LearningCreates
AUSTRALIA

Generating trust and utility in senior secondary certification

Case studies of first movers in their warranting networks

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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.

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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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Citation:
Milligan, S., Hassim, E., Rice, S., & Kheang, T. (2021) *Generating trust and utility in senior secondary certification: Case studies of first movers in their warranting networks.* Learning Creates Australia, Melbourne.

Acknowledgments:
Thanks to the many people who provided assistance is developing our understanding of how these first mover case studies do their seminal work. We particularly thank Bob Cother from the Action Learning Institute, Viv White and Joanne Pettit from Big Picture, Dr Farhan Azim and Dr Rebekah Luo from The University of Melbourne, Dr Marlene Ferido, Deputy Director of ACTRC at the University of the Philippines, and Anthony Mackay and Jayne Johnston who provided feedback and advice on drafts.

Published by Learning Creates Australia

Design by Streamer Strategy: www.streamer.net.au

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Foreword

The recognition of learning is an area that is evolving around the world in response to different needs from diverse groups including educators and employers, students and school communities. In Australia, new approaches are being demonstrated on a local, state, and national level to embrace broader and deeper conceptions of what learning success looks like. There are many emerging developments surrounded by new practices, policies and possibilities.

Learning Creates Australia commissioned *Generating Trust* as the second paper in a series of three from our research partners, the Assessment Research Centre at the University of Melbourne.

Generating Trust shines a light on the evidence base that suggests how to sustain and scale the requisite changes sought. It examines the ecosystems in which first movers have driven change and looks at what they have had to do to implement and sustain their efforts.

The report establishes a case for how to proceed with the recognition of valued learning in a way that will meet the challenges faced by different learning environments as they are informed and influenced by emerging practices.

Through *The Learner's Journey* project, Learning Creates has been prototyping new ways to recognise more of what young people know and can do – taking elements from the Assessment Research Centre's research and exploring how the components of recognition can be further shaped and interpreted through a collaborative process. This in turn informs the broader ecosystem, based on an amalgam of research and practical work.

Learning Creates thus presents an opportunity to promote work further – into school communities, tertiary institutions and through the work of other intermediaries who interact with employers and recruiters. The broader response is one that has a potential to make an impact, particularly for young people who have experienced disadvantage.

Learning Creates Australia has commissioned a third paper to be released early in 2022 – to take this synthesis of research and practice of learning recognition one step further. It will be of interest to senior-secondary schools in partnership with communities, tertiary education providers and employers, together with the authorising, credentialing and regulatory bodies in post-compulsory education.

At the heart of this work is the commitment to equity – at the individual, community and broader society levels – that recognises the talents and aspirations of all young people to share in a meaningful and prosperous future.

Generating Trust is a must read for every principal, school leader and policy professional in Australia.

Anthony Mackay AM, Hayley McQuire, and Jan Owen AM

Co-Chairs, Learning Creates Australia

Executive summary

This research report from the Assessment Research Centre (ARC) of the University of Melbourne is the second in a series commissioned by Learning Creates Australia on the topic of assessment and recognition of learning. It focuses on the emergence of new forms of credentials for post-compulsory schooling. It explores how issuers of these credentials are building trust in them and utility for stakeholders. It explores implications for assessment and qualifications used in post-compulsory schooling in Australia.

The intended audience is principals, curriculum and assessment leaders in schools and other learning providers who are seeking to improve learning outcomes for their students, and jurisdiction leaders and regulators who are considering how to respond to policy shifts in assessment and recognition of learning in senior secondary and tertiary education.

The report joins others in noting recent shifts in learning ambitions for Australian students. What they are expected to know and be able to do as a result of their schooling is changing.

Curricula reforms of the last 15 years have extended learning ambitions beyond the academic achievements usually captured in current senior secondary qualifications to include attainments in the general capabilities. Proficiency in general capabilities is required to thrive in chosen fields of endeavour, and in family and community life.

The report draws upon six case studies of Australian and international organisations that have re-positioned these general capabilities at the heart of learning, to complement and deepen the domain-specific learning of more traditional disciplines and subjects.

While the starting point for change in these organisations has been the shift to encompassing a broader and deeper range of learning ambitions, including general capabilities, they have also had to devise new assessment approaches and new approaches to credentials and qualifications.

Reforms to assessment and recognition have arisen from the need to align assessment design and qualification design to learning design, and broader ambitions for success for all.

The approach these organisations adopt towards assessment and credential design and warranting of quality is typically independent of and different to the existing, regulated approaches of jurisdictions in Australian for senior secondary qualifications.

The case studies described in this report are:

Philippines Alternative Learning System (ALS)

The Department of Education in the Philippines is exploring the use of micro-credentials to assist millions of people who have not had the opportunity to finish formal schooling. The aim is to change assessment and credentialing in the Alternative Learning System to give people a second chance to develop and have recognised the learning they need to thrive and contribute to their communities and society.

Big Picture Learning

Fifteen years ago, the founders of Big Picture Learning in Australia identified deep student disengagement with schooling and, as a result, adopted a new learning design that has been taken up by around 40 secondary schools across Australia. This design has now been strengthened with an aligned international credential (the International Big Picture Learning Credential) to replace the standard senior secondary certificates now issued by formal curriculum and assessment authorities in Australia and elsewhere.

High Tech High (HTH)

Responding to similar issues of student disengagement and under-representation of disadvantaged youth at college levels in the US, High Tech High is a philanthropically-supported network of schools in California that seeks to provide learners with authentic, personalised, project-based learning experiences driven by student and community needs and interests. All High Tech High students receive a high-school diploma, issued and warranted by the school consortium, which meets the admission requirements for the University of California, Los Angeles, and other universities. The diploma is accompanied by a transcript that details attainments in specified learning domains relevant to the school/student.

International Baccalaureate Career-related Programme Certificate (IB Career Programme)

The IBCP is an alternative to the better-known International Baccalaureate (IB) Diploma. It allows students to attain and have recognised a broader range of learning than is available in the more academically oriented IB Diploma. It is designed to assist learners to navigate their future careers in an uncertain world.

Mastery Transcript Consortium (MTC)

This organisation supports a network of schools, principally in the US, but now with members in Australia and elsewhere. It seeks to provide technological tools and professional learning so schools can provide an alternative representation (the transcript) of learning for their students.

Action Learning Institute

This South Australian VET provider is taking a novel approach to the development and recognition of transferable learning capabilities. It has established a VET skills set credential designed to be earned in parallel with the VET (or schools) courses that support learning in more traditional subjects, domains or industry content. Successful graduates will attain the standard VET (or school credential), plus a statement of attainment for the action learning skills set, plus a profile attesting to the graduate's proficiency in action learning general capabilities.

A key driver in most organisations has been the need to increase equity – that is, to generate learning success for all, including for those who had not previously thrived. In economics language, they wish to increase the productivity of learning design.

The providers have been motivated by a belief that the new learning ambitions, and recognition of them, would stand all their students in good stead, and that these would improve the learning outcomes and potential post-school pathways of young people who are currently disadvantaged.

Distinctive learning designs that align with new learning ambitions are a feature of these case studies. Their learning designs involve renegotiating the roles of learners, teachers, parents, employers, tertiary providers and community partners, changing how learning is organised, how teachers teach, how curriculum is packaged, and how learners approach their learning. Developing learner agency is central to the learning designs.

There are common features of assessment design adopted by some or all of the case study organisations, including: assessing both content and general learning capabilities, with domain or discipline content allowed to vary with the interests and aspirations of learners and their communities; using rich authentic performances to evidence capabilities; using developmental assessment approaches; including local communities and stakeholders in the assessment design; designing assessment around externally-referenced common standards (not standardised assessments); using human judgement rather than relying only on 'objective' approaches; and using technology to support administration of assessment and feedback, and its moderation and quality control. Examinations have remained part of the mix in some cases.

Features of qualification design include the use of learning profiles that reference external common standards; emphasising areas of success; encouraging students to develop portfolios of their work to exemplify the breadth and depth of their attainments; and use of technology to support compilation of credentials and storage and dissemination of information.

To develop trust in their assessments, and utility for stakeholders in the qualifications, the organisations have each developed their own warranting networks to underwrite quality. The networks vary in character, but all aim to certify what learners know and can do in a way that is trusted (accurate and comparable, interpretable and fair) and has utility for all concerned.

Features of some or all of the networks' warranting systems include: operation on a national or global scale, rather than within a jurisdiction; use of trusted third-party warranters of quality in lieu of official recognition; building over time the trust of recruiters and selectors in the qualities of their graduates as they transition from school; and monitoring the degree to which learners thrive post-school.

A similar trajectory of development can be identified within each network. First, they adopted or recognised new learning ambitions and created new learning designs to match them. They then sought to align the assessment practices to those ambitions, and designed qualifications that students take with them when they graduate.

The trajectory gradually deepened alignment between the new learning ambitions, productive learning designs, assessment design and qualification design. The case study organisations are at different points along this trajectory. As might be expected, maturity of provision takes time, usually many years. None of the leaders in these organisations regard their work as finished.

A premise of this report is that the changes illustrated in these case studies, which seek to better align assessment and credentialing with new learning ambitions and emergent learning designs, *should* be brought to scale. Every young person should have access to the advantages that accrue to the young people whose learning is supported in these organisations.

There are points of interest in the experience of the case organisations for those who seek to change approaches used in jurisdictions in Australia, to recognise and credential success for young people in the secondary years, particularly in the context of changes to senior secondary certification currently under active consideration.

Three conclusions are drawn:

- Any improvement in productivity of senior secondary schooling for all students requires the re-alignment of learning design, assessment and credential design, and warranting approaches with these new ambitions. This is not a trivial undertaking.
- Attention is needed to a change process to ensure success of all students. Features of the change process are discussed. Change requires consistency of leadership and effort over time so that schools' practices are aligned to the needs of a community of learners, and the broader community in which they live. The touchstone for change is that education is productive for all students, in every community.
- The current regulatory system for warranting trust and utility of senior secondary certification in Australia is not matched to the needs of providers progressing this aspiration. This report explores features of a suitable framework for senior secondary qualifications in Australia that would better support the emergent learning ambitions and their associated learning designs of the kind represented in these cases.

1. Setting the scene

Background

This report is the second in a series of reports commissioned by Learning Creates Australia that focus on the need to broaden the definition and recognition of learning success for young people.

The report is written against a backdrop of the increasing desire in Australia[1,2,3,4], and elsewhere[5,6], to reshape policy and practice for assessment and recognition of learning in the senior secondary and tertiary years of education in Australia. The changes are evident across many fronts, but an emerging consensus is coalescing around ensuring that recognition of what students know and are able to do as a result of their schooling extends beyond the academic or domain-specific achievements, captured in current assessment and credentialing practices, to include attainments of students in general capabilities.

General capabilities are representations of learnable transferable abilities[7] developed to a greater or lesser degree by learners in learning experiences inside and outside formal education.

Each capability is a complex combination of elements which operate together: meta-cognitive skills, personal dispositions, social skills, and understandings about learning. General capabilities develop alongside learning in domain-specific knowledge and skills, but are additional to it.

General capabilities support lifelong learners to develop depth and breadth in learning, no matter what the focus and purpose, so learners can thrive in their chosen fields of endeavour, and in family and community life, in a complex and changing world. They include capabilities such as critical and creative thinking, persistence, communication skills, citizenship and ethical decision making, intercultural capabilities, and so on. These capabilities underpin learning and the development of competence in any domain.

The Shergold Report[8] recommendation is indicative of this shift towards general capabilities:

Students should leave school with a Learner Profile that incorporates not only their ATAR (where relevant) together with their individual subject results, but that also captures the broader range of evidenced capabilities necessary for employment and active citizenship that they have acquired in senior secondary schooling (p. 20).

Similarly, the recent review of the Australian Qualifications Framework (AQF)[9] stated that "the Panel has found that the AQF should be significantly reformed" (p. 8), and that "the panel has proposed a set of reforms … that would see … general capabilities (such as digital literacy and ethical decision making) identified for use in individual qualifications" (p. 11).

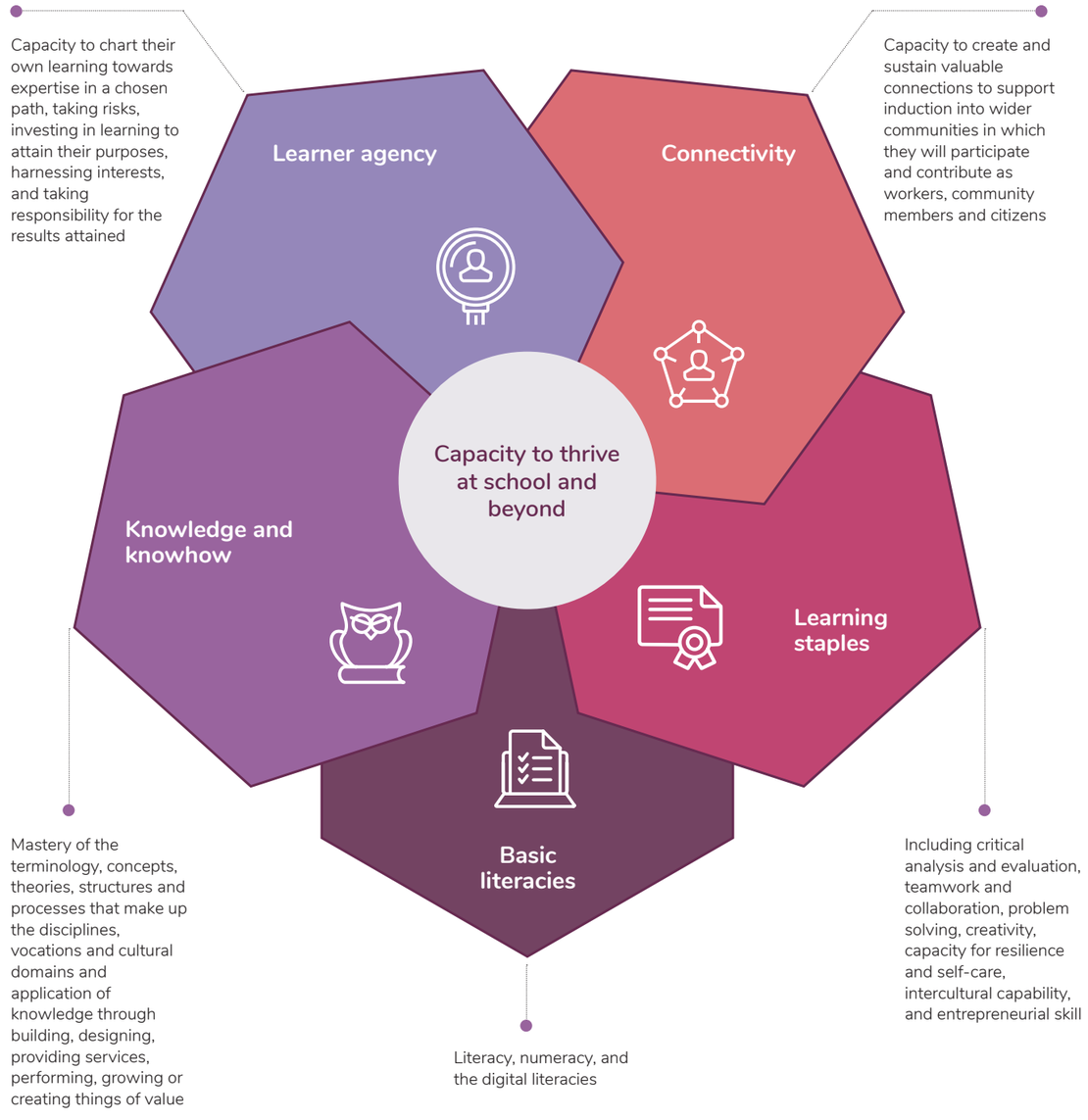
These recommendations address a range of concerns about the current system of senior secondary credentials in Australia[10]. These concerns are mainly that the credentials are too narrowly focussed[11], or rely too heavily on examinations and other assessment and credentialing practices that are best suited to measuring and representing academic or scholastic attainments of learners. Since what is assessed and valued shapes what is learned, this situation leads to a narrowing of the experience of learners[12].

By focussing mainly on mastery of cognitive learning, packaged into 'subjects', the current dominant assessment and credentialing practices undervalue attainment of proficiency in general capabilities, and do not allow learners to demonstrate any of the broader skills, knowledge, attitudes, values and understandings they may have developed as learners. This in turn is thought to contribute to disengagement of young people from learning, providing an inadequate base from which to become the confident, creative, lifelong learners they will need to be in order to thrive in the modern, changing, uncertain world, and to contribute to their communities, society and the economy.

Also uppermost in the concerns about assessment and certification of the learning attainments of school learners is the disproportionate lack of success of many young people, particularly those with special needs, or those from socio-economically disadvantaged communities and refugee, migrant, rural and remote, or Aboriginal and Torres Strait Islander backgrounds.

Nearly 30 percent of young people leave school without any form of representation of what they know or can do[13].

Figure 1: New learning ambitions



The story so far

With this discussion and debate as a backdrop, the first Learning Creates report, *Recognition of learning success for all*[14], tackled the issue of how to reduce the number of young people in Australia who finish school still lacking recognition of the degree to which they have attained capabilities they need to thrive in the modern world, and that they need to successfully navigate further education, training, or employment.

The report examined the prevailing conceptions of success built into the recognition systems in senior secondary schooling in Australia and explored 'how to build a more equitable system that celebrates and measures a broader and deeper conception of success' (p. 4).

'Broader and deeper conceptions of success' were represented in the form of the graphic shown in Figure 1, which summarises the learning ambitions that currently underpin curricula of secondary schooling in Australia[15] and elsewhere[16]. This figure includes what might be called the 'traditional domains of learning', including basic literacies and numeracy, and knowledge and know-how in the academic and traditional domains of learning. These domains have traditionally been captured well in current assessment and recognition systems. However, other aspects of learning, which are not yet captured well in current assessment and recognition systems are also included.

The new ambitions for learning include attainments of transferable learning skills and more complex general capabilities, such as creativity, collaboration, citizenship, learning agency, and capacity to connect to others in order to learn and thrive.

The *Recognition of learning success for all* report suggested that, if the 'new' and broader learning ambitions are to be taught and assessed, there is a necessary sequence of change required in six key components (the 'componentry') of the assessment and recognition system.

The practices of first-mover providers (those implementing recommendations without waiting for jurisdictional support) examined in the report demonstrated that once new learning ambitions were articulated, new approaches to assessment were instituted, new standards for attainment set, new types of credentials developed, and new pacts (agreements) between the relevant parties devised and new metrics for monitoring organisational success instituted. The components interrelate, as represented in the 'new metrics cascade', in Figure 2[18].

All the first movers examined in the *Recognition of learning success for all* report experienced challenges in developing new approaches to assessment and recognition. These challenges related to the question of how to ensure that stakeholders could be brought to trust that the new assessments accurately and effectively assessed something of high value, so that the resulting credentials could be used by learners, teachers, recruiters and selectors who understood and appreciated what they meant.

Assessment approaches that measure broader learning ambitions are relatively new, so questions were asked about their scalability, feasibility, generalisability, comparability. Questions were also asked about whether these approaches would enhance or further handicap the interests of learners currently educationally disadvantaged by virtue of disability, socioeconomic background, or cultural or linguistic diversity. These and other challenges are still under review by the first movers.

Figure 2: The New Metrics Cascade of components

This report

This report explores more deeply the 'how' of introducing new approaches to assessment and recognition, to support the broader definition of success represented in the cascade.

The report is based on a series of case studies, from Australia and other countries, of organisations that have introduced new assessment and certification systems aligned with new learning ambitions. They are all first movers pioneering innovative approaches to learning design, assessment and recognition of the learning successes of young people in schools and other learning organisations. In most cases, this involves adopting approaches to assessment more suited to determining the level of student proficiency in complex general capabilities, creating new credentials that better reflect the full profile of capabilities of any learner, developing new ways of building trust in the credentials they offer, and making new kinds of arrangements for warranting quality so that stakeholders can trust and use credentials for various purposes.

The rationale for selection of case studies is provided in Section 2, with more detailed descriptions of each case provided in Appendices 1 to 6. The discussion and analysis of findings are provided in Section 3. Section 4 explores implications for the Australian education system and gives recommendations for policy action.

The intended audience for this report is principals, curriculum and assessment leaders in schools, and other learning providers who are seeking to improve outcomes for their students. This includes jurisdiction leaders, and regulators who are considering how to respond with policy shifts to the requirements for assessment and recognition of learning in senior secondary education. It is anticipated that this report will demonstrate what has been tried, what is possible, what lessons can be learnt, and what this might mean for the development of better assessment and credentialing approaches in the future.

