UNLEASHING BRILLIANCE

HOW HIGH POTENTIAL LEARNERS ARE CHALLENGED AND SUPPORTED AROUND THE WORLD

Our Case for Change
A horizon scan of thirty approaches completed by the Innovation Unit for AISNSW
ABOUT AISNSW

The Association of Independent Schools of NSW is the peak body supporting and representing independent education, specifically independent schools, through offering services in:

• advice and consultancy
• professional learning
• funded programs and projects
• support for students with diverse needs
• research and data
• advocacy and partnerships.

We also work with governments, statutory authorities and a wide range of other educational stakeholders on behalf of over 480 independent schools, their boards, their principals and heads, their executive, their teachers and support staff. These schools educate over 200,000 children from the increasing number of families choosing independent education.

With the core values of integrity, professionalism, respect and collegiality AISNSW seeks to further the ideals of independent education: choice, diversity, quality, opportunity and excellence.

ABOUT THE AISNSW SCHOOL INNOVATION DIVISION

The School Innovation Division is a future-focused project team formed at a time of considerable interest in reshaping schooling. School Innovation coaches provide extended support in disciplined innovation, including design thinking. The team supports educators as they use processes such as ideation and prototyping, and focus on the enabling conditions required to lead significant change. Disciplined innovation suits schools that are seeking to explore new solutions to complex challenges in their distinctive contexts.

ELEVATE: agile design for high potential learners is the signature initiative of the team and is amplified by a strategic partnership with the Innovation Unit. ELEVATE is the first large scale community of practice using disciplined innovation methods provided by AISNSW and is inclusive of government and Catholic system schools and interstate independent schools. Funding for this program was provided by the Australian Government Students First Support Fund and AISNSW.

ABOUT OUR STRATEGIC PARTNER

Innovation Unit is a not-for-profit social enterprise supporting governments, organisations and communities to co-design, develop and implement at scale innovative solutions to pressing social, educational and health issues: solutions which deliver significantly better outcomes, often for significantly lower costs. It draws on the expertise of its practitioners, designers and researchers in Australia, the United Kingdom and the United States and globally to work in partnership with clients from the public, private, and third sectors.
Unleashing Brilliance was initially published in 2016 and has been revised for publication in 2018 as part of the ELEVATE INSIGHTS Series to celebrate the conclusion of the ELEVATE program. ELEVATE: Agile design for high potential learners supported leading educators to embrace disciplined innovation to design new solutions to better meet the needs of high ability learners, including gifted students.

This publication has been updated to include our original Case for Change, a compelling component of our invitation for schools to participate in the program. The Horizon Scan was commissioned to support participating schools as they embraced disciplined innovation methods.
FOREWORD

The Association of Independent Schools of NSW (AISNSW) is pleased to present the ELEVATE INSIGHTS Series which shares and celebrates the valuable learnings from our work with a diverse group of outstanding educators from all school sectors across the nation as they transformed learning experiences for Australia’s most able students.

From 2015 through to 2018, AISNSW was in the unique position of being able to offer ELEVATE: Agile design for high potential learners – a multi-year program designed to advance the national conversation around how best to identify and challenge high potential learners, and how to design and implement practices to address the needs of such learners, including gifted students, now and into the future.

The ELEVATE INSIGHTS Series is an invitation to all educators to engage with the lessons learnt from ELEVATE. It offers insights into the strongest themes that emerged from the work of the school teams and we hope it stimulates and enriches professional conversation and action across even more schools.

The ELEVATE INSIGHTS publications are connected and document participants’ insights and learnings. Accompanying each publication are complementary professional learning resources created during the project that will help inspire the possibilities that exist for others.

Unleashing Brilliance

HOW HIGH POTENTIAL LEARNERS ARE CHALLENGED AND SUPPORTED AROUND THE WORLD

◆ Our Case for Change
◆ A horizon scan

Sharpening Focus – Discovering Brilliance

WHO ARE HIGH POTENTIAL LEARNERS?

◆ Discover and understand their needs and hear what matters to them

Innovating and Leading for Brilliance

HOW SCHOOLS RESPONDED TO THE COMPLEX CHALLENGE OF MEETING THE NEEDS OF HIGH POTENTIAL LEARNERS

◆ Hear their insights and understand their journeys of innovation

We hope that by sharing the process and collective learnings from ELEVATE you will be inspired to imagine new possibilities for high potential learners in your own school, and feel supported in your own efforts to innovate for the future.

Dr Geoff Newcombe AM
Chief Executive, AISNSW
CASE FOR CHANGE

Our Case for Change was co-designed with a broad range of stakeholders and marked the start of this multiyear program.

Australia, like everywhere else, needs alternative thinkers to solve the country’s and world’s most complex problems. We also need people to meet the ethical challenges that arise from new technologies. Who are these kids and what is the role of school in helping them to explore these new frontiers in ways that fire their imagination and ignite their passions?

For Australia to flourish and prosper we need highly successful and confident students. It’s not just about how much they know, it’s also about having the capabilities to design their own futures. Extending high potential learners doesn’t mean pouring in more content. Extending student agency and developing higher order skills are critical.

“… the evidence strongly suggests that the most capable students in Australian schools are being insufficiently challenged. It’s an unfortunate phenomenon that’s called ‘coasting’ and it’s reflected in the flattening of the achievement profile of Australian students at the top end, as indicated in multiple international surveys from the OECD. We really do need to take action on that.”

