online article]. *The Conversation*. https://theconversation.com/your-atar-isnt-the-only-thing-universities-are-looking-at-93353

51 See media reports, for example:
– An ABC report of the incidence of alternate pathways: https://www.abc.net.au/news/2021-12-13/covid-sparks-more-early-university-offers-pre-atar-year-12-exams/100683026
– Reaction of school authorities: https://www.smh.com.au/education/an-appalling-practice-principals-slam-universities-pre-hsc-offers-to-students-20191018-p53236.html

52 https://www.learningcreates.org.au

53 https://www.learningcreates.org.au

54 See for example contestation of key directions:
– Carvalho, D. (2021). *Do we want change or improvement in Australian education?* Australian Curriculum and Reporting Authority. https://www.linkedin.com/pulse/do-we-want-change-improvement-school-/?trackingId=c9GdwbJ3R0KiFrNqoaaQEg%3D%3D
– Buckingham, J., & Joseph, B. (2018, June 17). *What the Gonski 2 Review Got Wrong*. Policy Paper 6. The Centre for Independent Studies. https://www.cis.org.au/app/uploads/2018/06/pp6.pdf

55 This question is currently being pursued by a number of projects in Australia. These include:
– The New Metrics Project from the University of Melbourne. https://education.unimelb.edu.au/new-metrics-for-success
– The Australian National Develop Index initiative: using a conceptual framework to build a tool to track wellbeing of the Australian community using measures that go beyond the GDP. It includes 12 measures to do with the quality of education. http://www.andi.org.au/

www.learningcreates.org.au