2. The first movers and their new assessment, credentialing and warranting approaches

This report presents findings from six case studies of advanced practice in assessment and recognition of learning by organisations that have sought to broaden the conception of success for the students with whom they are working. The case studies illustrate assessment and recognition systems developed to support those goals.

Five of the six organisations have initiated credentials outside the current norms of the system within which they operate.

2.1 The cases selected for study

The case studies were identified for this report in two ways. Big Picture Learning and the Philippines Alternative Learning System are working with the Assessment Research Centre in reforms of their assessment and credentialing systems.

The remaining four, High Tech High, the International Baccalaureate Career-related Programme, Mastery Transcript Consortium, and the Action Learning Institute, were recommended by key figures in the Learning Creates global network as organisations of interest in their approaches to learning design, assessment and credentialing at the senior secondary and/or related tertiary levels.

In particular, the criteria for inclusion of a case specified that:

- the educational providers are focussed on initiatives that relate to improving the provision of senior secondary education.
- there have been serious attempts to reform curricula, assessment and recognition, to improve engagement in learning and the capacity of young people to thrive in an uncertain world.
- the initiative includes more than just one school, provider, or site, so that matters of scale and comparability can be examined.
- changes to assessment and recognition with new credentials are being tackled head on.
- the change has been put into practice and is being sustained over time.

The organisations were not selected as representative of the secondary education landscape in Australia or internationally. Nor is the group representative of first movers. Their selection relates to each organisation's progress in tackling the development of learning, assessment and credentialing systems that reflect and align with their new ambitions for learning for their students.

The case study descriptions were guided by the following key questions:

- What are the new learning ambitions for learners that are the focus of their work? Are general capabilities or other learning that goes beyond discipline or subject domains referenced? How are these referenced by the provider, and in the community?
- What are the features of the system supporting providers in the quality of assessment, standards setting, and credentialing of general learning capabilities, and in having useful agreements with stakeholders for recognition? How does the system function? How does it tackle issues of trust and utility among stakeholders? How does it tackle issues of scalability, feasibility, generalisability, comparability, and equity?
- How are the results experienced by learners, education providers, or industry/community partners? What do these stakeholders perceive as the benefits?

Information used to compile the case studies is generally publicly available via web sites or other published representations of the work of the providers. The case studies are necessarily brief, and do not seek to represent in full all aspects of the work of the providers. The representations of each case have been checked by providers for accuracy and interpretability.

A broad, common template is provided to describe the work of providers in each case study. Each case study template varies but they have common features where appropriate, including:

- why the case was included
- objectives and learning ambitions adopted
- who the learners are, including demographic descriptors of learners and their communities
- learning design adopted, including considerations of curriculum and pedagogy
- assessment design, and how matters of trust, reliability and validity are managed
- credential design, and how matters of interpretability, comparability and utility are managed
- quality assurance for the assessment and recognition systems adopted
- snapshots of stakeholders, including students, leaders, teachers and/or recruiters and selectors.

2.2 Snapshots showing why the case studies were selected

The six cases are described in summary below. Further detail is provided in Appendices 1 to 6.

International Big Picture Learning Credential (IBPLC)

Big Picture Learning Australia (BPLA) is an organisation that works with schools and school systems across Australia to provide an alternative design for learning that engages students through a personalised approach based around their interests. The organisation has designed and implemented an assessment and recognition system to support the issuance of its International Big Picture Learning Credential, developed to align with the well-established Big Picture learning design.

The credential uses a learner profile which certifies the accomplishments of each graduate across the six Big Picture learning goals, represented as micro credentials: Quantitative Reasoning, Social Reasoning, Empirical Reasoning, Communication, Personal Qualities, and Knowing How to Learn. These micro-credentials are linked to a portfolio of learning evidence. Profile standards are referenced to the Australian Qualifications Framework (AQF) and Australian Core Skills Framework (ACSF). The credential is warranted by the University of Melbourne Assessment Research Centre and issued via the University Admissions Centre in NSW.

Forty Big Picture schools and academies are located in WA, NSW, Tasmania, Queensland and Victoria. Big Picture Australia is currently working with the Big Picture Learning International Network, which includes over 100 schools in the US, Europe and Africa, to introduce their credential across these jurisdictions.

International Baccalaureate Career-related Programme (IBCP)

The International Baccalaureate Career-related Programme is oriented to career-related, or applied, international education. The IBCP leads to an end-of-school International Baccalaureate certification that has an alternative design to the IB Diploma Programme (DP), embodying similar values and based on similar profiling of learner development.

The IBCP provides a flexible framework for personalised learning, designed for students who are more inclined towards career-related learning and the development of applied knowledge and transferable general capabilities for life and work.

Providers who offer the IBCP are authorised by the International Baccalaureate Organisation, and graduates receive the IBCP Certificate. Students are assessed on each subject's objectives, through school-based components, and externally in examinations and extended essays by the IB.

The IBCP is designed for students aged 16 to 19 and is offered in 310 schools internationally. Four Australian independent schools offered the IBCP in 2021.

High Tech High (HTH)

High Tech High is a group of accredited public charter schools with the aim of preparing young people for a technologically advanced workforce.

It is based in California and has a student population that comprises diverse ethnicities, identities, social class backgrounds, and life experiences. HTH has developed a learning design that challenges students to pursue personal interests and contribute to the community. Problem-based learning (PBL) underpins learning, teaching and assessment.

The HTH curriculum is aligned to California's academic content standards. HTH issues and warrants the high school diploma for their graduates. It meets the admission requirements for Californian universities and includes a transcript that details attainments in specified learning domains relevant to the student. The HTH network comprises 16 charter schools, serving 6,350 K-12 students across four campuses in San Diego.

Mastery Transcript Consortium® (MTC®)

Mastery Transcript Consortium is an international network of schools that uses a common, templated reporting system called the Mastery Transcript. This is a learner profile that represents capabilities-focussed attainments. MTC was conceived with the aim of better preparing high-school students, recognising the breadth of their capabilities for further study or work. It is based on the premise that traditional high-school certifications continue to limit how learning occurs and gets credentialed.

Currently the standards of learning attained and reported are warranted by each school individually. MTC has 405 member schools (281 private and 124 public). Most of these schools are based in the US, but a significant number are from a range of countries, including four independent schools in Australia. Fifteen member schools use the Mastery Transcript as their formal school graduation transcript, 14 of which are based in the US.

Piloting Micro credentials in the Philippines Alternative Learning System (ALS) Life Skills Program

The Alternative Learning System Life Skills Program in the Philippines is a basic education pathway in which a new approach to credentialing is being tested. It is focussed on functional literacy and life skills, developed by the Department of Education (DepEd) in the Philippines. DepEd designed the program and works with partner organisations to provide delivery and access across the community. It is currently piloting micro credentials to provide recognition for the general capabilities such as communication, teamwork, leadership and cooperation.

ALS is an alternative to the existing system of formal education, targeting those who have had trouble accessing formal basic education due to economic, geographic, political, cultural, or social barriers, and in particular, out-of-school youth and adult learners. The University of Melbourne Assessment Research Centre is designing the credential and the quality control methods for DepEd, which is likely to provide the warrant for the credential. There are currently over 800,000 participants in the ALS.

Action Learning Institute (ALI)

Based in South Australia, the Action Learning Institute is an Australian Registered Training Organisation.

It is taking a novel approach to the development and recognition of transferable learning capabilities, by establishing a Vocational Education and Training (VET) skills set that is designed to be earned in parallel with courses in VET (or schools) that support learning in more traditional subjects, domain or industry.

It works with industry partners to deliver nationally recognised qualifications in areas of industry such as manufacturing, food, and hospitality, through action learning programs that are intended to help individuals and participating companies to improve their self-directed learning capability.

The design of the programs involves consultations with stakeholders and is intended to tackle 'wicked' real-world problems that affect them. Assessments are conducted using proprietary software, which enables evidence of competency from collaborative cloud-based platforms to be mapped to performance criteria in the Australian Vocational Education and Training Framework.

Successful graduates will attain the standard VET (or school) credential, plus a statement of attainment for the action learning skills set, plus a profile attesting to the graduate's proficiency in action learning general capabilities. The Action Learning Institute has completed 33 projects with 25 companies across South Australia and Tasmania.

Each of the case studies in this report is focussed on a group of providers, rather than just one school, provider, or site. This was required so that matters of scale and comparability could be explored.

The Big Picture Learning network of providers is made up of schools, and academies that operate somewhat independently from, but within, a host school. Its Australian organisation is affiliated with the more extensive Big Picture Learning International Network. High Tech High is a network of schools in San Diego.

The IB Career Programme is offered within a network of schools, drawing on the broader IB network that exists across many countries. In the case of the Mastery Transcript Consortium, the providers are a large network of disparate schools who have partnered with the Consortium to explore new ways of representing the learning of their students.

The experiences for learners in the Alternative Learning System in the Philippines are delivered through a range of providers, including by officially designated community organisations using mobile teachers. The Action Learning Institute is a Registered Training Organisation that provides courses at different sites within participating businesses. In this report these sites, academies and schools are all described using the generic term 'educational provider'.

Even this representation is somewhat misleading because the educational provision for any learner in these organisations is often a team effort, coordinated by the provider, but highly likely to be the result of teamwork with partners. The partner organisations include host schools, community groups, employers, or other education providers.

There is no standard terminology used by these providers when referring to the broader learning ambitions that are the focus of this report. For instance, Big Picture Learning references 'learning goals', including knowing how to learn, empirical reasoning, and quantitative reasoning.

The IB Career Programme refers to its 'learner profile', which is a list of the desired characteristics of its learners, such as being thinkers, communicators, principled, open-minded, caring, risk-takers, balanced, and reflective.

The Philippines ALS references 'life skills' such as communication, problem solving, and critical thinking. The ALI references 'action learning skills'. In this report, these various learning ambitions, each of which go beyond discipline or content-based knowledge or know-how, are referred to generically by the term 'general capabilities'.

3. Common threads

The providers in each of the cases listed in Table 1 are working to broaden the definition of success in learning at senior secondary level. To them, this means broadening what young people at senior secondary level are expected to learn, including the general capabilities, and improving standards of attainment across the board.

As a result, they have had to reorganise the learning designs they adopt, the assessment methods they use, the standards they set, the qualifications they issue, and the methods they use to build trust in their assessment and recognition systems.

They seek to ensure utility for students and stakeholders, to support scalability, feasibility, generalisability of their work, and to ensure comparability, and equity in their credentials.

Each organisation studied here has adopted a different approach to this work. Yet there are common threads.

New learning ambitions the starting point

In each case under consideration, the starting point for change in approaches to assessment and recognition was the shift to encompassing a broader range of learning ambitions, as schematised in Figure 1.

The Action Learning Institute, for instance, seeks to develop the 'action learning' skills of leadership, problem solving, agency and collaboration[19] in its learners. The approach generates skills such as being accountable to self and others for doing what is expected; planning realistic, relevant and challenging actions; being respectfully open and honest with self and others; having capacity to learn new knowledge, skills and abilities to get things done; communicating and presenting; being able to problem-solve; reflecting on action and adopting a critical and creative approach; and adopting systems thinking.

The IB Career Programme privileges students' skills in critical thinking, communication and cross-cultural engagement[20], while Big Picture Learning aims to develop in young people qualities such as communication, learner agency, leadership, and social responsibility.

The Philippines Alternative Learning System is seeking to support the development of life and career skills, problem-solving skills, and communication skills among people who have had to leave school before secondary graduation. Mastery Transcript Consortium supports young people to develop a broad range of transferable skills, such as taking responsibility, alongside more traditional disciplinary knowledge, while High Tech High schools seek to develop learner agency, self-management and self-direction.

In each case, these learning ambitions can be characterised as encompassing learning outcomes known generically by terms such as 21st century skills, transferable learning skills, transversal skills, action learning skills, and so on, but referred to here as general capabilities.

That is, each case has sought to re-position its curriculum so that these general, transferable capabilities are at the heart of learning.

Not a trade-off

In each of these organisations, improving these general capabilities is not regarded as being at the cost of standards in the more traditional domains. On the contrary, providers see that making room for students to develop general capabilities has the effect of amplifying engagement, and deepening capacity for learners to develop depth in discipline-based or vocational domains.

For instance, the Action Learning Institute sees its commitment to 'action learning' as the way of ensuring high quality learning outcomes in highly technical manufacturing work. Big Picture Learning requires that learners produce a thesis that demonstrates capacity for depth in content knowledge in an area of interest and that shows promise for the learner's future.

In High Tech High, students are all college bound and require mastery in core discipline knowledge domains, as do many Mastery Transcript learners. These providers do not see commitment to broader learning ambitions as a trade-off in traditional standards.

Most providers try to avoid the situation in which learners are required to master coverage of many domains in a pre-packaged array of subjects. They regard this as especially damaging to engagement, and antithetical to depth of learning, especially if the learners themselves are not able to see the relevance of the content to their interests and passions.

Concern for equity translates into concern for productivity of learning

In each of the cases, the key driver for change has been to better serve a diverse group of students, including those disengaged, or educationally disadvantaged, or students for whom traditional academic schooling is uninspiring or apparently irrelevant.

In the case of Big Picture, the focus is on teenage students who risk becoming disengaged because of the perceived irrelevance of schooling to their lives. The learning design was adopted in Australia, and fine-tuned over a period of 15 years, to better engage all learners in a way that generates success and high standards of attainment in the key learning goals, such as quantitative thinking (mathematical), empirical thinking (scientific) and social reasoning (humanities and social sciences).

High Tech High has a similar motivation for young people in San Diego. In the case of the Philippines Alternative Learning Systems, its focus is learners who have not previously had the opportunity (for many and varied reasons) to finish schooling.

The objective is to ensure that they have the skills and knowledge they and their communities need to prosper. The IB Career Programme supports students who are not interested in an academic curriculum but who nonetheless have high aspirations and are clear about their career directions.

In each case, the organisations began with the unmet educational needs of learners, in their various communities, and sought to design a learning environment that would engage them as they learned. This entailed changes to learning design.

Learning design, or the approach to curriculum packaging, pedagogy, positioning of learners, and how learning activities are engineered, is not the principal focus of this report. Others have written about these matters[21] more extensively. However, a range of similarities are evident in the learning designs adopted, intended to develop proficiency in general capabilities while simultaneously developing depth in content domains.

There is a distinct move away from use of pre-packaged, subject-based content as the basis for learning design. High Tech High, for instance, uses problem-based learning to focus on the depth of investigation. The Action Learning Institute allows learners to pick particular problems of concern to their employers to explore depth in learning.

For Big Picture learners, the activities centre around developing a thesis or major project through internships and writing activities in an area of particular interest to them, their lives or their aspirations. They present regularly to stakeholders on their learning and undertake community service projects.

In each of the case studies, changes have been made to the roles and responsibilities of most of the people involved. Learner agency is central to the learning program, as students are expected to take (guided) responsibility for their own learning. Some programs, such as Big Picture Learning and High Tech High, encourage a more participatory role for parents than traditional senior secondary learning programs.

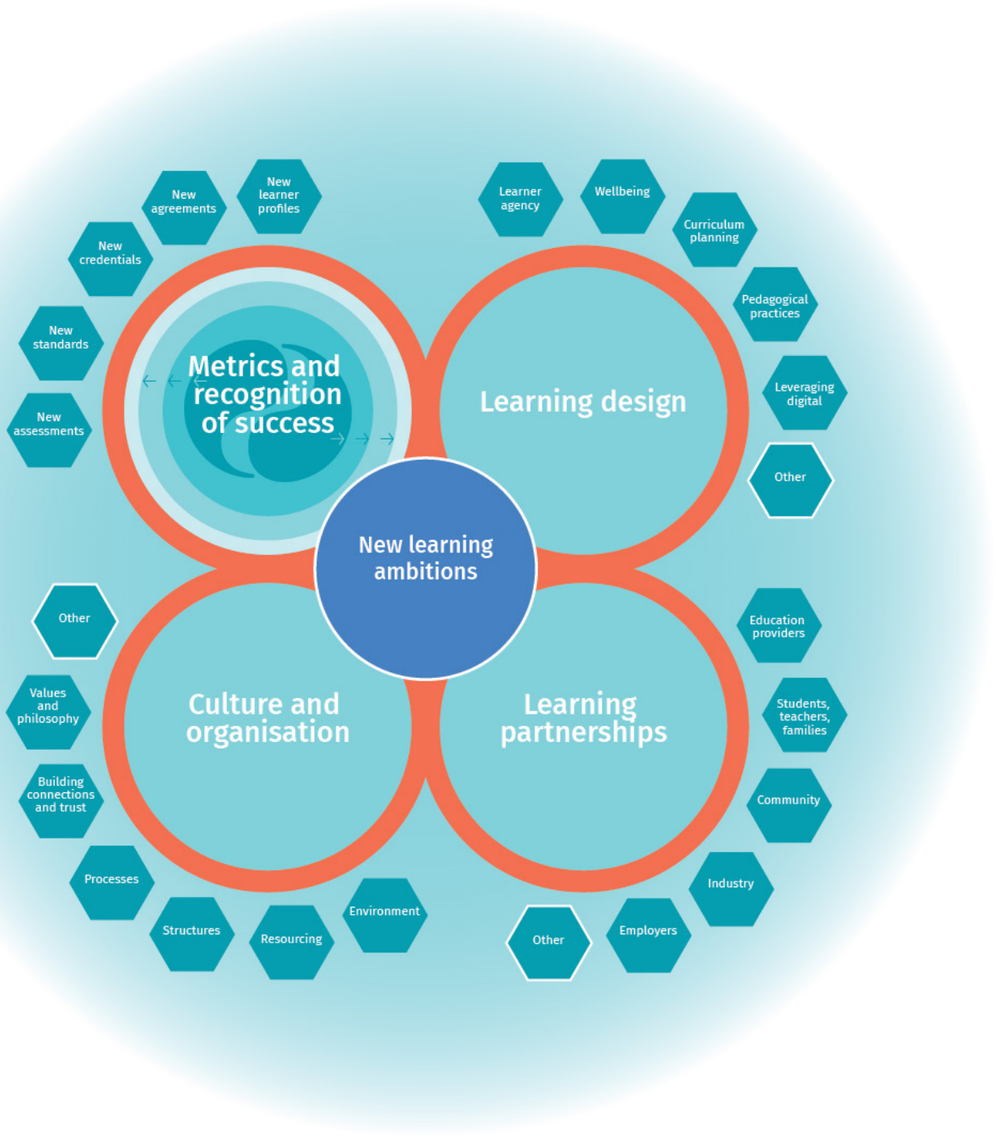
In various ways, these organisations have renegotiated the roles of teachers. For instance, Big Picture allocates just one advisory teacher to supervise all the work of a student, extending over a period of two or three years.

ALS uses travelling tutors to support learners in their work and their study. Subject-specialist teachers are rare. Use of internships and workplace learning has effectively enhanced roles of employers or other providers in a range of cases including the ALS in the Philippines, the Action Learning Institute and the IB Career Programme.

These changes to the architecture and practices of learning design have consumed time and energy in discussion, with parties reaching agreement on new roles and expectations. Such is the pervasiveness of change in learning designs that the work of organisations like Big Picture Learning, High Tech High, the Alternative Learning System and the Action Learning Institute could be regarded as having successfully shifted the 'grammar of schooling'[22], a generic term for the institutional practices, typically difficult to change, that hold the organisation of teaching and learning in place in most schools.

They are moving beyond the limits of an educational grammar built around a classroom of learners whose work is orchestrated by a teacher working to a set curriculum, ensuring that all learn the same thing, at the same time, and are assessed via standardised, invigilated test methods. Instead of organising to be independent of learners' personal interests and motivations, these changes encourage their aspirations for themselves or their communities.

Figure 3: New Grammar©



Each case features a learning design in which development of general capabilities is central, to ensure that young people are prepared for continuing learning throughout their lives, as well as developing high standards in discipline and content knowledge.

It has also become apparent over time, especially to those involved in Big Picture Learning, the Action Learning Institute, High Tech High and Mastery Transcript, that this approach is productive for all students, and that learners bound for academia also benefit from having the general capabilities that make them more expert learners, and more adaptable and resilient in their chosen fields.

Changes to assessment and qualifications follow changes to learning design

New assessment and credentialing practices were not, of themselves, the driver or leader of change introduced by any of the organisations under study. Their experience first led them to adopt new learning ambitions, then eventually, over time, to see the importance of aligning their assessment practices to those ambitions. A logical next step was then to ensure that the credentials that the student takes with them when they graduate also reflect their attainments.