Professor John Hattie – Board Chair AITSL, 2015

Download our full Case for Change
1. INTRODUCTION

1.1 HORIZON SCANNING AS A SOURCE OF NEW IDEAS AND FRESH INSIGHTS

Horizon scanning is a future-oriented research method, which expands the range of ideas available to us as we innovate in our schools and in our practice. It challenges our assumptions about what is possible and raises our levels of ambition for what can be achieved. Helpfully it also provides some clues as to how we might get there, as we plan a route from where we are now to where we want to be.

Horizon scanning is important for stimulating innovation, not just in ‘green field’ sites or for ‘blue sky’ thinking, but also in very established areas of practice where new ideas and fresh insights can be in short supply and things can feel a little ‘stuck’. Horizon scanning is especially helpful when we want to tackle problems or issues of long standing, which we have not managed to solve with the current pool of ideas and approaches available to us; or if we want to make rapid progress in an area where improvement to date has been incremental or too slow.

Horizon scanning works by surprising us with the unexpected and inspiring us to imagine new possibilities with often quite radically different practice and contexts. A scan typically takes in a wide range of geographies and sectors to answer our questions and to address the issues with which we are wrestling.

For ELEVATE, we focused on discovering the different ways that successful schools and other kinds of organisations identify and develop talent, specifically:
The scan described in this summary report was conducted over a two month period during 2015 and discovered thirty examples: twenty from schools and ten from other sectors including health, hospitality, arts and culture, social innovation, business and banking.

Examples representing thirteen countries in North and South America, Canada, Europe, Asia, Australia and New Zealand were included, along with a number of examples deemed international either because of multiple locations or because they exist principally online.

1.2 EVIDENCE-BASED QUALITY CRITERIA

Even the most enthusiastic champion of innovation would accept that not every promising new idea or approach works. While there is undoubtedly rich learning to be had when things go wrong, in the ELEVATE horizon scan we decided to focus on approaches that met evidence-based criteria for high quality learning environments and that have a demonstrated impact.

Two different quality filters were applied.

1.2.1 Impact of value for learners

The first was a general requirement that examples should be successful – have impact – on their own terms and by relevant measures. For instance we accepted student achievement for schools, and other accreditation or entry into employment for examples not from schools.

In other words the scan included only examples that were explicit about the ways in which they made a difference for learners, and the difference they made needed to be widely acknowledged to have value.

The examples we included between them deliver a wide range of impacts:

- Improved academic achievement for high potential learners measured by test scores and quality of work.
- Increased acceptance into higher education, particularly noticeable for students from groups with historically low graduation rates.
- Increased retention in higher education, in contrast with generally high levels of drop-out for students with similar backgrounds.
- Evidence of skills and mindsets for lifelong learning, especially entrepreneurship, self-direction and motivation.
- Readiness for work e.g. understanding of professional culture and behaviours, career planning and network connections. For some, securing employment was a direct outcome.
- Demonstration of so-called ’soft’ skills highly prized by employers, such as communication, collaboration, resilience, problem solving and creative thinking.
- Increased civic engagement, through volunteering and social entrepreneurship.
- Improved wellbeing, evident in positive peer relationships, improved engagement, confidence and health.

Each example demonstrates at least one of these impacts; most more than one.
1.2.2 Rigour in the learning processes

The second quality filter was drawn from an international research review conducted by OECD Centre for Educational Research and Innovation, which has been exhaustively developed and tested in the Innovative Learning Environments Program.1

Published in 2010, *The Nature of Learning* is an influential report intended to inform education policy and practice worldwide by synthesising evidence about how learning environments could and should be designed.

*The Nature of Learning* offers a set of seven overarching principles to guide the development of effective learning environments for the 21st century, which can be summarised as follows:

** Learners at the Centre
Activities should centre on students’ active engagement and their development as self-regulated learners. This calls for a mix of pedagogies, which include guided and action approaches, as well as cooperative, inquiry-based, and service learning according to their developmental need.

** The Social Nature of Learning
Students take part in well-organised and challenging cooperative group work.

** Emotions are Integral to Learning
Learning professionals are highly attuned to learners’ motivations and the key role of emotion in making learning more effective.

** Recognising Individual Differences
The learning environment is flexible enough to adapt to the wide array of differences among the learners in it.

** Stretching All Students
By devising programs that constantly challenge students to reach above their current level, without overload or excessive pressure, as these are not consistent with the evidence on effective learning.

** Meaningful Feedback for Learning
The learning environment is clear about its expectations and how these map onto the ‘bigger picture’ of what students are doing. Formative assessment is used by students and staff to provide meaningful and regular feedback that helps them improve.

** Building Horizontal Connections
By supporting students to make connections between areas of knowledge and subjects as well as to transfer their understanding into the community and the wider world.
The ELEVATE horizon scan captures these principles as features of the learning environment, which each example exhibits to a greater or lesser extent.

By describing each example with reference to the seven principles, it becomes possible to read across the diverse data set of the scan, using this evidence-based framework:

(i) to make it possible to compare and contrast quite different kinds of practice and contexts in discussion; and

(ii) to invite evidence-informed reflections about the relative quality of the learning environments they represent.

As well as quality assuring the examples that are accepted into the scan, choosing and analysing examples using an evidence-based framework provides clues as to why some things might be working better than others, and hints at what the effects might be of introducing some of the ideas and practice into other contexts.

Using evidence in this way to underpin the scan also helps us to manage some of the uncertainties and risks that are part and parcel of innovation. It increases our levels of confidence so that, as we learn from the examples, there is a secure evidence base that will help us to figure out which features can be adapted or dropped and which are critical to success.