The imperative was to establish an alignment between the new learning ambitions they seek with all other parts of their practice. This idea is represented in Figure 3, a diagram developed by the schools engaging in the University of Melbourne's New Metrics for Success Research Partnership[23]. They are exploring through practice the most productive way to support transformation to a new grammar of schooling.

The view that the key to success is the alignment of new learning ambitions to an organisation's learning design, assessment design and credentialing is reflected in the approach of each of the case studies.

Assessment techniques are used that establish proficiency levels of students in the general capabilities

Not all of the first movers are formally assessing student proficiency in the general capabilities. For instance, the Mastery Transcript schools currently report on the participation levels rather than on proficiency levels to capture the degree of attainment of students. But three have adopted proficiency assessments: Big Picture, the Alternative Learning System, and Action Learning Institute. In each of these cases there is commitment to formally assessing and reporting on the degree to which a learner has progressed in attainment of the general capabilities, referenced to external standards.

The assessment techniques they use are common ones designed to align assessment to learning ambition and learning design, and to ensure comparability, validity, reliability and fairness.

They each use developmental, standards-based approaches[24] more suited than standardised testing for assessment of proficiency in complex competencies.

In two of the cases (Big Picture and ALS) the organisations have worked with the Assessment Research Centre to develop and validate a series of formal assessment frameworks[25], which include developmental progressions, indicators of learning and quality criteria mapped to standards to guide assessment, all aligned with the learning design they have adopted. These are used along with moderation methods are also used to scaffold judgements of assessors, ensuring consistency and comparability of assessments across providers and the maintenance of appropriate standards.

Assessments involve judgement by various assessors of the levels of proficiency attained. In the case of ALS and ALI, assessment of capabilities can include judgement by employers or peer judgements. Big Picture assessment is based on the judgements of advisory teachers who work closely with their students and get to know their work over years.

The attainments are evidenced in a range of complex, authentic performances that are part of the learning activities. These performances may be included as part of the learning activities conducted at school, such as written theses, presentations and projects, or outside school, such as internships, work experience, or participation in learning provided by external providers.

The output of student learning is often captured through curated portfolios of student work. Assessments are primarily based on the expert judgement of teachers, but can incorporate the judgements of other mentors of student learning.

Sometimes, as in the case of IB Career Programme and Mastery Transcript schools, the use of examinations is still part of the mix. Even in Big Picture, some students enrol in subjects or studies on offer from their school or elsewhere to support their interests, which may involve examinations.

Examinations remain a suitable way to demonstrate mastery of particular knowledge or skills in disciplines or academic subjects required to pursue a student's interest in depth, or to qualify for entry to some higher education institutions. Such assessments are regarded as complementary to the assessment of general capabilities.

Assessment references external standards

Each of these cases in which proficiency levels were assessed, leaders were determined to counter any suggestion that they provide a low-quality offering, or that no standards are applied. Examinations can sometimes be used by a community as a short-cut indicator of trust in a program, where an absence of examinations may give rise to doubts about its quality. Leaders were at pains to show that, on the contrary, standards and expectations of levels of attainment for their learners were higher across the board than in comparable, more traditional approaches.

To this end, in most cases, the approach to assessment is determinedly standards-based, and internal standards were referenced to external standards. A summary is provided in Table 1 row Y of these reference standards. For example, as indicated in Table 1 Row 3, Big Picture references the standards of the Australian Core Skills Framework and the Australian Qualifications Framework.

The Action Learning Institute references standards inherent in the work of Australian Skills and Qualifications Authority. The Alternative Learning System seeks to maintain standards expected in core capabilities at the same level as in mainstream Filipino schools. The IB Career Programme references the standards of its industry strategic partner organisations and its own International Diploma.

Credentials capture proficiency in general capabilities through profiles

Both Big Picture and the Mastery Transcript credentials, and in prospect the ALS and ALI, capture (or intend to capture) student attainments in the general capabilities by using profiling, rather than a report card. A profile is a concise, interpretable, and customisable credential that provides an authorised, and curated representation of the level of attainment of transferable capabilities that a student has developed during their school years.

To support comparability of representations of learning profiles each case is underpinned by a capabilities framework that represents the learning ambition of the provider.

Profiling has been adopted by these cases for a range of reasons. They recognise the potential of learner profiles to strengthen student agency. Essentially, because assessment is developmental, a profile can be developed over time, so that learners have the opportunity to monitor and plan their learning. Providers recognise the benefits of having a common language and framework across the communities of interest in these schools.

The audience for these profiles typically includes learners and teachers, parents, employers and tertiary recruiters. Efforts have been made to represent attainments in an easily interpretable manner so that the range and nature of candidates' capabilities is clear.

One spinoff is that a profile can be readily customised to show how well a candidate's profile matches the specific requirements of tertiary education providers and employers in particular areas of interest to the learner.

Use of digital portfolios associated with these credentials is also a feature. Portfolios provide curated digital examples of student work. Portfolios supplement the assessments, so that students are able to demonstrate what they have learned in a realistic manner for those outside the learning environment.

This provides transparency for external stakeholders. These portfolios are not *credentials* but are used to evidence the assessments and/or any credential that might be offered.

The Big Picture learner profile and the MTC profile are sketched in Figures A1.2 and A1.3 below, and more detail is provided in the relevant Appendices. Each of these profiles is a digital document providing links to student portfolios and can be personalised. They provide comparable information and represent the strength and depth of a student's attainment.

Each is customisable by students by selecting what goes on it to some degree. They control the issuance of the certificate. It is warranted by the school or other warranter, and is held in secure digital repositories, supported by sophisticated software applications. The profiles form the basis of discussion with stakeholders such as universities and other tertiary providers.

Warranting and support networks have been built outside traditional systems to build trust and utility

To ensure that the assessment and recognition is trusted as a high-quality representation of what each graduate knows and does, each provider has taken steps to build community trust and utility into their approaches to assessment and recognition. Each provider comprises multiple sites, or multiple schools.

They each operate as a system, not least in the approach they use to establishing their new assessment, credential and warranting approaches. Each has chosen to operate partly or wholly outside the official system of regulation and warranting of qualifications in the jurisdictions in which they operate.

The official arrangements for regulation of senior secondary qualifications in Australia are characterised in Column 2 of Table 1 below (using the example of the system in the Australian state of Victoria). Regulation is specific to jurisdiction (State or Territory), but each is very similar, organised around a standardised curriculum packaged into highly specified units of study organised into subjects, disciplines or otherwise specialist domains of study.

Assessment approaches include both school-based assessments and (most typically) external examination. These examinations are high stakes, standardised, externally marked, invigilated, and used to moderate school-based scores.

No reporting is provided on the levels of attainment of students in the general capabilities. Senior secondary certificates are issued by the jurisdiction authority. Australian higher education institutions combine their selection efforts through tertiary admissions centres in each jurisdiction, which use the scores generated on these certificates as the basis for developing a statistically complex system of national ranking of students.

About 70 per cent of school leavers who gain access to university each year do so on the basis of this rank. This system has operated in Australia for many decades. It is trusted and highly regulated.

The approaches to warranting assessment and qualifications used by the first movers are at marked variance with this approach. Each provider has established what amounts to a warranting network, comprised of a range of organisations associated with setting agreed curricula, setting learning designs, establishing assessment design, establishing standards, conducting and moderating assessments, authorising and managing credentials, ensuring the quality of a credential, and promoting its value.

These various approaches are summarised in Table 1 below. These warranting networks vary in character, but all aim to engender trust and utility in the certification of what learners know and can do. Formal incorporation of the local community into the recognition network is evident in many cases.

The International Baccalaureate Organisation, for instance has set up its own global regulatory system for curriculum, assessment and recognition of its IB Career Programme. This mirrors its approach to its more widely known IB Diplomas, and only lightly intersects with the official warranting system.

Internally, the IB system somewhat mirrors the operation of Australian curriculum and assessment authorities. It has, since its inception in 1962, established a trusted position in the educational community worldwide, providing support for staff training, leadership development, curriculum and assessment materials, and audit and quality control methods.

The Big Picture Learning organisation has engaged the University of Melbourne to design its assessment and qualification approach and to warrant the quality of its credentials. This ensures that its assessment system and standards align with its long-standing learning design and positions its credential as a trusted alternative to the formal official Australian senior secondary qualifications.

This warrant focuses on ensuring that learning outcomes are accurately represented on the certificates, and this is assisting in extending the jurisdiction for its certificate to the global Big Picture network of schools. This has involved co-development of Assessment Frameworks, training of staff, establishment of moderation processes, supply of assessment and moderation and reporting technology, and regular ongoing auditing of validity and reliability of assessments.

The Mastery Transcript Consortium is seeking to devise its own comparable, trusted certification template for world-wide use. This network provides not only the technology for the transcript template, but also professional learning, community education and collegiate support for members.

In each case the transformation of assessment and recognition has required support in a range of areas.

The support they have garnered from their assessment and warranting networks is various, and includes, for example, provision of professional support for leaders in change management; professional learning on the wider principles and intentions of the change for all staff; support for professional learning in new assessment and moderation techniques for staff whose assessment practices need to change; raising awareness and understanding in the broader community; support with curriculum expression and resources of general capabilities; adoption of common language for discussion; provision of common capabilities frameworks and standards; production of key resources (such as Assessment Frameworks) and technologies; development of standards and benchmarking tools; and establishing audit and quality assurance process.

Cross-jurisdictional warrant is sought

One notable feature is that in three of the cases under examination (Big Picture Learning, IB Career Programme and Mastery Transcript) providers operate across jurisdictions and in a global recognition environment. They do not and cannot rely on the apparatus of any one particular educational jurisdiction to set their specific approaches to assessment and recognition.

Each is devising its own system to ensure trust and utility by the broad community, and ensuring that their provision meets broad standards set in any educational environment in which they work.

As described in their approach to assessment, most providers work to ensure their qualifications align to some degree with the broad regulatory framework established for jurisdictions in which they operate. In Australia[26], this includes referencing documents such as the Australian Qualification Framework (AQF), the Australian Curriculum, or gaining registration from organisations like the Victorian Registration and Qualifications Authority (VRQA) and the Australian Skills Quality Authority.

For instance, the IB Diploma is formally registered by VRQA as a qualification able to be offered by registered schools in Victoria, although this registration has not yet been granted for the IB Career Programme. Big Picture Learning operates successfully without such registration but maps its standards to the AQF and the Australian Core Skills Framework. Action Learning Institute operates within the purview of the Australian Skills Quality Authority.

Most of the case study organisations have established very close relationships with the key stakeholders in their communities who play a role in supporting their graduates. Big Picture Learning has developed close relationships with over 16 universities who have now agreed to accept the International Big Picture Learning Credential as evidence of suitability for entry. This trust has built up over years.

The Mastery Transcript Consortium and High Tech High have developed similar relationships with their own networks of tertiary providers. High Tech High schools report that over 85 per cent of their alumni are either enrolled in or have graduated from post-secondary institutions, with over 30 per cent of these graduates earning degrees in science, technology, engineering or mathematics. HTH regards these metrics as strong indicators of the quality of their work.

Much effort is made by all these providers to ensure trust that their qualifications provide an accurate representation of what their graduates know and can do, and that graduates can depend on recognition of the quality of the credentials to help them with their post-school transitions to work or further study.

In no case does the approach to assessment of attainment depend on the traditional standardised, automated or 'one-size–fits-all' methods of curriculum and assessment design common in senior secondary certification processes in Australia.

New assessment and credentialing technologies are used

Several of the case study organisations committed to assessment and credentialing techniques, capable of determining and reporting levels of student proficiency in general capabilities, using standard-based developmental assessments compiled on the basis of expert judgement, and issued in the form of a digital profile with supporting documentation.

They each found that adoption of these techniques required substantial organisation and administration. Most learners expect to have an accessible digital representation of their qualifications, so the approach also involved challenges for providers in the storage, distribution and security of results.

The organisations that commit to these approaches to assessment and recognition use technologies that support recording of assessments, assessment administration, moderation, standards and quality control, reporting and provision of feedback, security and integration with applications for digital dissemination.

For its assessment and moderation support, Big Picture Learning uses Ruby, an assessment, moderation and credentialing platform designed by the University of Melbourne Assessment Research Centre to support the work of its research and credentialing partners.

It also uses the services of the University Admissions Centre in NSW to manage, store, amend, and ensure security of its credentials. Action Learning Institute has developed its own cloud-based software to support the evidencing of competency-based learning and assessment. Mastery Transcript Consortium has its own reporting platform that clients use to specify their assessment framework and upload and display student achievement data.

Table 1: Warranting networks to assure quality of assessment and recognition

Function of the recognition system	Senior secondary certificate in Australia (the Victorian Certificate of Education)	Big Picture International Learning Credential	Action Learning Institute (ALI) Course on Action Learning	IB Career Diploma (CHECK)	Alternative Learning System Philippines: Life Skills Program	High Tech High	Mastery Transcript Consortium members
Who authorises curriculum for general capabilities?	Schools operate under jurisdiction of the Victorian Curriculum and Assessment Authority (VCAA) as approved by the Victorian Qualifications Authority, but they do not specify curriculum in term of general capabilities.	The Big Ideas for learning around which the curriculum is organised is established by Big Picture International and the scope and focus of learning is set individually for each student with a Big Picture advisor. May incorporate studies from other authorities (e.g. VET or senior secondary courses or subjects of study).	The Action Learning Goals are established by the Action Learning Institute.	International Baccalaureate Organisation (IBO), Geneva based.	Department of Education in the Philippines. The ALS curriculum is based on the Basic Education Curriculum of mainstream schooling in the Philippines. The life skills component covers areas such as communication, problem solving and critical thinking, sustainability of resource use and productivity and adding value.	HTH charter schools organisation, in accordance with the requirements of their jurisdiction in the US, curriculum is aligned to California's academic content standards, which include implementation of the United States Common Core Standards in language arts and literacy and mathematics.	Schools, in accordance with the requirements of their jurisdiction in the US and Australia, which are usually non-specific about the general capabilities.
Who sets the learning design?	Curriculum subjects are pre-packaged by the VCAA, mainly focussed on specific subject or domain content and designed to be taught by domain specialists.	Big Picture International has established a learning design build around students taking responsibility for building a program around elements such as conducting a major in depth thesis or project, developing an autobiography, consulting exhibitions for interested people, undertaking internships.	Action Learning Institute designs all its nationally accredited courses in areas such as manufacturing in a way that develops action learning goals.	International Baccalaureate Organisation establishes the program with three components:	DepEd has designed the program to be taught in Community Learning Centres (runs by schools, communities, businesses, or other organisations).	Work is focussed around project-based learning, using school-to-work strategies such as internships, and fieldwork, based around the principles of equity, personalisation, authenticity and collaborative design.	
Assessment design? Are proficiencies based on levels used? What external standards are referenced? Who are the assessors?	Written examinations provide the external reference in most subjects. A small number have performance based examinations (e.g. for drama).	Site based assessments are derived from judgements made by student advisors as they observe students over years in each of the elements of their work. Melbourne University Assessment Research Centre designed the approach as credential and assessment partner. Proficiency based Proficiency based on progression levels. Standards at each level based: references include to AQF and ACSF.	Site based assessments are derived from judgements derived by registered assessors, who may use evidence from 360 assessments by facilitators, peers and employers, along with video portfolios. Proficiency based on levels. External standards references include to standards set by ASQA, which are not based on proficiency levels. The Institute sets its own levels for proficiency for Action Learning skills.	International Baccalaureate Organisation. General capabilities are assessed by school-based assessors.	DepEd, with Melbourne University Assessment Research Centre as assessment partner is designing the assessment approach to assess standards of attainment of 'life skills'. Assessments are being piloted and comprise assessments by instructors, employers, peers. Candidates may in addition, sit for the national A&E Examination of equivalency to school education.	High Tech High issues and warrants the diploma for students who graduate. The diploma is accompanied by a transcript that details attainments in specified learning domains relevant to the school/student. Teachers generate the final grade, but HTH seeks an authentic, student lead assessment approach which can include students developing rubrics, and portfolios and presentations of work, and audience assessment at presentations.	School members of the consortium devise their own approach, typically reporting on levels of participation in relevant activities.
Who assures comparability of provider-based assessments?	VCAA	A range of statistical and social moderation practices are used, including use of Assessment Frameworks tied to exemplars based on student portfolios.	ALI assessors and moderators conduct assessment.	International Baccalaureate Organisation.	Statistical and social moderation is being piloted for the Life Skills Program including use of Assessment Frameworks which establish standards tied to exemplars based on student work.	N/A	

Function of the recognition system	Senior secondary certificate in Australia (the Victorian Certificate of Education)	Big Picture International Learning Credential	Action Learning Institute (ALI) Course on Action Learning
Who designs certificates? Who issues? Are they profile based, in digital form? Do they show standards attained? Is a portfolio of evidence curated? Is the credential customisable by a student?	Designed and issued by VCAA to a standard template. Score-based certificate. Subject scores only, no reference to general capabilities.	Designed and issued by Big Picture Australia. Profile based, with supporting student portfolio. Organised around reporting proficiency levels referenced to external standards. Students can choose to report highlights of their own choosing.	A digital portfolio system (largely video based) has been developed to support assessment and moderation. ALS intends to produce a digital Action Learning profile which will complement a standard Statement of Attainment (SOA) for each of four or five units in the skills set. It will report proficiency levels in the full range of general capabilities in each of four or five elements in the skills set, to complement the standard Statement of Attainment (SOA).
Who warrants standards in general capabilities credentials? How?	N/A	Melbourne University Assessment Research Centre conducts validation and audit processes annually.	ALI is a registered Training Organisation (RTO) in Australia. It is currently seeking accreditation of Action Learning goals with the vocational education regulator in Australia (ASQA) to recognise a skills set that can be delivered in parallel with any nationally accredited vocational course (or school course). Institute assessors operate in compliance with validation and moderation requirements of ASQA.
Management of process to support issuance at scale	VCAA	Tech support is provided by the University Admissions Centre (NSW).	ALS
Provides support for utility with recruiters and selector	Certificate scores converted to ATAR score by Tertiary Admissions Centres (acting on behalf of tertiary institutions) widely used for tertiary. Does not include general capabilities.	Relationships developed with network of tertiary institutions and employers based on BP certification.	Relationships developed with network of employers.
Relationship with 'official' qualifications regulators		N/A	Action Learning Institute is a registered RTO currently seeking accreditation with the vocational education regulator in Australia (ASQA) for its Action Learning Skill Set.

*Note A: Each of Australia's eight educational jurisdictions has its own senior secondary education certificate (Victorian Certificate of Education, the Victorian Certificate of Applied Learning, the Higher School Certificate in NSW, the WA Certificate of Education, The Tasmanian Certificate of Education, SA Certificate of Education, the Northern Territory Certificate of Education and Training, and the Australian Capital Territory Senior Secondary Certificate). The certificates are very similar in character and intent from jurisdiction to jurisdiction, but each applies only in its own jurisdiction. Shared recognition processes are available.

IB Career Diploma (CHECK)	Alternative Learning System Philippines: Life Skills program	High Tech High	Mastery Transcript Consortium members
IBO issues the IB Career Programme Certificate.	Yet to be designed by DepEd Intended to be profile based with a student portfolio and to be organised around general capabilities. Paper issuance preferred.		Designed by Mastery Transcript Consortium. Issued by schools. Profile based, digital. Organised around general capabilities and GPA.
IB Organisation and individual school.	DepEd is designing the warranting system to include a range of social and statistical moderation techniques, tied to standards in the progressions of each life skill.	HTH courses are generally approved by the University of California and participate in Career and Technical Education programs.	Individual school.
IB Organisation.	DepEd	N/A	Mastery transcript Consortium
Reputational support from IBO.	Depends on strong local relationships with employers developed within community in which the Learning Centre is, as well as on the authority of DepEd.	Relationships developed within community.	Relationships developed by each school with tertiary selectors, and generation for GPA.
N/A	DepEd is the official regulator in the Philippines.	Australian schools all operate under the auspices of their jurisdiction authority and the Mastery Transcript is a complementary initiative.	N/A in Australia.

Note B. This ranking is used widely, although not exclusively, by Australian universities to offer places to school leavers in their courses. Seventy per cent of school leavers who enter universities are selected on the basis of their ATAR scores. The others are admitted by many/any other means, for which there is no standard description. Young people who use alternative routes (such as the International Baccalaureate) depend on agreements with curriculum and assessment authorities on equivalence to the senior secondary certificates.

There is a long-term trajectory for the path to adoption

A surprising similar trajectory for development of maturity in provision can be detected in the histories of the first mover-providers profiled in the case studies. This is represented schematically as a five-level maturation path as part of Table 2.

The beginning of the change process, at Stage 1, is typified by dissatisfaction with the current educational provision, usually sparked by the realisation that many students, particularly but not exclusively disadvantaged students, become decreasingly engaged with learning as they get older. As awareness and dissatisfaction grows, the school community, usually led by an insightful leader, is seized by the idea that things can improve.

The next step, at Stage 2, the focus of the provider tends to shift to pinpointing and accepting the challenge. They adjust their conception of what students are expected to learn, and how they are expected to learn it, especially to encompass the meta-cognitive learning skills or general capabilities.

These capabilities are usually understood as a complex set of attitudes, knowledge, values, belief and skills that a lifelong learner requires to thrive in their chosen fields of endeavour, and in family and community life.

They also assist students to develop depth in learning in a content area or discipline in which they are interested. It takes time for a school community to reach agreement about this stage. At this point the learning ambitions of the provider for its learners are crystallised.

Once agreement has been reached within a provider's community on the learning ambitions, focus shifts to Stage 3, and to changing what students are taught and how they are taught it. Over time a point emerges at which the new learning ambitions are set, and are aligned substantially with the learning design, the teaching practices, and the learning experience. At this stage it is often the case that the learning design is aligned, but assessment practices have not yet fallen into line, and begin to chafe.

At the fourth stage, focus shifts to assessment practices, to align what is assessed with the learning ambitions. This is a challenging phase. The techniques and methods of assessment approaches have been ingrained in the community imagination and used by teachers and school systems for over one hundred years, especially those that are standardised, paper and pencil, automated, objective tests, etc.

These are unsuited to the demands of assessing these new learning ambitions. Providers often start with a focus on formative, low stakes assessment, which is highly useful for assisting students to develop agency in their learning, and for teachers seeking to monitor and direct learning.

At the final stage five, assessments are devised that are more robust and comparable, and new credentials are formulated for use by a wider range of external stakeholders. Recruiters and selectors can use them to assist in decision-making about graduates. These credentials encompass new standards and new agreements, and are a result of new assessment processes that are rigorous and robust. The more established the credentialing environment, the more developed these components are.

The graphic elements in the maturation levels heading in Table 2 below provide a stylised representation of this staged trajectory for maturity of providers.

These stages as represented appear much neater than the reality of work for each of the providers. There is no common road map for these changes. Implementing new ways of learning, assessing and credentialing has often proceeded with a certain amount of trial and error, as roles and systems are improved and tailored to work well.

Nor is it straightforward to categorise the stage that an organisation might be at. Perhaps Big Picture Learning has developed furthest along this maturity curve, while the IB Career Programme has the most developed mechanisms of support.

The Philippines Alternative Learning System has, on one reading, recently entered Stage 4, as has Mastery Transcript Consortium, although it has already established a very solid credential template which, for others, comes at Stage 5. This progression in maturity is stylised, to provide a sense of the complexity of development rather than attempting to define strict tramlines for implementation.

These case studies suggest that reaching a mature and fully-fledged system takes time. Their current practices are the result of work over many years, and none of the leaders in these organisations would regard their work as finished. Big Picture Learning began its work on new learning design on Rhode Island in 1996 and was introduced to Australia in 2006. The first High Tech High campus opened in 2000, and the IB Career Programme was first introduced in 2006 and re-launched in 2014. The Alternative Learning System began its reforms of learning opportunities for Filipino youth in 1984.

In sum

These providers have sought to broaden definitions and recognition of learning success to better capture the breadth and depth of what students know and can do. In each organisation general capabilities have been repositioned as core learning, considered equal to discipline and content domain learning.

Learners are expected to attain proficiency in general capabilities as a matter of design, not just because they have had incidental opportunities. All students are expected to learn them and this expectation has initiated the cascade of reforms that relate to how teaching is conducted.

This section has focussed on how, over many years, providers approached the reformation of the assessment and recognition of learning, encompassing how assessments are done, how standards are set, what credentials are issued, how they are warranted and how they are viewed by stakeholders, to support the broader conception of learning success.

Table 2: Trajectory for development of maturity of first mover-providers as a five-level maturation path

		Maturation level				
		1 Awareness	2 Intent crystalised	3 Align learning design	4 Align assessment and reporting	5 Align credentials and warranting of quality
New learning ambitions adopted	Agreed descriptions of the breadth and depth of learning required, so that learners become creative, confident individuals committed to lifelong learning, and active, informed members of society.	Relationship between core content and discipline knowledge and transferable general learning capabilities acknowledged. Agreement by the learning community to broader learning ambitions.	Broader learning ambition reflected in organisational changes to statements of objectives, and in professional learning.	Broader learning ambition reflected in organisational changes (e.g. learning and teaching design, pedagogy culture).	Broader learning ambition reflected in organisational changes such as development of learning partnerships or recognition of learning outside the provider.	Learning ambitions regularly reviewed with stakeholders to ensure alignment with community expectations. Adjustments/changes worked through and reflected throughout the cascade.
New assessments instituted	Methods for assessing learning progress, particularly applicable to domains in which learning is not measured adequately using examinations and standardised tests.	Not under consideration.	Recognition of limitations of current assessment processes in addressing general capabilities.	Performance by learners of complex, authentic and challenging tasks required to provide a rich evidence base. Use of developmental assessment methods based on global rubrics used by teacher.	Formal recognition of attainments of general capabilities within and across specified learning domains are sought. Often used for formative, or low- stakes purposed. Participation by a range of assessors, to generate judgments of degrees of competence for each learner.	Assessments are devised to meet quality principles: robust, and comparable, valid and reliable and able to be trusted by external stakeholders in higher-stakes contexts.
New standards set	Statements for each learning domain that describe the increasing levels of sophistication evident in learning behaviour, from novice to expert, or beginner to master, to replace normative or competitive methods of standards setting.	Not under consideration.	Concept of developmental learning and assessment explored identified as a key understanding for change (at least by leadership group).	Standards expressed as levelled progressions, reflecting typical trajectories of competency development.	Use of a common currency that allows context-specific learning to be used as evidence of attainment against common and agreed standards and benchmarks. Inclusion of common and agreed benchmarks.	Focus on moderation and expression of standards. Empirical verification against external standards provided. Warranting of assessment sought in place.
New credentials devised	Ways of representing learning attainments in an informative, interpretable format that has utility for learners, educators, parents/carers, employers, recruiters, and selectors, capturing the breadth and depth of what learners know and can do and their profile as learners.	Not under consideration.	Not under consideration.	Descriptive, teacher generated statements on reports. Use of Portfolios to evidence learning.	Specifications of levels of attainment in plain language, interpretable by all stakeholders. May use badging and/or passports to capture attainments.	New credentials are formulated, for use by a wider range of external stakeholders, recruiters and selectors to assist in decision making about graduates. Use of credentials such as learner profiles.
New agreements reached	Agreements among all stakeholders that reconcile and synchronise how the new recognition system will be used to guide recruitment, selection, and further learning.	Not under consideration.	Not under consideration	Relationships sought with key recruiters, usually based on reputation of the provider.	Specific requirements of learning requirements for entry to different post school options identified, such as entry into courses	Common and agreed understanding with tertiary education providers on use of credential for selection purposes (covering a range of courses, certifications). Common and agreed understanding with employers and recruiters.
New supports utilised		Support for professional learning. Awareness raising in the broader community.	Support with curriculum expression. Common language and common capabilities frameworks. Community education. Support for change management.	Professional learning opportunities. Shared learning ideas, resources. Materials and resources on how to do it adaptable to context and content, including for teachers in specific subject and discipline areas. Learning progressions that have been negotiated with eternal providers.	Assessment frameworks adaptable to context and content. 'How to do it' guidance and professional learning for staff, and resources Standards and benchmarking tools Methods and technology to support assessment and reporting across and within schools and domain areas.	Credential templates. Agreements with peak provider about utility. Warranting opportunities.

4. Implications for Australian educational policy and practice

The experiences of the case study organisations are of interest for those who seek to change recognition of success for young people in the senior secondary years in Australia. This is particularly relevant in the context of changes to senior secondary schooling currently under active consideration.

A number of jurisdictions in Australia are considering the introduction of new forms of reporting via learner profiles or passports[27] to move their schools in the direction of these changes. There is also work going on to update the qualification frameworks in Australia, to consider how alternative forms of credentials might be better recognised, and to consider the use of learner profiles to supplement senior secondary qualifications currently on offer in school jurisdictions.

In this context, the initiative shown by these organisations is not idiosyncratic. Their work is consistent with the recommendations of a myriad of reports and policy statements on Australian education over the last 20 years. The organisations described are amongst the first movers in the directions advocated.

The work of these organisations, therefore, provides an opportunity to reflect on how the changes advocated in the many reports could be scaled more broadly. This section undertakes such a reflection. Four conclusions are drawn about directions of education policy and practice concerning assessment and certification systems for senior secondary schooling in Australia.

This discussion may be of interest to principals, curriculum and assessment leaders in schools, and other learning providers who are seeking to improve learning outcomes for their students; and to jurisdiction leaders and regulators who are considering how to respond to policy shifts in assessment and recognition of learning in post-compulsory education.

4.1 Recap of the findings

This report has described the work of an innovative set of education providers that have taken to the heart of their work the curricular reforms of the last 15 years, which suggest that each student's learning should extend beyond academic achievements to encompass new learning ambitions, including attainments of transferable general capabilities. The range of new learning ambitions that these providers typically adopt is illustrated in Figure 1.

They are motivated by a belief that the teaching and recognition of the full range of learning ambitions, encompassing general capabilities, will stand their students in good stead, and will improve the learning outcomes of all young people. This is of particular significance for disengaged or educationally disadvantaged students, students for whom traditional academic schooling is uninspiring, those who have not previously thrived at school or beyond, and those for whom learning at school is unconnected to what they and their communities value and need to thrive. Thus, a key driver for the organisations is the desire to increase productivity in learning for all.

Each provider has developed distinctive learning designs to align with their new learning ambitions, shaped by their community contexts, and by their learners' particular needs. They have changed how learning is organised, how teachers teach, how curriculum is packaged, how they partner with outside organisations, and how learners approach their learning. Developing learner agency is central to the learning designs.

Specific reforms to assessment and recognition practices – the principal focus of this report – have arisen from their need to assess and report on what they value, and to make sure that the credentials they issue reflect the full range of learning attainments of students. Each has developed their own assessment polices and approaches and established their own standards.

Some have designed their own credentials, and all have developed warranting networks to engender trust in the quality of these. A warrant of quality for their work ensures wide community trust in their assessments and the credentials they provide to their graduates. They want the credentials to be useful for graduates and selectors and recruiters.

4.2 Four conclusions for Australia

Conclusion 1: Alignment is the key

Generating change to the assessment and credentialing practices was not the driver for change in any of these organisations. These first mover providers sought, principally, to establish *alignment* of assessment practices and credentials to the broader ambitions and more productive learning approaches they had adopted. Their motivation was a desire to generate success for their learners by adoption of new learning ambitions, and more productive learning designs aligned to them.

They wished to move away from approaches, unproductive for many, of adopting curriculum packaging organised around academic content arranged into subject packages, designed in a one-size-fits-all approach, to be applied to any community of learners, regardless of their circumstances. This means they also have had to shift away from standardised assessment methods in order to ensure that the credentials that students take with them when they graduate can be trusted to reflect their proficiency across the full range of learning.

Understanding the importance of alignment is to appreciate that changing assessment and credentialing approaches cannot deliver real success for students unless learning ambitions for learners expand, accompanied by productive, aligned learning designs.

If the assessment and credentialing systems do not align to new learning ambitions and more productive learning designs, they may not produce benefit. In each of the cases, the high quality of provision derives from *alignment* of new learning ambitions and more productive learning designs with assessment and credential design.

A first conclusion therefore is that any improvement in productivity of senior secondary schooling, for all students, requires re-alignment of learning design, assessment and credential design and warranting approaches with new ambitions. This is not a trivial undertaking.

Conclusion 2: Deep attention to the change process is required

A premise of this report is that the realignment illustrated in this report *should* be brought to scale. Every young person should have the advantages that accrue to the young people associated with these providers.

A key question that arises is whether the work of these first movers provides any specific lessons about the change process, for leaders in schools or in jurisdictions that seek to introduce changes related to the general capabilities into their own environments.

This question has no straightforward answer. The cases under review are first movers, not a representative sample. In addition, each sought to be responsive to its own community. There is little in the way of standard strategies that could be picked up and applied elsewhere. There is little commonality in the specifics.

What is common is that each has constituted its own extended system to assist with warranting quality, supporting a long-term trajectory for development. Their work typically started with the challenge to expand what students are taught and improve how they are taught it. Each organisation progressed over time through a series of steps, aiming to reach a point at which the new learning ambitions were set. They then had to introduce a productive learning design (for the teaching practices and the learning experience), and ensure that the assessment, reporting, credentialing and recognition practices were all aligned. Organisations in these case studies were at different points along this trajectory.

Most have taken years to get to their current point of development and have had the benefit of consistency of leadership, focus and effort over a sustained period of time. Their trajectories may or may not be regarded as a logical implementation pathway along which any provider can be moved by a strong leadership team, or a group of schools can be guided by a jurisdiction.

But some lessons seem appropriately drawn. For instance, whatever the trajectory taken (in a school, a group of schools or a system of schools), it appears that attention needs to be paid to alignment of learning ambitions, learning designs, and assessment and recognition processes.

Similarly, strong and consistent leadership is likely to be required over a sufficient period of time to allow for alignment to be achieved in a form suited to each community.

In each case the transformation of practice in assessment and credentialing required support focussed on the transformative process. This includes support for leaders in change management; general professional learning for all staff to enhance understanding of intent; specific professional learning in new assessment and moderation techniques for staff whose assessment practices need to change; raising awareness in the broader community; providing resources such as capabilities and standards frameworks, assessment tools, report templates, standards and benchmarking tools; and technologies to support it all.

Working out how to support this work is likely to be particularly important in communities that are culturally distinctive or characterised by social or economic disadvantage, including indigenous, rural and remote communities.

It is notable that in each of these cases the first step was that leaders were seized by the imperative to change their curriculum emphasis and learning designs, so that their students and their communities could thrive. This imperative is likely to be the touchstone for leaders or jurisdictions seeking to scale change.

Different schools and jurisdictions might start at different points, proceed at different rates, via different pathways, but at the heart of this they need to want to generate success for all their learners in the full range of learning ambitions, not just for some. Leaders need to champion, not just manage, a change process.

A conclusion therefore is that attention needs to be given to a carefully designed change process that can be used at scale for the improved success of all students. Given that these case study organisations are not representative, it is important that there be further exploration of how to generate success for all learners in any community, in the full range of learning ambitions. No one-size-fits-all approach is likely to suffice.

Conclusion 3: Current arrangements for warranting and regulating senior secondary credentials are not fit-for-purpose for these providers

A third conclusion has to do with the systems for warranting quality of senior secondary education provision. None of these organisations work on their own to establish the trust and utility required for their credentials. Nor do they rely completely on the official warranting architecture used in the jurisdictions in which they operate.

Each case study organisation has developed for itself a flexible warranting network, comprised of organisations associated with assessing, assuring the quality of the credentials and recognising their value. These warranting networks vary in character, but all aim to certify what learners know and can do in a way that is trusted (fair, reliable, accurate and comparable) and has utility for all concerned.

Most have developed their own technologies, their own authorising environments and warranting methods to support their work. Formal incorporation of the local community into the recognition network is evident in several cases. Each has sought to build trust, utility, scalability, feasibility and comparability into their work.

The conclusion is that the current regulatory system for generating trust and utility of senior secondary certification in Australia is unsuited to the aspiration of these providers, and others like them. The current approach establishes public trust in qualifications by ensuring compliance with content-heavy, specified curriculum, and with standardised, uniform learning and assessment designs and score-based qualifications.

The case studies in this study, for the most part, seek to do it in the area of general capabilities by establishing a student's proficiency in carefully established standards in complex competencies, which allows flexibility in content and learning design.

4.3 A final word

Each of these providers is seeking to establish an assessment and credentialing system that is aligned to the various learning design they have engineered to meet their learning ambitions. It appears, however, that if more providers take this path, as advocated by the many recent reports, that there may be a proliferation of warranting systems. In a jurisdiction the size of Australia this seems unhelpful. This suggests that the current curriculum and assessment frameworks and associated regulatory mechanisms for senior secondary schooling need to change, so that they support providers who have wider and deeper learning ambitions for their learners than is currently supported by senior secondary certification.

The schools sector in Australia is not the only arena in which questions about the suitability of methods of regulation and warranting of qualifications have been raised.

Recent reviews of changes required to senior secondary pathways and to the Australian Qualification Framework, and a range of reviews of reforms to qualifications frameworks in Europe[28] and Australia[29], all point in similar directions. Increasingly, providers have been going outside the dominant systems, just as these first-mover case study organisations have done, because of the rigidities entailed in staying within them.

Most of the reviews point to similar directions for the changes needed to warranting and regulation of qualifications, so that there might be a unified system (usually at national level) of ensuring trust in the quality of qualifications, allowing for the inclusion of general capabilities, and supporting providers to adopt more flexible teaching and learning designs. The aim is to recognise that there are different ways of establishing and recognising achievement, particularly by reducing reliance on standardisation. This means making the system more transparent, and providing a different set of regulatory tools to assist with quality control.

The directions inherent in these reports, taken together with the experience of the case study organisations, suggest features of a suitable approach which might suit regulation and warranting for senior secondary qualifications in Australia. This approach would need to encompass the possibility of emergent learning designs, and it would need to provide a standards framework to underpin the activities of jurisdictional and independent regulatory and warranting bodies (such as VCAA in Table 1) involved in assuring trust and utility of diverse Australian qualifications.

Such features might include:

- developing a national framework for senior secondary qualifications that allows a range of qualifications to be recognised, with equal esteem, across jurisdictions.
- framing qualifications around an agreed credentialing template, in the form of a digital learner profile, to support comparability and transparency.
- devising a framework of commonly agreed standards for learning in the general capabilities. The standards should be suitable for application in any community or learning context and with any content.
- supporting use of student portfolios to provide transparency in standards.
- getting beyond use, as the marker of quality, of indicators such as compliance with standardised curriculum packaging and learning designs.
- supporting new markers of quality, such as recognising the warrants of appropriately qualified organisations beyond the exiting authorities. Any warrants should attest that the assessed and reported standards of attainments in a qualification are an accurate and fair representation of the standards of learning attained by the qualification holders in various domains. This would ensure that stakeholders can trust that learners have attained the level of attainments represented in the qualification, in a range of areas.
- promoting for warranting and quality control purposes methods of assessment and moderation that support high quality, standards-based assessment based on expert judgements, rather than on the use of standardised, 'objective' assessment.

This approach could have the effect of directing accountability processes away from compliance with specific requirements based on standardisation of learning and assessment designs, towards using consistency and comparability of standards-based learning attained and recognised.

Finally, a key premise of this report is that the changes made by the case study organisations reviewed, which seek to better align assessment and credentialing to learning design and new learning ambitions, should be brought to scale. It should be a goal for Australian education that every young person has the advantages that accrue to the young people associated with these providers.

This report suggests that it is early days for the Australian system of post-compulsory education to move in this direction, and that there is much to be done. However, there are many indicators in this report, and elsewhere, as to the scale and tenor of work that educational leaders are doing and will continue to do in the interests of this goal, and which generate optimism in the belief that it is possible.

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Appendices

Big Picture Learning Australia & the International Big Picture Learning Credential

Big Picture LEARNING AUSTRALIA

Web address: https://www.bigpicture.org.au

"We wanted to show that our graduates were more than just a score, and that all of the learning that they had experienced at school could be shared in a new way so that others could see the richness of their achievements. This was also an equity strategy. We wanted to show that schools with a disproportionate amount of students from disadvantaged backgrounds can - contrary to widespread preconceptions around such schools - actually graduate young people with a credential that will take them to anywhere they want to go, whether that be working on machine memory, delivering babies, running a small business, designing the next big fitness app, building a tiny house or, believe it or not, teaching."
(Viv White AM, CEO BPLA)

"We changed the whole way a young person experiences the educational process. Starting with student interest meant we changed the way young people related to curriculum, to their teachers, peers and community, to pedagogical practices and learning spaces within a school, to assessment, but most of all, it helped them to find the passion and meaning that would drive them forward in life."
(Viv White AM, CEO BPLA)

Rational for inclusion

Big Picture Learning Australia (BPLA) is a national, not-for-profit organisation established in Australia in 2006. It works with largely public secondary schools and systems to implement an innovative and internationally recognised design for learning and schooling that is personalised and intrinsically motivating to young people in secondary education.