1.3 RESOURCES TO INSPIRE AND CHALLENGE

Like any other horizon scan, this one for ELEVATE is not intended to be either comprehensive or authoritative.

Instead, we hope the examples inspire and engage, provoke and challenge, and stimulate enquiry and discussion as part of a learning and innovation process.

This short accompanying report explores some of the insights developed by the ELEVATE team as we worked with the examples, and sets out what we learnt about identifying and supporting high potential learners.

We offer it as a starting point for enquiry and discussion amongst participants in the ELEVATE program, and for all teachers and school leaders interested in new ways to foster the unique potential of their learners. No doubt there are many more insights that will emerge over time and resonate for different groups.

The examples themselves are attached as appendix A and are available for download from the ELEVATE website. We hope you find both the report and the examples exciting and useful in your school.
2. IDENTIFYING HIGH POTENTIAL

From the case studies, there are a number of characteristics that define successful and innovative approaches to identifying and challenging high potential in both education and non-education settings.

2.1 STUDENT PASSION AND INTEREST AS INDICATORS OF HIGH POTENTIAL

In most of the examples learners choose, or are supported to choose, their topics or focus on the basis of their desires and interests. The extent to which they have been successful in, or demonstrated any particular talent for a subject in the past is considered less important and different criteria are applied to support decisions about whether and how learners can access a learning opportunity.

At Fifteen and Te Kura, educators believe that where passion and interest are to be found there also lies potential. An understanding of the roles of ability, effort and engagement seem to be at the heart of this. Effort and engagement are the products and visible signs of passion and interest. Learners work hard at the things they care about, and effort and engagement are harnessed in the learning environment to drive achievement. Learners do well at the things at which they work hard. It is a virtuous circle to maximise abilities of all learners.

Engagement in learning is both a robust predictor of increased academic and life outcomes, and also closely associated with students’ orientation to new and challenging experiences.

Abbott-Chapman et al, 2013\(^4\); Goldspink and Foster, 2013\(^5\)

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**FIFTEEN**

Jamie Oliver’s famous Fifteen restaurant and cookery school in London accepts young people aged 18–25 selected for their passion for food and enthusiasm for the work, regardless of their learning or personal histories. Graduates from Fifteen go on to enjoy successful professional careers: some own their own restaurants, some work in Michelin starred establishments.

**TE KURA**

The Te Kura correspondence school in New Zealand provides distance education for school-age children. Advisors work with learners to develop programs based on their passions and interests. Some of Te Kura’s learners are children who have refused school, some live in remote communities and can’t access school and some are children who want to expand their learning beyond what’s available in their current school. Passion for learning and identified learning needs that regular schools can’t meet are the selection criteria.
2.2 IDENTIFYING HIGH POTENTIAL AS A PROCESS OVER TIME, NOT A ONE OFF EVENT

It takes time to identify high potential and potential cannot be identified in every learner in the same time frame.

City as School in New York City makes a five-year commitment to all learners, the youngest of whom are sixteen. This is partly in acknowledgement that the challenges faced by young people joining the school may mean that it takes them a little longer to reach their highest potential. Around 10% of learners each year are homeless, for example. It also indicates the school’s commitment to the lives of learners beyond graduation and into college or work.

Flexibility like this is informed by, and in service of, high expectations and a belief that all learners have the potential to be high achievers given time and the right support. The combination of this belief and high expectations is often referred to as having a growth mindset.

Entry examinations are virtually unseen in the examples — although this does not at all imply a relaxed attitude to entry requirements.

School 21 in London and High Tech High in San Diego, for example, are open to all children in a geographical area, and admissions processes focus on preparing learners and their families to anticipate the rigour that high expectations bring, rather than attempting to identify before they arrive, which children are most likely to be successful, and screening out the rest.

Similarly, age or ability related groupings and cohorts are less rigid in these schools, and often fall away all together. Instead learners are supported to learn for as long as it takes to achieve mastery and they do so alongside others who share their passion for the subject, regardless of age or prior learning.

In contrast to more inclusive examples, Carpe Diem-Yuma is seen as a high performing option to traditional schools in Arizona, USA for children in grades six to twelve. Here too though there are no year levels or ability groupings and learners progress at their own pace through a blended learning environment of online programs and personal coaching, with intensive support available and the chance to graduate early in areas where they are doing well.

In this school, real time data provided by algorithms in the online learning environment combine with teacher assessments to identify each learner’s potential at any point in time throughout their school career and across the range of subjects they study.

A longitudinal study of 370 students aged 12 to 13 and 13 to 14 found that, on average, the grades of students with growth mindsets increased, while those of students with fixed mindsets decreased. The attainment gap between these two groups grew over the period of study.

Blackwell, Trzesniewski and Dweck, 2007

A key principle of growth mindset is that our perception of our intelligence — our assumptions about the extent to which it can be improved or not — impacts on the expression of our ability and intelligence. This in turn assumes that our ability and intelligence can be changed.

There is strong evidence supporting the significance of mindset in the context of academic attainment. ... There is also strong evidence that mindset is related to the development of many character skills, such as resilience and grit, self-regulation and persistence, and correlated with wellbeing and mental health.

Demos, 2015
2.3 LEARNERS AS AGENTS IN IDENTIFYING THEIR POTENTIAL

Across the examples, we notice that diverse opportunities where learners are able to explore and pursue often wildly alternative topics and different approaches to learning are combined with personal support for learners to engage and to evaluate the potential of the learning opportunity for them.

Underpinning these examples is an assumption that learners can be active agents in the business of identifying their potential; that, with support, they will choose the things in which they can be most successful. This links to the earlier point about passion and interest of course. But it goes beyond that. These learners are self-determining and self-actualising; they construct their identity as learners and their futures as adults in the choices they make and the paths they follow.

In order to make choice and freedom of action motivational, students should be provided with options to engage in schoolwork that are relevant to personal goals and interests.

Wang and Eccles, 2013

Increasing responsibility and autonomy of students for their learning can have a knock-on effect on the whole learning process: student motivation increases perseverance, achievement, and eventually their motivation to learn more.

Munns et al, 2006

ESCOLA LUMIAR

At Escola Lumiar in Brazil, learners aged from four to fourteen are supported by a personal tutor to explore a wide range of topics in mixed age and informal groupings. Optional workshops are offered by teachers and others every morning in schools, meaning learners encounter many different learning opportunities en route to discovering their potential.

FEENIKS-KOULU

Finland’s Feeniks-Koulu is a learning community for learners who are being homeschooled. Learners choose what they study by questioning and seeking out information and they track their own progress against the curriculum. Weekly meetings bring teachers, learners and parents together to share ideas and to socialise, but learning takes place at home, in small groups in school or via home visits and tutoring via online platforms, such as Skype.
3. SUPPORTING LEARNERS TO ACHIEVE TO THEIR HIGHEST POTENTIAL

The second question that informed the ELEVATE scan was, once identified, how are learners supported to achieve to their highest potential? Across the thirty examples we noticed three distinctive approaches. High potential is variously supported by:

- **Accelerating** the pace of learning through bursts of intensive or compressed periods of study; relaxing age or cohort based pathways; and making adult learning opportunities e.g. undergraduate, work based or professional learning available to younger learners in different ways.

- **Expanding** learning to include subject areas or foci beyond the normal scope of school; and/or the range of settings in which learning takes place; and/or the teaching and learning approaches that are deployed; and/or the people with and from whom learners learn; and

- **Deepening** learning through personalisation and challenge in combination with collaboration e.g. with peers, with community members or experts and by defining success in learning within these relationships, so that assessment becomes both contextually relevant and individually formative.

In short, it’s complicated. And, critically, we think the scan shows that learners achieve to their highest potential when support contains features from all three categories, suggesting that a combination of accelerating, expanding and deepening learning are required if the promise of high potential is to be realised.

Let’s take a closer look at the detail. First of all at some of the ways in which learning is accelerated in the examples.

### 3.1 ACCELERATING THE PACE OF LEARNING

In the previous section we notice that identification of high potential is expected to happen over a period of time, rather than as a one-off event. This means that opportunities to demonstrate potential are ongoing, with implications for timing and sequencing of, and progression through, learning.

A common feature across all the examples was a flexible approach to the pace of learning. Learners are given the chance to study at their own pace, to repeat or skip activities, or to tackle them in a different order. As well as opening up possibilities for learners to realise potential over time, relaxing norms around timing and sequencing also creates the opportunity to accelerate learning.

Another ‘version’ of accelerating learning is demonstrated in the examples in the opening up of the adult world to young people; challenging them with new opportunities for learning, not only in a classroom but in the settings where adults work and learn for real.

**In Templestowe College in Australia, learners have the option to begin VCE courses from their second year and to study at their own pace. Learners taking this option can graduate early and begin university courses through Open Universities Australia, while still attending school.**

**The Arkansas School for Mathematics, Sciences and the Arts (ASMSA) in the USA awards college credits for sixty of its programs, known as advance placement (AP) courses, for instance in genetics, optics and immunology. Professional level lab work is encouraged to enable learners to rapidly develop their research skills, making it possible for them to compete in national fairs and contribute to symposia.**
The emphasis here is on connecting learning to a life after school. Learning like this demonstrates the relevance and value of learning for young people with high potential for whom the classroom may not be an ideal environment. It speaks to a higher ambition than success in examinations, and models what a productive and fulfilling adult life, full of learning, might offer.

In the School of Communication Arts in the UK, learners hoping to work in advertising learn initially in a studio with industry mentors and work on live briefs provided by leading advertising agencies. Later they take up placements in agencies and the success of the program is determined by the number of learners who secure employment on graduation.

New Village Girls Academy, USA is a Big Picture school, where girls work with a teacher advisor, an employer-mentor and their family to develop a real world project to focus their learning. They spend two days a week at a real place of work completing their project, which must have genuine value to them and to the host organisation. 70% of the girls go on to college. A high proportion of them are teenage mothers.

The work students undertake needs to be relevant, meaningful and authentic – in other words, it needs to be worthy of their time and attention.

Willms, Friesen and Milton, 2009
3.2 EXPANDING LEARNING

In these examples, expanding learning goes way beyond enhancements and add-ons to existing curricula, such as music lessons, participation in sport or clubs and activities. However valuable these may be, expanding learning here refers to the wholesale expansion of the reach of learning, beyond the cognitive and into the affective; touching all parts of young people’s lives.

Most often this is achieved by moving learning out of school and into the community. Learners take part in and lead social action of all kinds including: volunteering; community regeneration; and local history projects.

Programs vary in scope and duration, but share common features such as collaboration between learners of all ages, authentic interaction between learners and community members, and outputs of value in the community, as well as to the learners themselves.

One of the things we notice about these examples is the wide range of people involved in young people’s learning. In addition to teachers there are industry specialists, employers, community leaders and families all active in helping each young person achieve to their highest potential. Peer relationships too play a large part, with learners supporting each other to achieve their best, to mutual advantage.

Giving young learners opportunities to think and talk about aspects of teaching and learning can have a direct impact on pupils’ metacognitive development and on their understanding of how they learn.