Big Picture has created a senior secondary credential, an alternative to the official jurisdiction-based credentials on offer in most Australian schools. The credential provides a rigourously assessed profile of what a graduate knows and can do which is not based on subject passes, or grades, but on a representation of the attainment of learner in a range of complex competencies required to thrive in a modern world. The design of the assessment (and associated credentialing system) is the result of collaborative work between Big Picture and the Assessment Research Centre of the University of Melbourne.

Figure A1: Big Picture Education Learning Goals

EMPIRICAL REASONING	SOCIAL REASONING	QUANTITATIVE REASONING
The goal is to learn through experimentation. To use evidence based on observation, experience and a logical process to understand, make decisions and to evaluate hypotheses.	The goal is to learn to see diverse perspectives, to understand social issues, to explore ethics, to analyse and understand social systems and to look at issues historically and culturally. It includes learning to take responsible action to address inequity.	The goal is to learn to use the skills, concepts and logic of mathematics to understand and interpret situations, solve problems and take action in life, learning and work.
KNOWING HOW TO LEARN	**PERSONAL QUALITIES**	**COMMUNICATION**
The goal is to be curious, with a drive to explore and be open to doing hard work. To understand that there are many ways of learning, knowing and making meaning in the world. It includes valuing learning from and with others inside and outside of school.	The goal is to strive be the best person you can be. To demonstrate respect and empathy for others, take responsibility, be self-aware and act with courage and compassion. To relect on your achievements and progress. To strive for personal and civic improvement.	The goal is to learn to be a great communicator: to understand your audience, to write, read, speak and listen well, to use technology and artistic expression (visual arts, music, dance and theatre) to communicate. It includes, where possible, another language.

Background and demographics

Big Picture Learning Australia is part of an international network that was founded in the United States in 1997. This network comprises members in the US, United Kingdom, New Zealand, Canada, Italy, The Netherlands, Israel, and Australia. BPLA does not operate its own schools, rather it partners with schools to implement its design for learning for Years 8-12. The design is implemented either on a whole-school basis (as seen at the Cooks Hill Campus in Newcastle NSW, Central Coast Sports College NSW, the Launceston Big Picture School in Tasmania and Yule Brook College in WA), or as a 'Academy' within a mainstream school. Australian co-founders Viv White and John Hogan have built the Australian network, with 18 in Western Australia, 11 in NSW, 4 in Tasmania, 2 in Victoria, 2 in the Australian Capital Territory, and 2 in Queensland.

Big Picture has remarkable diversity in its student base. Many students come from low socioeconomic backgrounds in the outer suburbs of major cities, or in regional areas. In some schools there are several advisories comprising students from refugee and EALD backgrounds. There are students with diagnosed disabilities or with mental health issues. Some have a history of not thriving in traditional schooling and have become school-refusers and non-attenders for several years, but view Big Picture as a new opportunity to re-engage with learning.

Learning ambitions

Each learners' work is framed by six Learning Goals: knowing how to learn, personal qualities, quantitative reasoning, empirical reasoning, communication and social reasoning. The Goals cover the key areas of the Australian Curriculum without being overly prescriptive or content-based. They also embody many of the Australian curriculum general capabilities, not as extras but as an integral part of the learning aspirations for students.

Learning design

The Big Picture Design for Learning is built around a student-centered eco-system, rather than timetables, multiple classes, teachers, proscribed subjects and standardised exams. Each student has a unique Learning Plan, developed in consultation with their teacher, family/carers and any mentors, which aims to cover each of the Learning Goals in a variety of ways and depths across a school year.

Learning Plans include a number of skill or content-oriented projects. They may also include external courses with TAFE and other RTOs, mainstream electives in areas of interest, or school-based apprenticeships. They all involve internships with expert mentors in the community each term. They can also include such activities as learning a musical instrument, or a new piece of software for example, learning on-country with one's community elders, participation in community events and social action initiatives. It all 'counts'.

The central organising unit of the design is the Advisory that consists of 17 students and one teacher, consistent over time. Within an Advisory, every student has their own personal working and storage space and a common table for all. In the Advisory, learning revolves around student interest. They work on projects that they have chosen. They are given the time, space and agency to learn in a style and at a pace that suits their needs and their varied starting points. Priority is given to building relationships with their peers, family and mentors, and connecting to people and places outside school to build their social capital and practical experience. The Big Picture program requires out-of-school learning experiences, such as internships, which enable students to network and gain the kinds of practical experience that facilitate transitions into post-school pathways.

Each day includes daily check-ins and check-outs with their Advisory; group time for discussions, explicit teaching and planning the day's tasks; individual learning time for working on passion projects and other items in personal Learning Plans; reading time; journaling; one-on-one meetings with their Advisory teacher; or attending electives in the mainstream. Each week students attend an internship with an expert mentor whom they have sought out and who helps them to navigate the latest thinking, technology and practice in their field; they also attend a Town Hall meeting, which is similar to a school assembly, but devised and led by students. Each term, a student devises a new Learning Plan; collaborates with others in social action projects in the community; goes on several 'out-learning' experiences (excursions, bushwalks, tours of the town, workplace visits, open days at universities, sporting or cultural events); and present their learning at an exhibition that families / carers attend.

An Advisor is a generalist teacher, who guides students one by one, helps them to extend their ideas and research, provides feedback and support, connects them to people, resources and places related to their interests, and explicitly teaches such independent learning skills as time management, project planning, inquiry skills, contacting mentors, interviewing people, public speaking and presentation, etc.

During their work in Years 10 to 12, each student's work revolves around production of their Graduation Portfolio. A key focus of the Graduation Portfolio is a Senior Project or Senior Thesis. This involves sustained, in-depth and original work, often with the assistance of an academic mentor from a university, or a field mentor from an industry, trade or art, in an area of great interest to the student.

The Senior Project/Thesis is an opportunity to showcase the grasp of specialist concepts, terminology and technology and to apply theory to practice, to produce something of worth to an industry or a workplace, or to make a contribution to society. The Portfolio also includes a reflective autobiography, a summary of 'out learning' experiences, extended workplace internships or paid employment, a report on a post-school project exploring future study and employment pathways, one or more social action projects (community service), and a series of learning plans that show evolution of ideas and increasing complexity. Evidence from Exhibitions is included using slide presentations and feedback from the panel. The portfolio might include evidence of standard courses or units of study completed through schools, vocational education providers, or universities.

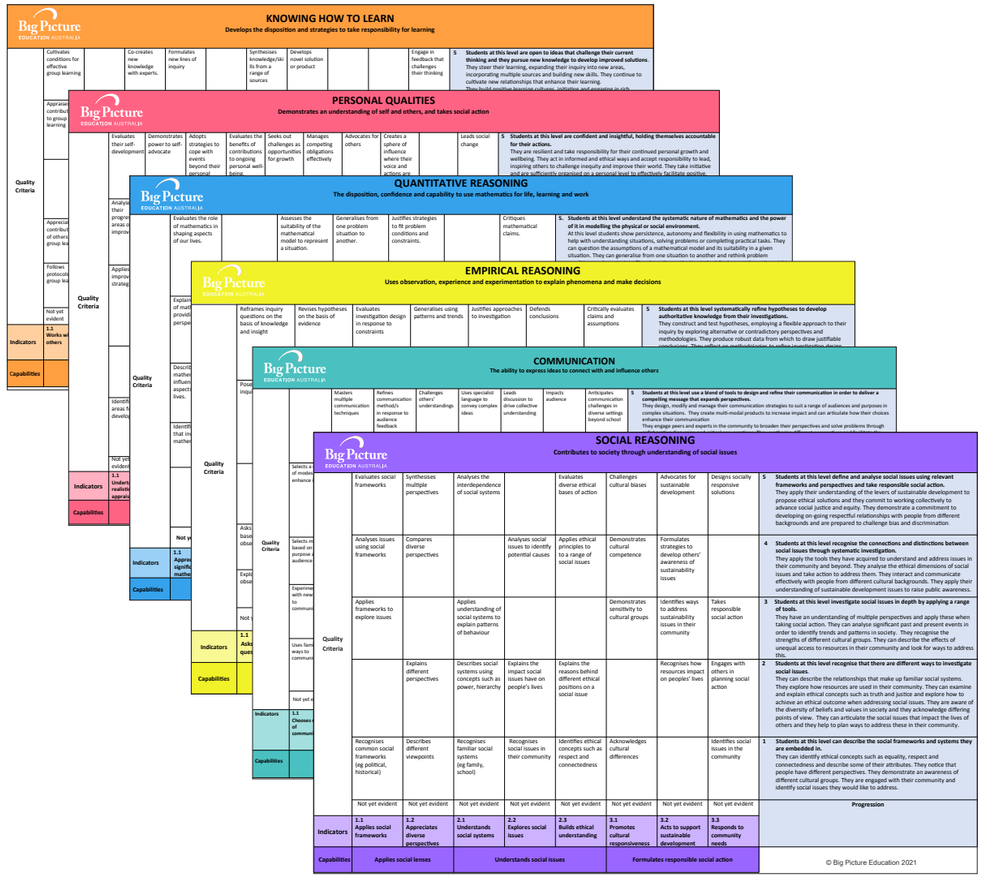
Before they graduate, each student presents and defends their Portfolio at a Graduation Exhibition before a panel that may include teachers, the principal, family, an academic, a mentor or an employer from the student's area of interest. These panels evaluate student progress against the IBPLC learning progressions and provide feedback.

Assessment

Each student is supported to develop their proficiency on each of the Learning Goals, and assessment and recognition of learning revolves around assessing the degree to which a learner has attained these Goals, as demonstrated in the Portfolio and Exhibitions.

Assessment on each Learning Goal is underpinned by an Assessment Frame that include developmental progressions describing performance at five levels of proficiency which capture the learning progressions through which learners typically progress as their competence develops over time with five being the most complex, sophisticated, expert, or masterful representation.

Figure A1.2: Big Picture Learning Australia's assessment frames



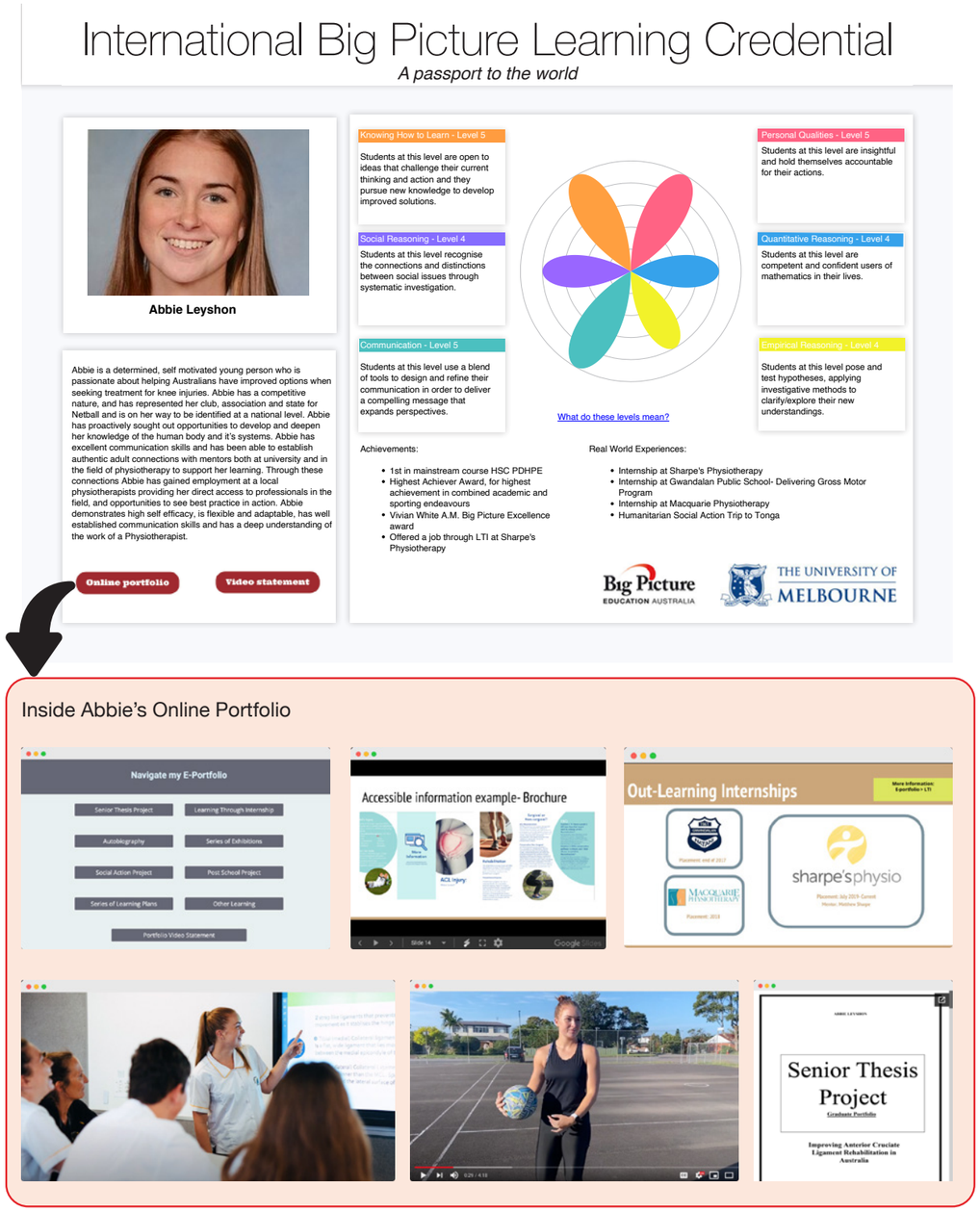
Each level is typified by a series of behavioural indicators. The Frames are a tool to assist Advisory teachers and students to identify growth in a consistent and rigorous way. They are used both formatively and summatively.

Performances are observed by teachers on multiple occasions in a range of contexts using psychometrically validated standards and tools. Each of the leveled learning progressions are referenced to common standards linked to the Australian Core Skills Framework (ACSF) and the Australian Qualifications Framework (AQF). Assessment frameworks also provide clarity for all stakeholders (learner, advisors, parents, recruiters) showing the elements of competence required and the levels of expertise that learners can attain.

Advisors are responsible for assessing and recording the level of competence of each leaner in each Learning Goal, supported by the evidence of student work in the Portfolio. Advisors are trained to assess student work using the associated Assessment Frames. Internal moderation processes (both statistical and consensus-based) are conducted to assure internal standards. Extensive moderation work is done with Advisors, to ensure comparability across all schools.

Assessment Frames are recorded and reviewed in a technology program (Ruby) provided by the University of Melbourne to support statistical and consensus moderation, and QA and efficiency of the assessment design.

Figure A1.3: The International Big Picture Learning Credential Learner Profile



These images show excerpts from the Learner Profile of Abbie, a graduate from Hunter Sports High School in 2020.

The Credential

The International Big Picture Learning Credential is an interactive Learner Profile which accords equal weighting to assessment results, and to student-curated evidence in an Online Portfolio. The Learner Profile, makes visible the capabilities and educational values that students have developed at school and allows them to showcase themselves to prospective employers, recruiters and universities.

The flower graph certifies the accomplishments of each graduate, where each coloured petal represents one of the six Learning Goals:

- Knowing How to Learn
- Personal Qualities
- Quantitative Reasoning
- Empirical Reasoning
- Communication
- Social Reasoning.

The levels of attainment (the five concentric rings encircling the petals) represent the standards of attainment, referenced to external standards including the Australian Qualifications Framework (AQF) and Australian Core Skills Framework (ACSF). Students are not ranked against each other.

Warrant

The Assessment Research Centre of the University of Melbourne (ARCUOM) provides a warrant that The International Big Picture Learning Credential (IBPLC) provides a fit-for purpose representation of the degree to which its graduates have attained the Learning Goals of the Big Picture design. The warrant is provided on the basis of an audit of quality control processes used in the assessment of learning.

Demographics

Personalisation of learning has seen dramatic improvements in attendance and a reduction of bullying and suspensions among students. For example in NSW, suspensions rates of mainstream students and Big Picture students measured over two years across several schools, indicate Big Picture students were 600% less likely to be suspended. The retention rate of students from Year 11 to Year 12 2021 (81 per cent) was 67 per cent higher for Big Picture students.

Since 2016, 54 students have graduated and gained entry to university on the basis of the depth and quality of the extensive work that they have collected in what is known as their Graduation Portfolio.

At the end of 2021, one of the first students to gain entry to the University of Newcastle using this pathway in 2017, Hamish Thomson, will graduate from a double degree in business and law (with high distinction and credit average). In 2020, during the pilot of the new credential, 25 Big Picture graduates gained entry to universities using the new IBPLC. In 2021, 196 students are graduating with an IBPLC, 70 of whom are university candidates.

Case studies

A university selector

Professor John Fischetti, Pro Vice Chancellor at the University of Newcastle, has long been a champion of re-imagining learning and education so as to maximise the agency and intrinsic motivation of students, while considering more authentic ways of assessing the suitability of candidates for university entry. The UoN has also long prioritised access and equity initiatives that will allow students from diverse and disadvantaged backgrounds to attend university and to forge careers that will help them to prosper.

"Tests that we've typically had in admissions look at literacy and numeracy but not at other stuff, particularly persistence and ability to go for a goal and achieve it. So alternative measures which actually show evidence that you've done something, not just gotten a test score, are more authentic and have not been valued up until now."

John partnered with BPLA to run the 2017 pilot project of assisting three young Big Picture students to gain entry to the University of Newcastle (UoN) on the strengths of their Graduation Portfolio. He is currently also leading a research project to track the progress of Big Picture students around Australia who have entered university via their Graduation Portfolio or the IBPLC.

Results for 2020 graduates show that all Big Picture students surveyed stated that the program in which they are enrolled in 2021 was their first choice of a degree course, 90 percent said their university degree was connected to work completed at Big Picture and 88 percent reported being passionate about their work at university.

A school Hunter Sports High School

The Hunter Sports High School (HSHS) in NSW, has run a Big Picture program for 10 years, providing students with an avenue for personalised learning, whether they are from the elite sports stream at the school or the local students.

Its principal, Rachel Byrne is one of Big Picture's most experienced principals. She has managed many of the early teething problems and constraints of setting up an academy with a mainstream school while overseeing and tracking improvements in attendance and engagement.

Big Picture at Hunter Sports started with two Year 8 advisories, 34 students, and a small run-down building. Under the guidance of Rachel, the Academy now boasts new, purpose-built facilities to support spacious advisory rooms, and exhibition spaces—which are key to Big Picture's approach to assessment—and five advisories from Years 8-12. In 2017, the Big Picture Academy at the school became the first Big Picture Academy to use the Graduation Portfolio, through a partnership with the University of Newcastle. In 2020, HSHS successfully graduated two students using the IBPLC. One student is now studying physio therapy and another is doing primary education.

Hunter Sports was the 'first adopter' of the Graduation Portfolio project whereby senior students achieved non-ATAR entry to the University of Newcastle on the basis of their in-depth work in their disciplines of special interest. They are now taking some of the concepts of the Big Picture design, such as 'passion projects' and authentic assessment via exhibition and extending these to the mainstream school.

Student snapshots

Anais, Five Islands Secondary College, Port Kembla NSW, Year 12

Anais started out with an interest in marine ecosystems and then became fascinated by seaweed, endangered kelp forests and the environmental implications of kelp degradation across the globe. She has made contact with numerous marine science organisations including the Illawarra Marine Brains Trust; she has a mentor at the University of Tasmania who is a seaweed specialist; and she assists an Honours student at the University of Wollongong with diving to count turtles. Her senior project is around climate change mitigation via either regenerating or farming kelp. Her goal is to study for a Bachelor of Marine and Antarctic Science at the University of Tasmania (UTas).

Anais has successfully gained entry to the University of Tasmania (UTas) to study for a Bachelor of Marine and Antarctic Science in 2022.