Flutter and Ruddock, 2004

EXPEDITIONARY LEARNING

In Expeditionary Learning USA, while curriculum is aligned to the Common Core, it is brought to life through engaging programs and topics known as learning expeditions. Fieldwork and working with experts enables students to take on professional roles, conduct research, analyse data and add value to the community around them. Progress is monitored and encouraged through peer critique and descriptive feedback provided by learners of all ages using models and rubrics that then help to analyse how their friends can improve their work.

What’s really interesting about peer support like this is that benefit accrues both to the learner whose work is subject to scrutiny and to the learner making the critique. A recent study found that after three years in an Expeditionary Learning school, learners are on average ten months ahead of their peers in maths and seven months ahead in reading.

Hattie, 2009

RIVERSIDE

In Riverside School in Ahmedabad, India, alongside a rigorous academic program, learners engage in community based projects designed to ensure they develop as ethical and empathetic citizens. They are required both to ‘do good and do well’ in school. Younger students buddy with older students and are supported by teachers to develop a passion for and knowledge about community issues through ‘interest centres’, which are linked to community projects. These projects are led by the older students, some of whom become the CEO and take responsibility for the success of their project, which is jointly assessed by their teachers and the community. Projects tackle issues ranging from teaching children in government schools to feeding the homeless.

Students being able to evaluate their own work, and being able to have explicit conversations with teachers about their learning have some of the largest effect sizes on student achievement.

Hattie, 2009
3.3 DEEPENING LEARNING

There are two features, which are consistent across the examples and that combine together to support learners to achieve to their highest potential by deepening their learning.* The first is that learning is highly personalised i.e. challenging according to identified learning needs. The second is that assessment is both formative for the individual learner and is connected and relevant to the goals and the context of the learning environment.

The first is that learning is highly personalised i.e. challenging according to identified learning needs. The second is that assessment is both formative for the individual learner and is connected and relevant to the goals and the context of the learning environment.

Personalising learning in these examples does not require that learners work and learn alone, far from it. Collaboration is the norm and the apparent tension between group work and individual achievement is most frequently resolved through project based learning** in which each learner pursues their own passions and interests that are complex enough to address their own learning needs, at the same time as contributing as part of a team to the overall success of their project.

In Bloom’s (1985) longitudinal study of eminence in two academic, two athletic and two artistic fields, a strong pattern was found in that talented children were provided with a continuous progression of more and more difficult expectations, set jointly by themselves and their current tutor, teacher or mentor. The children, as they progressed in the knowledge and skills necessary in their talent areas, could reflect on their progress and based on these perceptions develop new “benchmarks of progress.”

Rogers, 200715

Project based learning increases long-term retention of content. Helps students perform as well or better than traditional learners in high-stakes tests, improve problem-solving and collaboration skills, and improve students’ attitude towards learning.

Strobel and van Barneveld, 200916

Assessment plays a critical role in the examples to determine the level of complexity of the opportunity provided. In addition to progress in academic subjects according to standardised tests, assessment is used to help learners to evaluate progress in other cognitive and affective dimensions too.

Stanford University worked with Envision schools in San Francisco, USA to develop a series of performance tasks that assess deep learning. Learners’ problem solving, critical thinking and metacognitive skills are assessed along with academic performance, and assessments, which include portfolio defence or viva, and these prioritise the application rather than the recall of knowledge.

Assessments like these are vital, where, for instance, project based learning or internships ask different questions of learners and teachers which traditional forms of assessment cannot help them answer.

In schools like Envision, assessment is seen as just one of the ways that learners are supported to reflect critically on their own progress and achievements and to work out the next steps they need to take in order to meet their developmentally appropriate goals.

When formative assessment practices are integrated into the minute-to-minute and day-by-day classroom activities of teachers, substantial increases in student achievement – of the order of a 70 to 80 percent increase in the speed of learning – are possible, even when outcomes are measured with externally-mandated standardised tests.

Wiliam, 201117

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Wiliam, 201117

* The Hewlett Foundation in the USA partners with schools, organisations and networks that support students to be prepared with the skills and knowledge needed to thrive in a changing economy and society. They define deeper learning as follows: “In classrooms where deeper learning is the focus, you find students who are motivated and challenged—who look forward to their next assignment. They apply what they have learnt in one subject area to newly encountered situations in another. They can see how their classwork relates to real life”.

** “Project-based learning” refers to students designing, planning, and carrying out an extended project that produces a publicly-exhibited output such as a product, publication, or presentation. See Work that matters: A teacher’s guide to project-based-learning (2012) Paul Hamlyn Foundation. REAL Projects are designed by teachers, and rigorously tested to ensure that they will include deep subject knowledge as well as enable students to develop skills they need to succeed in life. Every project requires students to produce high quality outputs that are publicly exhibited to an authentic, real-world audience. See [http://www.real-projects.org/].
4. IMPLICATIONS AND DISCUSSION

The examples discovered in the ELEVATE horizon scan indicate that:

i. Identifying high potential is a process and not a one off event, which requires:
   - a creative and sophisticated approach to assessment and evaluation;
   - that learners frequently encounter multiple and diverse concepts and learning opportunities; and
   - learners have agency - are active in identifying their own potential.

ii. Supporting learners to achieve to their highest potential requires that we do all of the following:
   - accelerating the pace of learning or flexible pacing;
   - expanding; and
   - deepening the learning opportunities we provide.