Below is a video clip showing Anais at her Year 11 exhibition. Let's talk about seaweed!

https://vimeo.com/bigpictureau/review/458907845/e65d4a7779

Blair – Canobolas Rural Technology High School, Orange NSW. Current Student

Year 12 student Blair, is interested in forensic pathology and plans to study medicine, though he cannot enter a medical degree directly from school. He has had out-learning experiences at the local morgue to confirm and extend his interest, and is currently doing a Senior Project whose driving question is: '*How COVID -19 impacted the mental health and wellbeing of young adults aged 18-25 years in the Orange Community*' with the assistance of a retired science professor. Blair has had an early offer of entry into university at Charles Sturt University, and is also applying to UoN and UoW and WSU.

David Phan - Liverpool Boys High School 2020 graduate

In Year 10 David was interested in augmented and virtual reality, and he began an internship with engineering firm LA Services who were looking at transforming their manufacturing business through use of clever technology that would allow for remote digital monitoring and maintenance of their industrial products. Under the guidance of his LTI mentor, engineer David Fox, David was intricately involved with the team looking at developing and testing the software needed. The driving questions for David's Senior Thesis was: 'Can machine learning algorithms be used to fit students to a pedagogy?'

David Fox also became David's academic mentor, and over three years, guided him in the empirical methods and report writing skills that would be required in an engineering degree at university. He also assisted David to push the boundaries and persuade UTS to join as one of Big Picture's partner universities.

David is now in his first year of Computer Science at UTS.

David's Internship:

https://vimeo.com/bigpictureau/review/288656008/80b3b90e63

Abbie Leyshon, Hunter Sports High School NSW

Abbie Leyshon was in the elite sport stream at Hunters Sports High School, initially as a sprinter, and later as a talented netballer who has represented her state. She first encountered the science of physiotherapy after tearing a ligament in her ankle. That sparked her fascination for the field and since Year 9 she focussed her projects around exercise physiology, anatomy, common injuries and treatments. At the same time she undertook internships and later paid employment in physiotherapy clinics. Her senior project researched alternative rehabilitation treatments for anterior cruciate ligament injuries. In her final year of school she received the 'Highest Achievement Award' in recognition of her attainments in both academics and sport.

Abbie's Video Profile:

https://vimeo.com/bigpictureau/review/579689576/d3473f3ab0

Action Learning Institute, Australia

Web address: https://actionlearning.edu.au/

"*We are the only training institution that delivers nationally recognised certification using action learning methods.*"
Bob Cother, Founder, Action Learning Institute

Rationale for inclusion

Based in South Australia, the Action Learning Institute is an Australian Registered Training Organisation. It works with industry partners to deliver nationally recognised certificates and diplomas in the area of competitive systems and practices, and sustainable practices, and has received support for its work from the South Australian Department of Innovation and Skills, and the Tasmanian Department of State Growth.

It is novel in that it delivers its content using an 'action learning' methodology, an approach to teaching which is intended to help individuals and participating companies to improve their self-directed learning capability. The design of the programs involves initial consultations with stakeholders intended to identify 'wicked' real-world problems that affect them, and the learning in the course is organised around tackling these problems.

The RTO is in the process of establishing a VET skills set for which it is seeking accreditation from the Australian Skills Qualification Authority, designed to be earned in parallel with any standard qualification. It is intended that successful graduates will attain the standard vocational or school credential, plus a statement of attainment for the action learning skills set, plus a profile attesting to the graduate's proficiency in action learning general capabilities.

Background and demographics

In 2006, Bob Cother, the founder of the Action Learning Institute introduced Action Learning to the manufacturing sector in South Australia. Action Learning expanded into Tasmania in 2010 when a pilot project was implemented in the Tamar Valley region with three companies, including Tamar Valley Dairies, ACL Bearing Company, and Rio Tinto Alcan Bell Bay (now Bell Bay Aluminium). The success of the pilot led to the creation of Business Action Learning Tasmania in 2017. This functions as a coordinating team, with the purpose of promoting education through action learning in industry, community, and education institutions. So far, the Action Learning Institute has completed 33 projects with 25 companies across South Australia and Tasmania. Consistent results have been realised, with each project achieving measurable outcomes for employers while simultaneously delivering a nationally recognised qualification for learners.[1]

Learning ambitions

The Action Learning Institute seeks to engender in its participants 'action learning' skills as outlined in its comprehensive Be-Ready Framework, as well as domain specific industry skills and knowledge that are the focus of the 'normal' certificate or diploma qualifications. These include leadership, problem solving, agency and collaboration.[2] The approach generates skills such as being accountable to self and others for doing what is expected; planning realistic, relevant and challenging actions; being respectfully open and honest with self and others; having capacity to learning new knowledge, skills and abilities to get things done; communicating and presenting; being able to problem-solve; reflecting on action and adopting a critical and creative approach; and adopting systems thinking.

Testimonials

'I hate lectures and reading from books. Actually participating in it and doing it hands on was great… I found it exciting because we were moving from the get-go and I like that style of work.'

Brendan Sherriff, Bell Bay Aluminium Project Team Leader

'I learned a lot from it and it was very important in developing my career. It's given me the confidence to run my own projects here at Boags.'

Alex Warren, James Boags & Son Project Team Member

Curriculum and learning design

The RTO offers four accredited 'standard' qualifications, including a Certificate III and IV in Competitive Systems and Practices, a Diploma of Competitive Systems and Practices, and Certificate IV in Sustainable Operations. However the focus of this case study is that it seeks to recognise, in parallel, the 'action learning skills' that participants develop while they are doing these courses. The choice of this approach is based on the value the approach provides for collaborative learning, which enables learners to support and challenge each other, encourage feedback, and promote personal responsibility and proactivity.[3]

These skills, while valuable for work performance, are not generally recognised formally in the assessment and qualifications common in the Australian vocational education sector. The institute adopts the Action Learning model, and learning programs are co-designed with employers and learners. The central purpose of this model is to help employers and learners develop and assess action learning skills so that they can contribute to organisational development and change. Table A2.1 presents the features of Action Learning approach.

Action Learning Institute has adopted different types of action learning for their programs, four of which have received special attention (see Table A2.2). These include single-project action learning, multiple-project action learning, self-managed action learning, and virtual action learning.[5]

Assessment and credentialing

Action Learning Institute intends to package up its action learning outcomes as a skills set that can be offered in any qualification offered under the jurisdiction of the Australian Skills Quality Authority. The skills set can then be used with any other qualification or as a standalone credential. Delivered with another qualification, the program is intended stakeholders including: senior high school, vocational education and training, or university students, in work placements or internments, work-based trainees and apprentices and mature-aged workers seeking to broaden their opportunities for advancement. When delivered as a stand-alone credential, programs may be suitable for participants such as graduate trainees commencing employment, professionals required to undertake continuing professional development

The Action Learning Institute's approach to assessment goes beyond that required by the sector regulator, which focuses on providing each graduate with a Statement of Attainment, which provides a yes/no approach to units passed. It is intended to supplement this with a profile for each participant, showing the level of attainment of the action learning skills of each participant, referenced against standard levels of attainment defined for each skill. In this way, stakeholders can be confident that, for any graduates for the Action Learning Institute, their skill profile accurately represents the degree to which they have those skills.

Table A2.1: Features of Action Learning[4]

Features	Description
Objectives	Each learning program is intended for both individual participants and participating companies. For individual participants, the program focuses on: – improving action learning skills through hands-on experience – acquiring competencies that can contribute to their career prospects and company performance – achieving formal recognition of their learning through a relevant qualification. For participating companies, the program focuses on: – improving business performance – increasing collaboration with other companies and the opportunity to learn from their experiences – enhancing the competencies of key employees with formal recognition.
Learning Process	The learning process typically involves the following: – A minimum of three companies, each developing or implementing competitive systems and practices as an action learning project. – Each company nominates three people to participate in the program. Two of the nominated people participate in their home company project and a project at one of the other companies. The third person only participates in their home project. – Each project is undertaken at the host company. The project team and their facilitator(s) work intensively together, one day per week over five weeks. At the conclusion of the five-day workshop series, the team presents their project recommendations and a detailed implementation plan to the senior management of all participating companies. – The home members of the team then lead the implementation of the team's recommendations with support from their facilitators and 'project champion'. – At the conclusion of the implementation stage, all stakeholders (senior management of participating companies, project teams, funding bodies, and other interested parties) gather at a review forum to share outcomes. The home team of each company presents the outcomes, which are evaluated against the measurable targets established during project planning.
Participants	Potential participants for the Lean Action Learning program can come from diverse backgrounds and contexts. – Participants from any level of the organisation, from senior management to front line staff – All industry sectors, including manufacturing, transport and logistics, health care, and government services; any sector that aims to deliver value to customers – Organisations seeking to enhance an existing framework, or establish a new one, for workforce development and business improvement

Table A2.2: Characteristics of Different Types of Action Learning

Single-project action learning	– Focuses on a single project and emphasises working effectively with others – Involves several phases, including problem definition, stakeholder consultation, data collection, analysis, synthesis, action planning, recommendations and reporting, implementation, and evaluation
Multiple-project action learning	– Involves 4-6 people, each with a particular project they are undertaking within their business – Emphasises self-awareness and self-management
Self-managed action learning	– Focuses on self-development of action learning skills (without a facilitator) – Requires set project members to attend some preliminary training to develop these skills and orientate members to the action learning process – Initial meetings are usually facilitated by an experienced action learning facilitator, who may periodically work with set project members at their request or if this group experiences dysfunctionality
Virtual action learning	– Occurs in a virtual environment via a range of interactive and collaborative communication technologies – Synchronous or asynchronous modes of learning and communication

Assessment design and standard assurance

The RTO uses registered assessors for its assessment, as required by the regulator. In addition, these assessors and others play an important role in ensuring that the assessment process is aligned with the intention of action learning. Facilitators meet with participants on a regular basis throughout a project. This allows the facilitator to provide feedback to participants on their progress toward a target qualification. The facilitator reviews further evidence, which is gathered by the participant, and participants are expected to keep a personal learning logbook throughout the program. Logbook entries are reviewed and discussed with the participant at each meeting, which is designed as a mentoring session. For instance, during implementation, participants often encounter obstacles to progress. Such instances are recorded in the logbook and discussed with the facilitator.

Action Learning Institute uses myLearningMap™ software to supply the evidence-base to support assessments. Learners interact with the software through their chosen platforms, using collaborative tools and online teams to generate and present evidence of learning. Participants also use real-time video streaming to support instant feedback and validation of learning outcomes. The software was developed specifically to support competency-based assessments. The software enables evidence of learning to be linked directly to relevant performance criteria to enable judgements of competency. Features of the software include that it is cloud-based and interactive with full-stack platforms, such as Google Apps for Work, and Microsoft 365. It enables the mapping of performance criteria in the Australian Vocational Education and Training Framework. It has an integrated video assessment platform with time-stamped annotations, and generates Individual Learning Plans, including a credential wizard for building standard qualifications or role-based performance criteria.[6]

Micro credentialing of Life Skills in the Alternative Learning System, Philippines

Website: https://www.deped.gov.ph/2020/08/05/deped-usaid-launch-self-directed-life-skills-modules-for-learning-continuity-amid-pandemic/

"President Rodrigo Duterte has institutionalized the Alternative Learning System in Basic Education for out-of-school children in special cases and adults. (He proclaimed) the Republic Act No. 11510, also known as the Alternative Learning System Act which aims to provide adequate, timely, and quality attention and support to the basic learning needs of out-of-school children in special cases and adults including indigenous peoples."
Philippine New Agency, January 2021[7]

Rationale for inclusion

The Alternative Learning System Life Skills Program in the Philippines is a basic education pathway in which a new approach to credentialing is being tested.

ALS is an alternative to the existing system of formal education, targeting those who have had trouble accessing formal basic education due to economic, geographic, political, cultural, or social barriers, and in particular, out-of-school youth and adult learners.

There are currently over 800,000[8] participants. It provides a basic education pathway that functions as an alternative to the existing formal education system. ALS captures both formal and informal learning, providing opportunities for out-of-school children, youth, and adults to develop functional literacy and life skills. It was created in 1984. DepEd designed the program, and works with partner organisations to provide delivery and access across the community.

The component of interest here focuses on functional literacy and life skills, developed by the Department of Education (DepEd) in the Philippines in 2019. DepEd is currently piloting micro credentials to provide recognition for the life skills such as communication, teamwork, leadership and cooperation. The Assessment, Curriculum and Technology Research Centre, a joint project of the University of Melbourne and the University of the Philippines, is designing and piloting the credential and the quality control methods for DepEd, supported by UNICEF.

Background and demographics

Many Filipinos do not have a chance to attend and finish formal basic education. Some drop out from schools while some do not have schools in their communities. Since every Filipino has a right to free basic education, the Philippines Government established ALS to give all Filipinos the chance to have access to and complete basic education in a way that fits their distinct situations and needs. ALS is targeted at those who have not yet attained education to elementary or secondary standard, and those with limited reading and writing abilities. Students who attend formal education cannot enrol in ALS.

There are a range of education programs on offer through ALS, including a Basic Literacy program, Accreditation and Equivalency programs, and Functional Education programs. Each of these programs has a different role to play. For instance the Basic Literacy program aims to improve literacy among out-of-school children, youth, and adults. Accreditation and Equivalency programs seek to provide alternative learning pathways among out-of-school children, youth, and adults in special cases. Usually these learners are literate, but have not completed their basic education. Accreditation and Equivalency programs enable these students to complete formal elementary or secondary education outside the formal system.

While ALS has made considerable gains in advancing the education and credentialing of disadvantaged or socially marginalised learners, the system has experienced issues around enrolment and attrition. The Accreditation and Equivalency Assessment and Certification is, in general, content-heavy and content-focussed. Further, ALS students typically have low pass rates when they sit the Accreditation and Equivalency examination, which is mainly cognitive and focuses on formal academic skills, rather than practical skills for employment.

Life skills for work readiness and civic engagement program

In response to the issues of attrition, a new program called the Life Skills for Work Readiness and Civic Engagement Program has been integrated into ALS. This program comprises nine modules and aims to develop learners' skills in communication, leadership, workplace safety, and financial literacy. These skills are highly valued by employers, and the community more generally, and attainment of them is expected to generate benefits to graduates and communities.

To further this Life Skills program, the ALS is exploring the utility of micro-credentialing as a means of assessing and recognising the levels of attainment by ALS participants of these skills. Micro credentials are regarded as being more accessible and adaptable, and more developmentally based—instead of one-off high-stakes testing—and better suited to recognising the breadth and depth of learner attainments and progress in a range of competencies. The aim is to provide a means by which learners can master the breadth and depth of learning required, so that they become creative, confident individuals committed to lifelong learning, and active, informed members of Filippino society.

Currently the micro credentials are being designed and piloted during 2020/21, focussing on exploration of scalability, feasibility, generalisability, and comparability of assessments inherent in the approach. The pilot is being undertaken for DepEd by the Assessment, Curriculum and Technology Research Centre, which is a partnership between the University of Melbourne and the University of the Philippines, and is being supported by UNICEF. The stakeholders involved in the feasibility study include the Department of Education, learners, Mobile Teachers, ALS provider organisations in each region, prospective employers, and local businesses. It is anticipated that the certificates from the current micro-credential feasibility study will provide learners formal recognition of their competency in life skills that are considered important for success in the workplace. Establishing trust and acceptance of these certificates by employers and higher education providers will be essential.

Table A3.1: Alternative Learning System K to 12 Basic Education Curriculum Learning Strands

Learning Strand	Skills
Learning Strand 1	Communication Skills (English) Communication Skills (Filipino)
Learning Strand 2	Scientific Literacy and Critical Thinking Skills
Learning Strand 3	Mathematical and Problem-Solving Skills
Learning Strand 4	Life and Career Skills
Learning Strand 5	Understanding the Self and Society
Learning Strand 6	Digital Citizenship

Learning ambitions

Since its inception, the ALS curriculum has been aligned with the K-12 Curriculum for Basic Education in the formal school system. The intent is to have ALS students attain the same standards of learning as students in traditional schooling. However, the ALS Program uses a contextualised approach to teaching, and it considers the prior learning of its learners. It categorises the indicators of functional literacy into six interrelated learning strands. Table A3.1 presents the six learning strands and corresponding skills.

The life skills component of the ALS, which is the focus of this case study, covers areas such as communication, problem solving and critical thinking, sustainability of resource use and productivity and adding value to community and work place.

Learning design

There are a range of models of ALS for delivery, including:

- Department of Education-delivered, i.e., the Department runs the program using ALS field implementers employed by the Department, such as Mobile Teachers and District Coordinators, who work in 17 regions of the Philippines
- Department of Education-procured, i.e., the Department contracts out ALS programs to service providers, like non-government organisations and other government organisations
- Department of Education Partners-delivered, i.e., ALS programs are delivered by Department partners, typically non-government and government organisations, local government units, international agencies, and the private sector.[9]

Assessment and credentialing of life skills

Current ALS certifications are issued by the Department of Education and are focussed on grades attained in standard assessments and examinations. To supplement this, the DepEd aims, through use of micro credentialing, to ensure that ALS graduates are able to demonstrate their level of attainment in life skills as well.

The current micro-credential feasibility study is assessing and credentialing the skills of communication, teamwork, and cooperation. The assessment approaches and methods focus on the use of developmental assessment, development of standards-based progressions illustrating the expected patterns of growth as expertise develops, 360-degree assessment (i.e., ratings from a range of people who have had close interaction with the learner, including teachers, employers, and peers) and use of rubrics to make existing portfolio assessment more focussed.

Qualities of the assessment being sought will ensure comparability, utility and levels of trust among employers and industry, at local and national levels. Standards or attainment are being established that will provide a common currency for credentialing.

It is expected that the new micro-credential will be useful for learners when they pursue further studies or employment. More specifically, the Department of Education will oversee quality control and warranting of certificates.

Case example: community partner – Motortrade Life and Livelihood Assistance Foundation

As a partner of the Department of Education, Motortrade Life and Livelihood Assistance Foundation, Inc. conducts the ALS program in poor urban communities all over Metro Manila. This partnership was started by the chairman of the Foundation as a way of giving back to the Philippines for the many opportunities he had benefitted from in the country.

The Foundation was conceived as an initiative to empower marginalised individuals and communities. Its chairman first ventured into microfinancing, but the Foundation later shifted its focus to education, via the ALS, to induce more holistic social change by educating out-of-school youth. The Foundation's ALS program started in 2003 with 11 learning centres and 25 learners. Initially, only 17 per cent of their learners passed the Accreditation and Equivalency test. Following a strategic review, pass rates have improved. For example, in the last Accreditation and Equivalency test, approximately 65 per cent of their learners passed. Since 2003, the Foundation has continued to grow, with an increasing number of outreach areas, staff, learners, networks, and partners. At present, the Foundation has 55 learning centres in the National Capital Region.

At the beginning of the partnership with the Department of Education, the Foundation approached the Department with the intention of establishing an ALS program. Following an accreditation process, the Department recognised the Foundation formally as an ALS service provider. Following accreditation, the Foundation collaborated with the regional office, i.e., the Department of Education National Capital Region and the Department of Education National Capital Region-trained Foundation teachers (instructional managers). The qualifications required of instructional managers are the completion of a four-year course and a five-day Department of Education training program.

The Foundation also connected with local government units and the different divisions under Department of Education National Capital Region. They signed a memorandum of agreement with some divisions in the National Capital Region to deliver the ALS program. However, partnering with local government bodies has been a challenge, as there are inconsistencies across divisions in terms of partnership management. For example, some divisions insist on the delivery of certain curriculum modules, like the Life Skills modules, while other divisions prescribe context-specific content and materials.

The partnership between the Foundation and the Department of Education has been beneficial for the Philippines, enabling more learners to enrol in the ALS. The Foundation has helped the Department overcome funding limitations through the provision of instructional managers, for example. Simultaneously, the Foundation has benefitted from being accredited as an ALS service provider, which has enabled them to work with different local government units.

The parent company of the Foundation (Motortrade) does not employ ALS completers because they only accept tertiary graduates. However, a former ALS learner is currently working as a finance manager for the company after completing his tertiary education. Following further tertiary study, ALS graduates have pursued promising careers. For example, many of the completers from the Foundation's ALS program are now affiliated with the Department of Education as public-school teachers, and one ALS completer has become a news anchor and a businessperson.

Case example: an ALS Learner, Jay Ar Sanchez, Division of Muntinlupa, National Capital Region, Philippines

Jay Ar Sanchez is a 22-year-old ALS learner from Bayanan, Muntinlupa. He is the eldest of eight children in his family. Since his father passed away, Jay Ar and his mother became the breadwinners for their family. His mother earns a living by cleaning cars in a shopping mall parking lot, and Jay Ar works as a scaffolding erector in a construction company. He is a minimum wage earner and has been in his current company for the last three years. Jay Ar dropped out of school when he was in grade 8 because of a family problem. Prior to this, his aunt supported him through school. In 2016, he went to Baler, Aurora province, to live with his grandmother and worked there to send money to his mother in Metro Manila. He returned to live with his mother in 2019.