It is clear that the demands that realising high potential will place on teachers and schools are significant. There are implications for:

THE WAY SCHOOLS ARE ORGANISED

Currently age related cohorts, common curricula, learning pathways and timetables, which carve up learning into the bite-sized chunks we call lessons are the norm in many of our schools. In contrast, systems and processes like this, which are principally designed for efficiency, are almost completely absent from the examples. Instead flexible routes through learning, with multiple entry points and opportunities for repetition, enhancement and acceleration are usual.

Alternative approaches to the use of space and time in school also mean that different groups of learners can come together, unbound by traditional categorisations relating to age or stage.

Blurring the boundaries of the school, so that it is permeable to the community and learning from outside, and moving learning out into the community and the world of work opens up myriad new learning opportunities involving new people and places.

THE WAY CURRICULUM IS DESIGNED

We found hardly any evidence of groups of learners convening in classrooms at the same time every few days to listen to a single adult tell them about one aspect of an individual subject.

Curriculum in the examples is almost always co-produced by learners and teachers and, often, others too. The passions and interests of learners, their motivations and their understanding of their learning needs and their ambitions for their future lives are what drives learners’ choices about what, where and how they learn.

This does not imply learning that is unstructured or content free. High quality instruction and coaching are critical ingredients, but these tend to engage individual or small groups of learners and are deployed in response to learners’ needs. Individual and collaborative projects, mastery workshops and peer support, carefully crafted and skilfully scaffolded by expert educators, are also at the heart of personalised learning like this.

THE WAY WE ASSESS LEARNING AND LEARNERS

We currently rely heavily on tests that make it possible to generate numbers that can be monitored to demonstrate learners’ progress individually, relative to one another and referenced to norms. Assessing learning like this also makes it possible to aggregate scores to describe the performance of a whole cohort or school, or indeed States and Territories and the Nation.

In the examples, highly personalised assessments are privileged, which demonstrate the value of learning for the learner, now and in the context of their whole lives, for their community and for the world of work. In the vast majority this happens not at the cost of success in standardised tests, but to their benefit.

Assessments by public exhibition, scrutiny by industry experts, peer critique and community panels, in many ways, provide more rigorous feedback; they are certainly more relevant and useful, and they helpfully appear to deliver results in standardised tests that routinely outperform comparators.

THE WAY WE THINK ABOUT AND USE TECHNOLOGY

Most schools now use technology for organisational purposes, for instance managing performance and attendance data, and to some extent in learning. In many of the examples, however, technology is at the heart of how learners engage with the curriculum, how they demonstrate their learning and how learning is assessed. Technology suffuses these learning environments, whereas in most of our schools technology remains underutilised.
The role of teachers

Perhaps one of the most significant set of implications for realising high potential is the way that teachers and learners interact, with one another, with other people who have something to offer to the learning environment and with the curriculum.

It is clear that to support learners to achieve to their highest potential, teachers need to be highly skilled designers and evaluators of learning, and for their skills to be adaptable in a wide range of contexts and to meet many different challenges.

In ELEVATE and other programs, AISNSW has been developing the concept of teacher agility to describe this combination of excellence and adaptability that learning environments, like those in the examples, require of teachers.

In summary, the concept of teacher agility is an attempt to describe what it is that makes a teacher skilled at the job of supporting learners in a wide range of contexts. We think there are at least three distinct teacher qualities that are in play when talking about teacher agility, each building upon the last, and each with a significant body of supporting research.*

They are:

i. Deep subject knowledge and understanding; teachers who really know and care about their subject have helpful and insightful contributions at their fingertips, which they can share with learners in any given situation. They acknowledge too that their subject continues to evolve as knowledge, and access to knowledge, explodes. Teachers like this are lifelong learners and make their learning visible and explicit. Their passion for their subject communicates itself to and inspires learners in many different ways. In the examples, we consistently notice teachers who understand learners’ needs and motivations. These teachers are able to secure learners’ interest and engagement. They have the confidence to invite in other experts who share their knowledge and passion, and can inspire learners in new and different ways.

ii. A broad repertoire of effective teaching and learning strategies; designing creative and ambitious enquiries and projects that will support learners on a thrilling journey through a topic; knowing when to support and provide instruction; asking great questions in coaching conversations; and forming groups and facilitating their peer interactions as they work and learn together are all common features in the examples. The teachers we discovered are also able to embrace and incorporate the contributions of others, for instance parents and community members, in their learning designs.

iii. Confident and integrated use of formative assessment techniques; being able to spot and understand learning in action and knowing what to do when a learner is struggling or how to build on a breakthrough moment is critical to the success of the learning we found in the examples. Personalised learning is the norm; learners habitually collaborate, but learning is designed and evaluated for and by the individual learner, with support.

We think there are two additional characteristics, which the teachers in these examples share, and that are equally significant:

They believe that each and every learner has potential, and that it is their job to (i) spend time with that learner finding out where their potential lies and (ii) work closely with the learner and their family to ensure they realise their highest potential.

They see themselves as learners too, immersed in and excited by the journeys their learners are undertaking, evaluating as they go the best way to ensure each learner can achieve to their highest potential.

*A longer exposition of teacher agility, with references to supporting research evidence is offered in appendix B.
5. SOME QUESTIONS FOR REFLECTION

ON NEEDS OF HIGH POTENTIAL LEARNERS:

How is ‘high potential’ thought of and talked about in your school? Which learners are thought of in that way?

Does your school actively seek out high potential in learners? How does it go about this? (How might it?) Do learners, their families or other experts play any role?

Is there scope for new topics and new ways of learning to be used as opportunities to identify potential?

ON SUPPORTING HIGH POTENTIAL:

How can the passions and interests of learners be better understood and built upon?