Jay Ar learned about the ALS from his girlfriend who convinced him to restart his studies. He has been in the ALS program for nine months as a grade 8 Junior High School student. He would have liked to be in a regular school, but his current circumstances make that impossible. However, he finds it easier to attend ALS due to its flexibility, as ALS students meet with their teachers only twice a week (currently online). In addition, ALS offers smaller class sizes, which supports more personalised attention. His teacher often gives a lecture and gives learners time to work on their module activities. They also work on quizzes online, and learners are asked to take a photo of their answers for immediate submission to avoid cheating. The learners have a Facebook group chat together with their ALS teacher. Any student with a question or concern sends a direct personal message to the teacher. The modular nature of ALS also makes it easier for him to study when he does not have to work at the construction site.

Jay Ar Sanchez considers his ALS experience valuable for developing skills in teamwork and applying for jobs. A significant lesson he learned from ALS is *pakikipagkapwa* (interacting with others as part of teamwork). This skill is essential for his paid work, where everybody needs to cooperate and work well as part of the team to ensure timely and safe completion of tasks.

As of September 2021, Jay Ar has finished more than 20 modules in different learning areas and some of the Life Skills modules. However, he has struggled with some aspects of assessment, such as not being able to submit all the required work, including portfolios. An alternative assessment approach, such as the one currently being piloted, could provide greater flexibility, as some aspects of assessment would be allocated to nominated assessors in the workplace, such as those for communication, teamwork, and cooperation.

Jay Ar now aspires to become a teacher. After finishing the ALS program, he plans to enrol in senior high school and then complete a tertiary teaching qualification. At present, he finds the ALS beneficial because it allows him to study flexibly while earning an income to support his family.

Case example: Kristine Mindanao, San Miguel, Bauan, Batangas, Philippines

Kristine Mindanao is a 33-year-old mother of seven children, residing in San Jose, Batangas. She is the breadwinner in her family, as her husband can no longer work due to a heart condition. She could not complete her high school education, marrying when she was in grade 10 and becoming pregnant when she was 16. Her family has been a recipient of the Pantawid Pamilyang Pilipino Program, a national government initiative that provides conditional cash grants to the poorest of the poor, to improve the health, nutrition, and the education of children aged 0-18 years.

Kristine's husband never had a stable job. They had both worked as farmers in a land owned by her siblings in San Jose, Batangas. Her husband also worked as a tricycle/pedicab driver with an irregular income before falling ill. Later, Kristine started selling vegetables and worked as a door-to-door vegetable seller for eight years. The parents of her children's classmates were her regular clients. This was a difficult job because she had to buy vegetables from Lipa City—about 14 kilometers from her house at San Jose, Batangas—in the early hours of the day, wrap the vegetables, and then sell them twice in the morning and once in the afternoon across three local government areas. Now, she sells food supplements and bath and beauty products. This is the primary source of income for her family.

Kristine always wanted to restart her studies. However, attendance at a regular high school would have been prohibitive given her work and family responsibilities as well as perceptions about her age. In 2020, when the pandemic started, a parent from the kindergarten her child attends informed her about an opportunity to enrol in the ALS in a group chat. She jumped at the opportunity to enrol, as the flexibility of the program enabled her to study while earning a living. As someone who is fond of reading, Kristine enjoys going through the modules and does not consider them difficult. She finds her ALS teacher very conscientious and patient. In addition, her ALS teacher is active in their group chat and answers their questions about the lessons in the module.

Kristine observed that the modules she has studied so far focus more on values. She cited the following lessons as helpful: safety precautions at home and outside the home; behaving appropriately; and some attitudes that are beneficial for employment.

Kristine wants to attend senior high school and complete a tertiary qualification; she aspires to become a pharmacist. She also feels that the ALS has given her the opportunity to be a good education role model for her children and to earn the respect of others.

High Tech High, San Diego, California, USA

"All of this is stuff students are researching and learning about, but it's all integrated into this project, rather than being this cold, removed, isolated content that we study for a while and then we move on to the next thing."
Russell Walker, Humanities teacher at High Tech High [10]

Rationale for inclusion[11]

High Tech High is a consortium of public charter schools based in San Diego, California. It was pioneered in 1996 by civic leaders, educators, and the high-tech industry, with the aim of preparing young people for a technologically-advanced labour market. It is included in this report as a case study because it's learning ambitions are broad, and the school privilege learner agency. High tech High asserts[12] that its students are encouraged to think independently, to work in groups, to be creative. Teachers are free to teach what and how they judge best. Students' and teachers' work is not assessed by tests or exams, there is no formal credentialing of these skills, and HTH maintains its strong relationship with local higher education institutions to ensure trust. Assessment is undertaken at an exhibition night held each term. This way, the school is hoping to teach its students "soft skills", skills that will help them to become citizens capable of innovative thinking.

Background demographics[13]

The first High Tech High school was founded in 2000, supported by generous philanthropic support, and targeted learners from diverse socioeconomic backgrounds. High Tech High is committed to facilitating equitable learning outcomes for all learners; each school, by design, includes a student population that comprises diverse ethnicities, identities, social class backgrounds, and life experiences. High Tech High schools are accredited by the Accrediting Commission for Schools (ACS) Western Association of Schools and Colleges (WASC). This is an internationally recognised accrediting body that accredits schools worldwide based on high-quality learning and continuous improvement. The organisation accredits elementary and secondary schools, supplementary education programs, and not-for-profit, non-degree post-school programs.[14]

The Education Commission of the States defines charter schools as semi-autonomous public schools. These schools receive public funds and are run under charter with a state, district, or authoriser/sponsor. The charter specifies, for instance, school operations, learning expectations, assessments, and metrics of success. Charter schools follow the curriculum and regulations of their home state, with some flexibility in both structure and the organisation of learning.

As public charter schools, High Tech High schools are funded by the state of California. In addition, High Tech High, as a non-profit organisation, has a board that supports funding efforts and receives grant funding. High Tech High schools also have school and parent associations that contribute to fundraising efforts for High Tech High schools. Through the High Tech High Foundation, members of the school community can contribute monetarily or volunteer their time and expertise.[15]

As of May 2021, the High Tech High network comprises 16 charter schools, serving 6,350 K-12 students across four campuses in San Diego.

Learning ambitions

All HTH schools share a common mission to equip all students with the relevant academic, civic and life skills for post-secondary success and engaged citizenship in a high-tech society, with particular attention given to students from disadvantaged backgrounds. Data collected by High Tech High indicates that 35 per cent of High Tech High graduates are first in their families to go to college, and 40 per cent of High Tech High students qualify for the National School Lunch Program.[16]

Curriculum and learning design

High Tech High curriculum and learning design has been influenced by the work of Larry Rosenstock and colleagues in the New Urban High School Project, an initiative of the United States Department of Education's Office of Vocational and Adult Education. This work focussed on using school-to-work strategies such as internships and fieldwork to help inner-city high schools support the development of general learning capabilities among their learners and improve their engagement. Learning is guided by the four connected design principles outlined below.[17]

High Tech High promotes equity in learning that supports all students regardless of their backgrounds and values. Multiple strategies have been adopted to address this ambition. Students are enrolled through a postcode-based lottery and are not selected or streamed by race, class, or academic ability.

High Tech High focuses on personalised and inclusive learning that helps students challenge themselves to pursue personal interests and build a sense of community. To facilitate the success of this learning, each student has a staff advisor or mentor who looks after their personal and academic development and functions as the contact point for family. Students work in a small learning community and work on projects that enable them to reflect their interests and passions.

High Tech High advocates an authentic learning approach, allowing students to experience projects that are meaningful and relevant to their interest and passion. Much of the learning experience takes place outside schools, through fieldwork, community service, internships, and consultation with experts. Junior students are expected to complete an internship with a local business and those in senior high school work on community-focussed projects.

High Tech High adopts a collaborative learning design that views teachers and students as design partners. Teachers work in diverse teams to design curricula and authentic assessments for students.

Assessment and credentialing

The High Tech High model of education is based on project-based learning (PBL). It uses 'performance-based assessment' which requires all students to present their work periodically to peers, parent, community members and higher education representative. Trust is built into the process of recognition by including the various stakeholders in the learning, teaching and assessment process.

The High Tech High Project Based Learning Design Kit utilises several interrelated, at times sequential, phases for project management.[18]

- Project Launch – a common, engaging experience in an authentic context that allows for multiple entry points and perspectives for diverse learners; this could involve working with experts, community members, cultural institutions, and fieldwork
- Essential Question – an open-ended, central question for a topic of inquiry, expressed in plain language; the question can come from teachers, students, or both, with room for refinement over time; the essential question promotes interdisciplinary thinking and reflection, allowing for different approaches and conclusions
- Ideation – collaborations among students and teachers to generate and test ideas, suggestions, and plans
- Critique – collegial analysis of work and meaning making to identify learning targets and areas for improvement
- Core Academic Skills – collaborations among students and teachers to intentionally learn and apply core academic skills, content, and dispositions, e.g., questioning, using skills in a range of contexts, and developing academic mindsets
- Drafting and Revision – collaborations among students and teachers to develop multiple iterations of their work, through further learning, research, critical thinking, and structured revision processes aimed at facilitating mastery learning
- Exhibition – public presentations of work in the company of real-world users, to create authentic assessment opportunities
- Assessment – projects create opportunities for dialogue and multiple forms of assessment are used. These assessments are typically ongoing, formative, reflective, and collaborative, and incorporate peer- and self-assessment and assessments by teachers and experts
- Reflection – to push thinking, facilitate thoughtful practice and cycles of inquiry, and help foster a growth mindset.

Teacher at HTH generate the final grade for a student's work, but HTH seeks an authentic, student lead assessment approaches which can include students developing rubrics, and portfolios and presentations of work, and audience assessment at presentations. Formal assessment can be done against rubrics that students help to create.

In addition to the formal assessment phase, teachers regularly use informal and formative assessment to check for understanding and skills development during the other phases of work. Especially during exhibitions, teachers sometimes incorporate an audience assessment piece to make the assessment process more authentic. Many teachers also create regular opportunities for self-assessment as they seek to cultivate a habit of reflection among their students.[19]

High Tech High issues and warrants the diploma for students who graduate. The curriculum in High Tech High schools is aligned to California's academic content standards, which include implementation of the United States Common Core Standards. All High Tech High students receive a high-school diploma, which meets the admission requirements for the University of California, Los Angeles, and other universities. The diploma is accompanied by a transcript that details attainments in specified learning domains relevant to the school/student.

Reporting does not reference learning progressions or standards of attainment in the general learning capabilities.

According to National Student Clearinghouse data, 87 per cent of all HTH alumni are still either enrolled in or have graduated from a post-secondary institution, with 34 per cent of these graduates earning degrees in STEM. By contrast, according to data from the United States Census Bureau, fewer than 30 per cent of 20-year-olds in California have a college degree, and only 17 per cent of them earn degrees in Science, Technology, Engineering, or Mathematics.[20] HTH regards these metrics as strong indicators of the quality of their work.

International Baccalaureate (IB) Career-related Programme

"Since studying the Career-related Programme I have become a reflective person. I made the decision to defer from university for a year because I wanted to make sure I was going down the correct career path. I used to be quite fearful of taking risks, but the Career-related Programme has made my confidence in decision-making blossom. Now, I am able to recognise the purpose behind challenging tasks, whereas before studying the course I would have looked absentmindedly at particular situations."[21]
April Harper Career realted program Graduate. [22]

Rationale for inclusion

The International Baccalaureate (IB) Career-related Programme is the International Baccalaureate Organization's newest program. It commenced in 2006—then called the International Baccalaureate Career-related Certificate—and was remodelled as the Career-related Programme in 2014. Embodying the IB learner profile[23], the Career-related Programme is presented as a novel approach to career-related, or applied, international education. The Certificate complements the better-known academically-oriented international Baccalaureate Diploma. The Career-related Programme focuses on applied learning and the development of practical career and life skills.

It allows students to attain and have recognised a broader range of learning than is available in the more academically oriented Diploma and is designed to assist learners to navigate their future careers in an uncertain world.

Demographics

As a program of study, the Career-related Programme has been designed for students aged 16-19 years old. It is offered by 310 schools internationally, and by four Australian independent schools offered in 2021.
The Career-related Programme provides a flexible framework for personalised education, designed for students who are more inclined towards career-related learning and the development of applied knowledge and transferable general learning capabilities for life and work, such as critical thinking, communication, and intercultural engagement.[24]
It is a much smaller program than the Diploma Programme, which is offered by more than 10 times as many schools worldwide[25] and has a reputation for being more demanding academically.

The key stakeholders of the Career-related Programme are the learners, the teachers, the providers (primarily schools), the International Baccalaureate Organization, tertiary education and training providers, industry and community partners, prospective employers, and education jurisdictions or sectors within which the Career-related Programme is offered.

Learning ambitions

The Career-related Programme focuses on core and transferable general learning capabilities for the workplace, developing those personal and profession attitudes, skills and strategies that will be needed, now and in the future, in the range of personal and professional situations and contexts. They focus on ethical development and the identification, analysis, discussion and evaluation of ethical issues. They promote development of high-level research, writing and extended communication skills, and the skills of intellectual discovery, and creativity. They focus on 21st Century skills including linguistic proficiency, critical thinking skills, maturity and responsibility, time management skills, a strong work ethic and social and communication skills.[26]

Curriculum and learning design

Each school designs the career-related study most suited to local conditions and the needs of its students. There are three main components.

First, the Career-related Programme has crossovers with the Diploma Programme; students of the Career-related Programme must study at least two Diploma Programme courses, which are akin to academic subjects, in addition to a Career-related Programme core that consists of four components and a career-related study.

Secondly, the school-designed component of the Career-related Programme core targets the development of students' personal and interpersonal skills through experiential learning. This is intended to facilitate the translation into practice of learning in the Diploma Programme courses.

The school based program of the Career-related Programme core components are:

- Personal and Professional Skills, which are applicable to personal and professional situations and are transferable across a range of contexts.
- Service Learning, which targets the development of specific knowledge and skills towards tackling identified community needs. Service learning uses a research-based approach, whereby students initiate community service building on the knowledge, skills, understandings, and values developed through their disciplinary studies.
- Reflective Project, which is an extended research piece that involves identification, analysis and reflection on an ethical issue related to a student's career-related studies.
- Language Development, which focuses on the development of language skills in other than a student's best or preferred language.

Thirdly, in a form of work experience or internship, the career-related study enables students to combine their academic and practical skills—they learn through application and practice in authentic contexts—intended to prepare them for further study, apprenticeships, or the workforce. The International Baccalaureate Organization presently has four formal Strategic Providers of career-related study. These are Council for Awards in Care, Health and Education in the United Kingdom, National Academies Foundation in the US, Pearson in the Americas, Europe, Africa, the Middle East and Asia, Savannah College of Art and Design (SCAD) in the United States and France, and the World Academy of Sport.[27] These Strategic Providers have developed programs or pathways that can be implemented by a wide range of Career-related Programme schools. Other career-related study providers provide opportunities for work experience or internships that support the needs of Career-related Programme schools and learners at a more local level.

The interrelatedness of the three Career-related Programme components is illustrated in Figure A4.1 below. The breadth and depth of learning required is spelt out as clear program requirements for each of the three Career-related Programme components. These requirements are worded using plain language for the benefit of a broad range of stakeholders, especially career-related study providers. While the Career-related Programme shares a component of the Diploma Programme—the completion of at least two Diploma courses—it utilises its own organisation of learning, leading to different approaches to teaching and the establishment and implementation of industry and community partnerships to support successful program delivery.

Figure A4.1. The three components of the Career-related Programme.

Assessment and credentialing

The Career-related Programme is an internationally recognised credential with utility for further study or employment pathways.

Assessment in the Career-related Programme focuses on the three interrelated components of the program: 1) the two or more Diploma Programme courses selected by a student; 2) the career-related study; 3) the Career-related Programme core of Personal and Professional Skills, Service Learning, Reflective Project, and Language Development.[29] Students complete both internal school assessments and assessments marked by external assessors employed by the International Baccalaureate Organization.

At the end of their Diploma Programme courses, students sit written examinations set by examination panels employed by the International Baccalaureate Organization. The exams are marked by external examiners employed by the organisation. Assessment for Diploma Programme courses is standards-based; the standards are designed, set, and validated by panels of domain/discipline and assessment experts employed by the organisation.

The standards are internationally applicable and comparable because they are standardised, invigilated and marked externally to the school, following strict protocols and guidelines set by the International Baccalaureate Organization. Students receive a grade from 1 (lowest) to 7 (highest) for each course. These grades are awarded based on standards met, not norm-referenced/ranked.

In the career-related study and the Career-related Programme core, students routinely perform and are assessed on complex authentic tasks required to provide a rich evidence base. They are assessed by a range of assessors, and judgements are mapped to common and agreed standards and benchmarks.

In the career-related Programme Core. There is a range of approaches used. The Reflective Project is internally assessed by schools and externally moderated by the International Baccalaureate Organization. An external examiner reviews samples of teacher-assessed work to determine overall fairness.

In cases where judgements appear questionable, a moderation factor can be applied to ensure international consistency and comparability.[30] The Reflective Project is graded from A to E (A being the highest grade)

Personal and Professional Skills, Service Learning, and Language Development are internally assessed by schools. Schools are required to confirm with the International Baccalaureate Organization that students have met the requirements for completion.[31]

Graduates of the programme receive the International Baccalaureate Career-related Programme Certificate and, where applicable, the senior secondary diploma or other certification.[32] The credential is awarded by the career-related study provider, as authorised by the International Baccalaureate Organization.

The Career-related Programme is recognised by universities and has international comparability, utility, and trust. It provides a common platform, framework and set of standards for career-related learning, which is typically diverse in its mode of provision, given the flexible nature of such learning.

All IB schools commit to ongoing review and development to ensure quality of program delivery and associated assessments. IB schools require formal authorisation by the International Baccalaureate Organization before they can offer any IB Programme, with the requirements for authorisation being the same for all schools. Detailed authorisation processes, timelines and milestones are provided on the IB website (https://www.ibo.org/become-an-ib-school/timeline-and-stages).[33]

For assessment, sample standards for authorisation include:

- Teachers engage in the process of standardization in assessing student work.
- Formative and summative assessment are an integral part of the teaching and learning process in language development, personal and professional skills, and service learning
- The school communicates its assessment philosophy, policy, and procedures to the school community
- The school uses a range of strategies and tools to assess student learning
- The school provides students with feedback to inform and improve their learning.
- The school incorporates formative assessment techniques when assessing the personal and professional skills component of the Career-related Programme core.
- The school analyses assessment data to inform teaching and learning.[34]

The school provides opportunities for students to participate in, and reflect on, the assessment of their work.

Case Example: April Harper, graduate from King Ethelbert School, Kent, United Kingdom[35]

April was focussed on becoming a radiographer, and the Career-related Programme was able to provide her with a wider range of career-related options. In the process, she developed and honed the transferable skills of teamwork, time management, and independent learning.

As part of her Career-related Programme, April also explored the possibility of being a teacher. With the support of her teachers, career advisors, and peers, April took up the role of Teaching Assistant at a primary school and became a Nurture Leader. This experience added another dimension to her Career-related Programme journey.

"The experiences I have in the workplace are experiences that I am able to grow and develop from every day. I am constantly faced with complex issues where I am usually able to make quick effective decisions within reason. Every day in my job I am able to make a positive difference to the lives of others and the school environment … Overall the CP has helped me to strive for more than just an average job."

Case Example: Ganesh Annan, graduate from Robert E. Lee High School, Virginia, United States[36]

Since graduation, Ganesh Annan has pursued university studies in computational modelling and data analytics at Virginia Tech. He pursued the Career-related Programme because he thought that it gave him a balance of academic rigour and flexibility to pursue his interests.

"*Companies are looking for students with an interdisciplinary background who can identify problems, approach them with different points of view and solve them. The program empowered me to exponentially further my understanding in mathematics and physics, while also allowing me to dive deeply into business and history. The education that I received in the business program specifically, has provided a strong foundation for my entrepreneurial endeavours during my time at Virginia Tech.*"

The applied nature of learning in the Career-related Programme taught Ganesh the value of lifelong learning, eventually inspiring him to become a Learning Assistant at Virginia Tech for the Department of Physics.

"*The true key to my success is my desire to never stop learning. I constantly strive to become a better person and refine my skills. Learn from your classes, the books you read, the stories your friends and family tell and everything in between. When you start to gain this passion for learning inside the classroom as well as outside, the doors of success will begin to open. There is nothing in the world that you can't learn. Do something every day that will inch you closer to your goals. Have a positive mind and focus your energy towards your most rewarding tasks, this is crucial for achieving anything in life. Learning may not come easy to you at first; with confidence and persistence; you will reach whatever goals you set in life.*"

In addition, Ganesh has developed a keen eye or ways to apply his learning in innovative ways, courtesy of the applied learning focus of the Career-related Programme.

"*I run a website that helps students take a data-driven approach in choosing classes. My website, Anaanu.com, was a quick project to help a few friends. It has grown to become an essential part in the course selection process for students. Furthermore, some advisors are using it as a tool to help pick classes for their students. It is amazing to look back and see how far I've come. Over the course of three years, I have completed internships from Paris to Silicon Valley and I am looking forward to what is next.*"

Case Example: Clara Sáez Calabuig, graduate from the International School of Geneva, Switzerland[37]

Clara completed the Business and Technology Education Council (BTEC)[38] Art and Design qualification as part of her Career-related Programme. Upon graduation, she enrolled as a student at the University of Arts London, commencing with a Foundation Diploma in Art and Design before transitioning to a bachelor's course in graphic design.

Clara chose the Career-related Programme because of its flexibility She had spent most of her life in Spanish schools and was challenged by the move to an English-speaking international school. She felt the Career-related Programme would enable her to focus on her interests in art and design, whilst giving her the opportunity to continue building her language skills.

"*I understood that the CP was the best option for me. I was certain that I wanted to apply for an art or design-related course, therefore, the number of hours spent on art and design and the possibility to choose two to four suitable subjects seemed like a gift to me. I chose English literature, French and film which ended up being a perfect combination of subjects … All that I have learnt from literature, language, film, art, and design has made me a more open-minded and creative individual … The courses I took pushed me towards a more analytical, semiotic, conceptual field of graphic design in my work on my current foundation course.*"

Mastery Transcript Consortium® (MTC)

"What MTC is doing with the Mastery Transcript is a key part of the evolution of education in the 21st century. There are a lot of conversations out there about how we educate students, but this is a key one related to how we design and assess education and how we measure what students have learned and how they've absorbed and are able to translate their experiences."
Kedra Ishop, Vice President for Enrollment Management, University of Southern California (USC)

Rationale for inclusion

The Mastery Transcript Consortium® (MTC) is an international network of schools that use, or are seeking to use, the Mastery Transcript, a credential in the form of a learner profile that represents capabilities-focussed student attainments. MTC was launched officially in 2017. It was first conceived as an idea in 2014, with the aim of better preparing high school students and suitably recognising the breadth of their capabilities for further study or work. It began as a vision of Scott Looney—now MTC's Board Chair—at the Hawken School in Cleveland, based on the observation that traditional high school certifications were limiting how formal learning occurs and is credentialed.[39]

Mastery Transcripts, as credentials have been developed through stakeholder consultation, applying assessment and assessment metadata designed to match the credential, creating and facilitating performance tasks for students, making available professional development of leaders and teachers, building evidencing systems, and setting up the software platform. With the Mastery Transcript, member schools have chosen to privilege attainments in general learning capabilities—which lie at the core of learning—with information about attainments in more traditional academic disciplines, co-curricular activities and out-of-school programs represented around this core.[40]

Demographics

As of September 2021, MTC has 405 member schools (281 private and 124 public). Most of these schools are based in the US and several are from around the world, including seven schools in Australia, namely Carey Baptist Grammar School, The Knox School, Ruyton Girls' School[41], Woodleigh Schools and Templestowe College in Victoria, Dickson College in the Australian Capital Territory, and Immanuel College, in South Australia.

Original MTC founding schools are spread across several states in the United States, and there is one founding school in the Bahamas.[42] Increasingly, MTC member schools, or sending schools, have opted to use the Mastery Transcript as their formal school transcript, working with tertiary admissions offices and employers to gain acceptance of the recognition system. As of September 2021, there were 13 MTC 'sending schools' in the United States and one school in Amman, Jordan, namely[43]. While the majority of MTC schools are based in the United States, the consortium spans 43 countries outside of the United States, in Africa, Asia (including the Middle East), Australia, New Zealand, and Europe.[44]

The MTC is becoming increasingly international, highlighting growing acceptance of the Mastery Transcript, or, more broadly, new approaches to capabilities-based assessments, reporting and credentialing. MTC is seeking to establish itself as an emerging international credentialing ecosystem, providing an alternative, or enrichment, to grade- or score-based academic transcripts prevalent all over the world.

MTC describes its members as being driven by one or more of these 'changemakers': curriculum innovators; concerned communities; equity leaders; and/or educational thought leaders. Members are provided with common tools for building their own bespoke Mastery Transcripts, including such a software platform, professional learning to support development and implementation of Mastery Transcripts, collaborations with tertiary admissions partners, advocacy (particularly for government schools), and networking and partnerships among members and thought leaders. Members also have access to special discounts for the Challenge Success Stanford Survey of Student Experiences and Global Online Academy's From Theory to Practice.[46]

Key stakeholders

The key stakeholders for MTC are students, educators, parents/carers, tertiary education and training providers, and prospective employers. The Mastery Transcript seeks to appeal to stakeholders in the following ways:

- Students who wish to be recognised for the breadth and depth of their capabilities
- Educators who want students to engage in mastery learning rather than focusing on grades or scores
- Educators who want to present students holistically to tertiary institutions or employers
- Educators who want an assessment and credentialing system built on coaching and development rather than summative judgements
- Parents/carers who want the breadth and depth of their children's accomplishments to be valued.

Curriculum

All decisions around the general learning capabilities, academic disciplines, co-curricular activities, and out-of-school programs are made by individual MTC schools, in line with any external requirements, such as curriculum and other systemic requisites.

One aspect of equity that MTC claims is that the Mastery Transcript provides opportunities for students to demonstrate their capabilities more holistically and authentically, so that they are not judged solely on grades and scores when pursuing career or further study pathways. According to Sujata Bhatt, Senior Fellow at Transcend Education, 'Equity means that all kids have access, equal access, to opportunities to demonstrate their full selves and can take advantage of the opportunities they are interested in to move their lives and their work forward.'

Assessment and credentialing

The templated approach to reporting indicates that each school desires to reflect the quality and extent of mastery of general learning capabilities. As the Mastery Transcript approach is based on commitment to mastery, performance-based assessments are typical. However, assessments in Mastery transcripts schools are decided on by the school.

There is no standard approach to assessment across MTC schools. Any standards referenced by MTC schools for assessment purposes depend on each school's context i.e., school-level decisions, and system, country, or curriculum requirements. Hence, Mastery Transcripts are not always comparable, even though MTC schools share a common platform and tools.

The credential

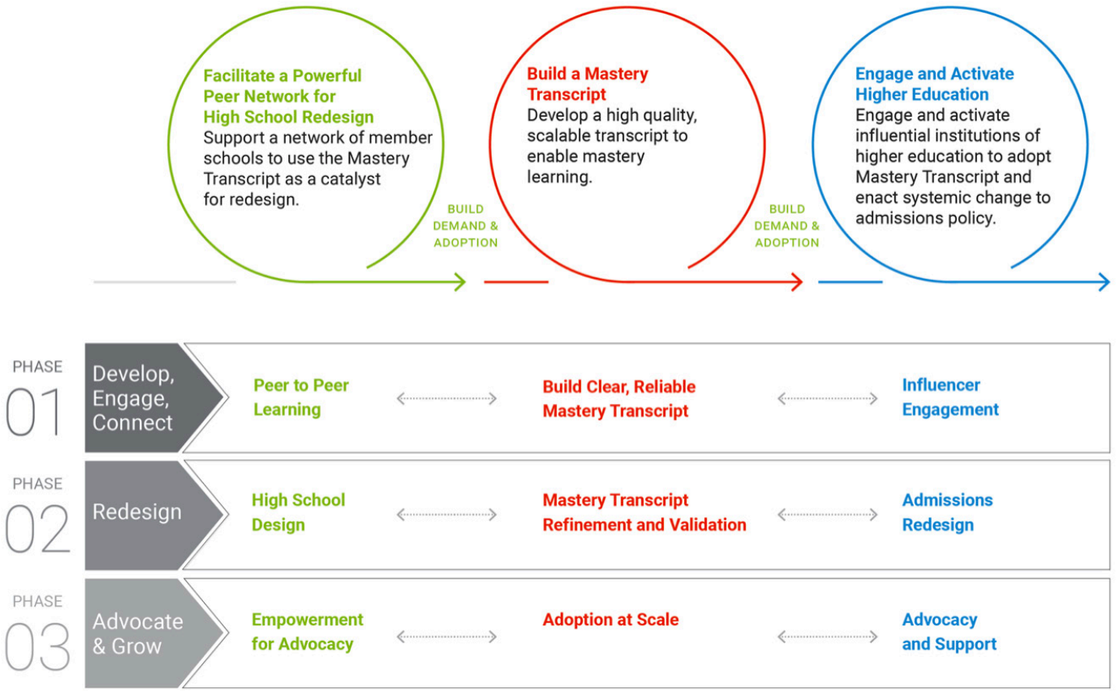
MTC and some its member schools continue to work with employers and tertiary admissions offices to develop settlements around acceptance, recognition, and equivalence, both among Mastery Transcripts as well as between Mastery Transcripts and other more-established credentials.[47]

MTC member schools build and issue their own Mastery Transcripts utilising a common format and platform and are underpinned by common principles. The Mastery Transcript may not be the only credential available or offered at a school.

The Mastery Transcript requires MTC schools to be clear about the general learning capabilities being developed and the breadth and depth of learning required.

Overall, assessment metrics vary among MTC schools depending on contextual requirements and the school's chosen approach to assessment. Based on MTC's three levers for change, Mastery Transcript validation and refinement does feature in the second out of three phases of work (see Figure A5.1).

Figure A5.1. MTC's three levers for change, in three phases[48]



Snapshots of the credentialing system

Case Example: Singapore American School[49]

The Singapore American School explored how it could do more than prepare students for college by personalising learning and focusing on the development of complex capabilities. Typically, 99 per cent of its graduates continue to college programs, but the school wanted to ensure that they would also become capable of navigating challenges in an ever-changing world. This led to a focus on creating a customisable approach to learning that would support students' interests and academic rigour, beyond the attainment of grades. The school was influenced by the Stonesfield School in Auckland, New Zealand, that had begun using competency-based progressions to support learning and assessment. With the input of staff, students, parents, and board members, Singapore American School begun creating a graduate profile with 7 desired student learning outcomes:

- Character (encompassing compassion, fairness, honesty, respect, and responsibility)
- Collaboration
- Communication
- Content Knowledge
- Creativity
- Critical Thinking
- Cultural Competence.

The school has defined these outcomes (or general learning capabilities). They aim to go beyond content learning to focus on the development of capabilities; for example, instead of learning about history, students learn to think and apply skills like, or as, a historian. Through this approach, the school is transitioning away from the college admissions race to supporting the development of students' capabilities for lifelong learning. The school is now exploring ways to establish an assessment system that would allow them to track how students are developing the desired student learning outcomes consistently and reliably.

Case Example: MTC Sample Credential

Figures A5.2 and A5.3 show examples of a Mastery Transcript, showing depth and breadth of learning, attainments in the disciplines and general learning capabilities, credit details, and course completion and requirement details. The transcript is essentially developmental, but it can be used also to provide a summative snapshot of achievement at a point in time.

Figure A5.2. Sample of a Mastery Transcript: credit Profile showing distribution of credits for the student

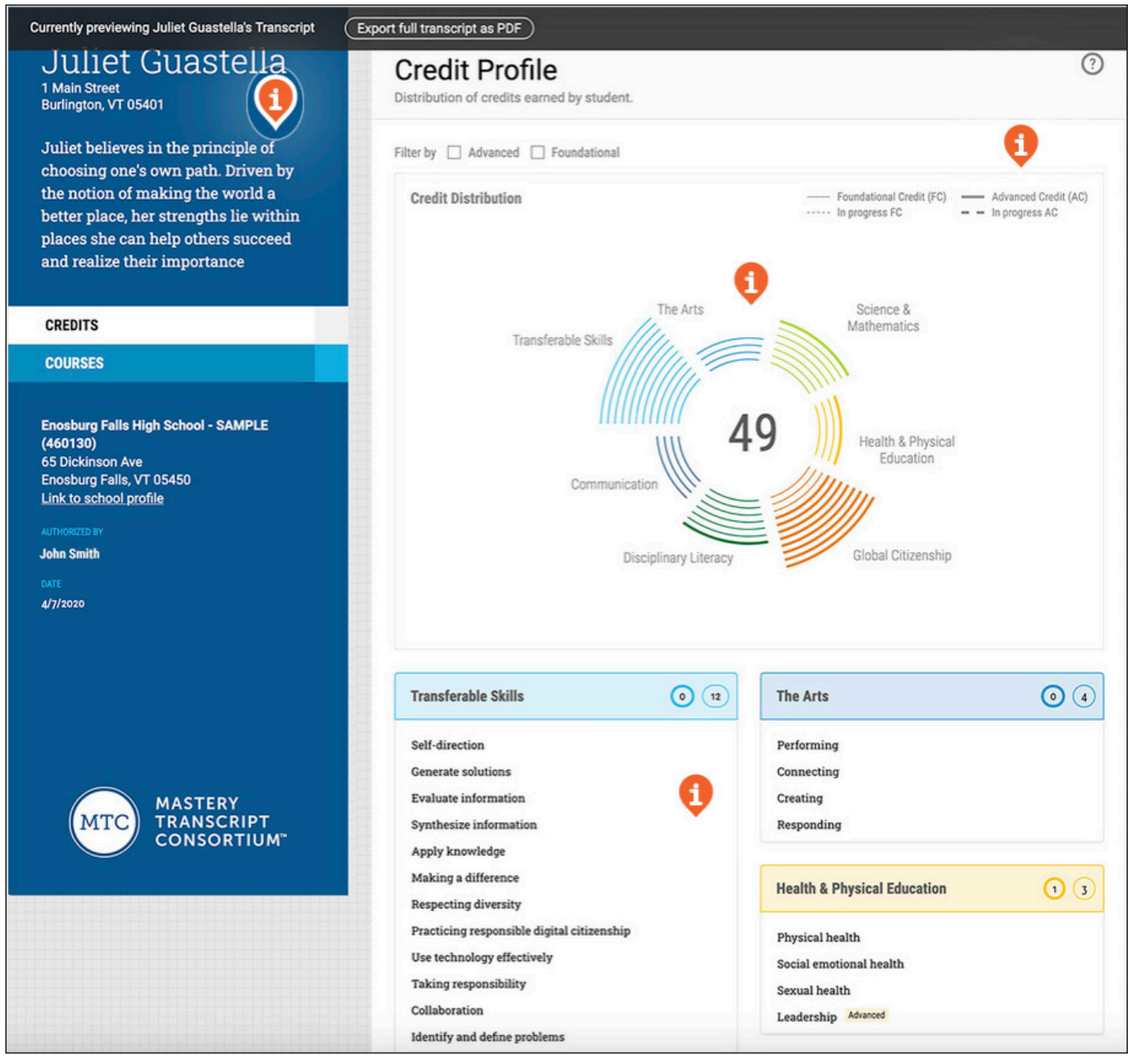
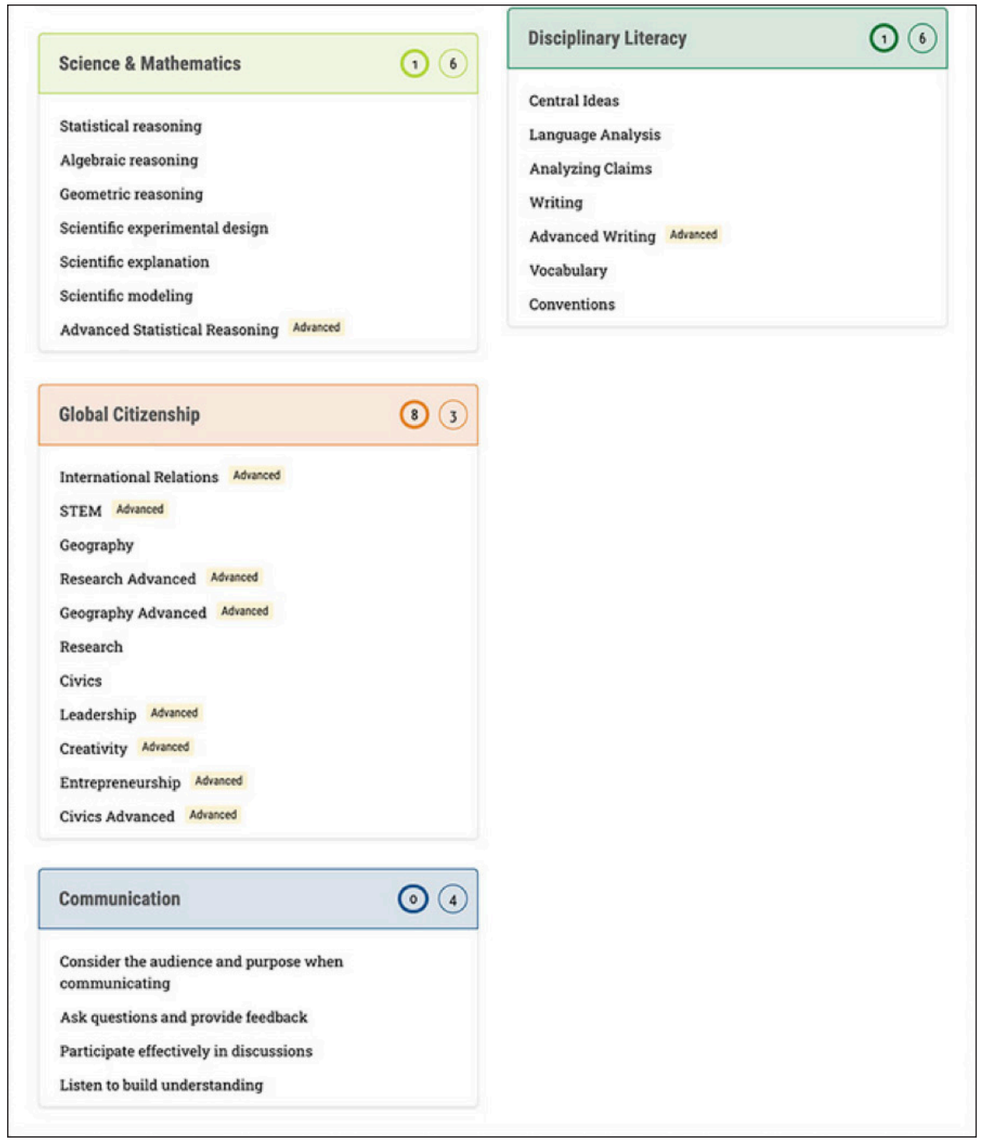


Figure A5.3. Sample of a Mastery Transcript: credit details



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15 https://www.hightechhigh.org/support-us/hth-foundation/
16 https://www.hightechhigh.org/about-us/alumni/those-who-graduate
17 https://www.hightechhigh.org/about-us/
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19 Source: https://www.hightechhigh.org/project/hth-structures-assessment/
20 https://www.hightechhigh.org/about-us/alumni/those-who-graduate
21 https://www.ibo.org/testimonials/career-related-programme/
22 ibo.org/testimonials/career-related-programme/
23 The IB learner profile targets the development of learners who are Inquirers, Knowledgeable, Thinkers, Communicators, Principled, Open-minded, Caring, Risk-takers, Balanced, and Reflective https://www.ibo.org/benefits/learner-profile
24 https://www.ibo.org/programmes/career-related-programme
25 https://www.ibo.org/programmes/find-an-ib-school/?SearchFields.Region=&SearchFields.Country=&SearchFields.Keywords=&SearchFields.Language=&SearchFields.BoardingFacilities=&SearchFields.SchoolGender=&SearchFields.ProgrammeDP=true
26 https://www.ibo.org/programmes/career-related-programme/curriculum/the-cp-core/
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38 BTECs are work-related qualifications offered by Pearson in specific domains, for example, Art and Design (see https://qualifications.pearson.com/en/subjects/art-and-design/btec-art-design-media/btec-art-design.html)
39 https://mastery.org/our-story/
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