What are the specific barriers to greater flexibility in learning in your context e.g. timetable, age and rigid ability groupings, single subject lessons? What’s stopping you from tackling these?

What opportunities exist for learners and teachers to engage with the community and the world of work, in order to access a wider range of expertise and take learning beyond the classroom?

How personalised and relevant is assessment for learners in your school? What do you assess and how? What roles do experts and community members play? How does peer assessment feature?

What implications can you see for workforce development? What support might teachers need to grow their confidence and a diverse repertoire of skills to support high potential learners?
6. REFERENCES & BIBLIOGRAPHY

PUBLICATIONS


Munns, G. et al (2006), Student Engagement and the Fair Go Project. School is for me: Pathways to student engagement, NSW Department of Education and Training and the University of Western Sydney.


Strobel, J. & van Barneveld, A. (2009), When is PBL more effective? A meta-synthesis of meta-analyses comparing PBL to conventional classrooms, Interdisciplinary Journal of Problem Based Learning, 3(1), 44-58.


WEBPAGES

ELEVATE program [elevate.aisnsw.edu.au]


REAL projects [http://www.real-projects.org/]
ENDNOTES

1 OECD, Centre for Educational Research and Innovation, Innovative Learning Environments [http://www.oecd.org/edu/cedi/innovativelearningenvironments.htm]


3 ELEVATE program AISNSW [elevate.aisnsw.edu.au]


7 p29, ibid.


10 Munns, G. et al (2006), Student Engagement and the Fair Go Project. School is for me: Pathways to student engagement, NSW Department of Education and Training and the University of Western Sydney.


16 Strobel, J. & van Barneveld, A. (2009), When is PBL more effective? A meta-synthesis of meta-analyses comparing PBL to conventional classrooms, Interdisciplinary Journal of Problem Based Learning, 3(1), 44-58.

ACCESS HORIZON SCAN CASE STUDIES

We invite you to engage with the horizon scan case studies to learn how high potential learners are challenged and supported around the world. There are 30 case studies from education and non-education settings around the world; each has been analysed by the Innovation Unit in relation to the OECD Innovative Learning Environment Principles.

SPARKING POSSIBILITIES CARDS

We have developed a set of resource cards to further the conversation and action in your own school context. These Sparking Possibilities Cards include questions for reflection on the needs of high potential learners and will support colleagues to engage with the horizon scan case study cards.

SPARKING CONVERSATIONS

A powerful strategy in the ELEVATE program was the use of professional conversations. If you have been inspired by this ELEVATE INSIGHTS Series, we encourage you to:

- Share this resource with at least one other colleague – maybe a grade partner or your head of department;
- Email the link to colleagues in your own professional communities of practice or share it through social media;
- Follow-up with a formal or informal meet-up with interested colleagues and use the Sparking Possibilities Cards to develop profiles of learners in your own context.

How will you respond to the learner insights you discover?
Teaching AgIlity

It seems common sense that teachers matter, and that pupils will achieve more with an inspirational teacher than with an average or poor teacher. Thankfully, research backs this up as Slater, Davies and Burgess (2009) find that students in the classroom of high-performing teachers gain almost a year’s advantage over their peers in a lower-performing teacher’s classroom. Similarly, John Hattie’s influential work establishes and interrogates the distinction between ‘expert’ and merely ‘experienced’ teachers.

The notion of ‘teacher agility’ is an attempt to describe what it is that makes a teacher expert, or highly skillful, at the job of supporting their students’ cognitive and emotional development. It is, in fact, possible to discern at least three distinct teacher qualities that are in play when talking about ‘teacher agility’, each building upon the last, and each with a significant body of supporting research.

The First is Having High Levels of Knowledge and Understanding of the Subjects that They Teach.

The search for a relationship between characteristics such as academic qualifications or general ability and student performance has been rather disappointing: correlations are typically very small or non-existent (Rockoff et al, 2011). Other studies have shown that content knowledge is something that a teacher needs enough of, but doesn’t continue to deliver benefits in a linear fashion (Hill et al (2005).

Hattie (2012) argues that it is not so much about the ‘amount’ of knowledge that a teacher has but more about how they understand the surface and deep knowledge of a subject. Steele (2009), in seeking to understand what it is to be an ‘inspired teacher’, notes that novice teachers, despite often having high levels of subject knowledge acquired at university, may not “know how to organise their knowledge for learners because they are still sorting out their own understanding”. Hattie (2012) argues that expert teachers have organised their knowledge differently, “knowledge that is more integrated” and that they can “quickly recognise sequences of events occurring in the classroom that in some way affect the learning and teaching of a topic.” This deep subject knowledge allows them to “identify a greater store of strategies that students might use when solving a particular problem. They are therefore able to predict and determine the types of error that students might make, and thus they can be much more responsive to students.”

One thing is clear, when a teacher has an inspired command of a subject, “this deep interest and curiosity can be sensed by students, and such interest is contagious. For the learner it feels like a guided tour through a complex maze – difficult but delightful.”

The Second is Being Able to Draw Upon a Repertoire of Teaching and Learning Strategies.

As all teachers know, lessons rarely go exactly as planned. In teaching and beyond, as we become more skilled at doing something our decisions about different possible courses of action become quicker and better, and eventually many of these decisions become unconscious. For the novice teacher, it is hard to predict which strategies will work. Most respond to this by engaging in a process of reflective trial and error, trying out new strategies and drawing conclusions about what works for them and in what circumstances.

Expert teachers pay close attention to the signals that their learners display, they understand the nuances behind these behaviours and are able to draw on a wide array of well-practiced teaching and learning strategies to select the right one to apply at that particular moment in time. As Hattie (2012) describes it, “through selective information gathering and responsiveness to students, they can anticipate when the interest is waning, know who is not understanding, and develop and test hypotheses about the effect of their teaching on all their students.”

As Steele (2009) notes, “great teachers remember these responses and pick out patterns over time, whether in a single individual, a group, or a class”. What is more, these teachers adopt a flexibility in their mindset that means when they are confronted with a new challenge, or one that is confounding their previous experience, they are able to devise and execute an alternative path to success which may be completely invisible to a lesser teacher.

The Third is Effective Use of Formative Assessment.

Building upon this sense that expert teaching is about collecting feedback in order to make good decisions, Black and Wiliam, the originators of the term formative assessment, define it as follows:

Practice in a classroom is formative to the extent that evidence about student achievement is elicited, interpreted, and used by teachers, learners, or their peers, to make decisions about the next steps in instruction that are likely to be better, or better founded, than the decisions they would have taken in the absence of the evidence that was elicited. ²

1 Steele (2009)
2 Black (2009)
Moments of contingency, where teachers decide which teaching and learning strategy to apply, can be synchronous or asynchronous. For example, an instant decision needs to be made when a student gives a partial answer to a question as part of a whole class discussion, and a different kind of decision needs to be made when choosing how to give written feedback on student work.

As Black and Wiliam (2009) describe it:

_in formulating effective feedback the teacher has to make decisions on numerous occasions, often with little time for reflective analysis before making a commitment. The two steps involved, the diagnostic in interpreting the student contribution in terms of what it reveals about the student's thinking and motivation, and the prognostic in choosing the optimum response: both involve complex decisions, often to be taken with only a few seconds available._

Early work on formative assessment centred on five main types of activity, suggested by evidence of their potential effectiveness, and developed with and by teachers in normal classroom work:

- Sharing success criteria with learners
- Classroom questioning
- Comment-only marking
- Peer- and self-assessment
- Formative use of summative tests

In order to provide a better theoretical grounding for formative assessment, Wiliam and Thompson (2007) drew on Ramaprasad's (1983) three key processes in learning and teaching to create five overarching aspects of formative assessment.

<table>
<thead>
<tr>
<th>Where the learner is going</th>
<th>Where the learner is right now</th>
<th>How to get there</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Clarifying learning intentions and criteria for success</td>
<td>2. Engineering effective classroom discussions and other learning tasks that elicit evidence of student understanding</td>
<td>3. Providing feedback that moves learners forward</td>
</tr>
<tr>
<td>Understanding and sharing learning intentions and criteria for success</td>
<td>4. Activating students as instructional resources for one another</td>
<td></td>
</tr>
<tr>
<td>Understanding learning intentions and criteria for success</td>
<td>5. Activating students as the owners of their own learning</td>
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</table>

In terms of its impact on learning, Wiliam's (2011) work in schools shows that:

When formative assessment practices are integrated into the minute-to-minute and day-by-day classroom activities of teachers, substantial increases in student achievement – of the order of a 70 to 80 percent increase in the speed of learning – are possible, even when outcomes are measured with externally-mandated standardised tests.

CONCLUSION

Teacher agility is a concept that makes a lot of intuitive sense. It captures the idea that highly proficient teachers have a form of learnt adaptability, gained over many hours of planning, teaching, collecting feedback and reflection. What's more, this concept has clear roots in the literature around effective teaching and learning, especially the theory and practice of formative assessment.

REFERENCES:


Steele, C.F. (2009). The Inspired Teacher: How to know one, grow one, or be one. Alexandria, VA: ASCD.

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Initiated by the AISNSW, ELEVATE was amplified by strategic partnerships with Innovation Unit for the duration of the program and with AITSL to gather voices of thought leaders who confirmed the need for action. We appreciate the evaluation conducted by the Centre for Strategic Education which gave further confidence to our professional learning model to design new solutions to the complex challenge of responding to the apparent underperformance of Australia’s top students.

Appreciation and recognition goes to the 40 Community of Practice schools, over 70 schools in our Community of Engagement and approximately 2500 individuals in our Community of Interest who followed and brought enthusiasm to this work.

It was a privilege to design professional learning for, be inspired by and coach the educators on the teams from the following Communities of Practice.

<table>
<thead>
<tr>
<th>Community of Practice 1</th>
<th>Community of Practice 2</th>
<th>Community of Practice 3</th>
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<tr>
<td>Abbotsleigh</td>
<td>Burwood Girls High School</td>
<td>Barker College</td>
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<td>Calderwood Christian School</td>
<td>Epping North Public School</td>
<td>Bishop Druitt College</td>
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<tr>
<td>Campbelltown Performing Arts High School</td>
<td>Kincoppal Rose Bay</td>
<td>Canberra Girls Grammar School</td>
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<td>Central Coast Grammar School</td>
<td>Loreto Normanhurst</td>
<td>Doonside Technology High School</td>
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<td>Danebank Anglican School For Girls</td>
<td>MLC School</td>
<td>Moriah College</td>
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<td>Hilltop Road Public School</td>
<td>Orange Christian School</td>
<td>St Joseph’s College, Hunters Hill</td>
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<td>Hunter Valley Grammar School</td>
<td>Our Lady of Mercy College, Parramatta</td>
<td>St Stanislaus’ College</td>
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<td>Trinity Grammar School</td>
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For further information please contact Sharon Cheers, Head: School Innovation, AISNSW at scheers@ainsw.edu.au