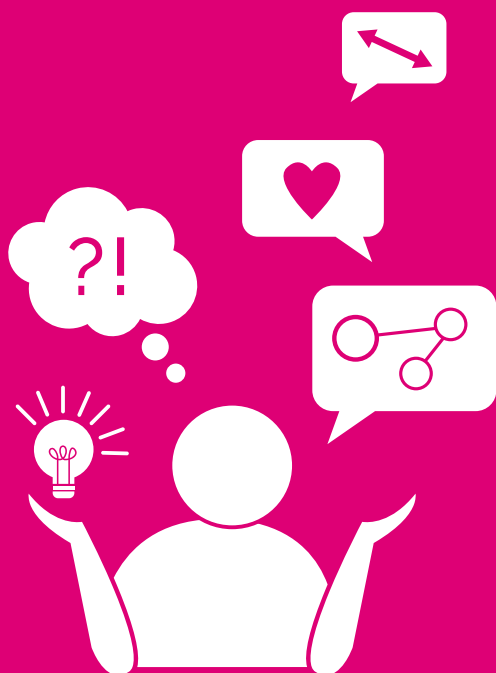


# LEARNING FRONTIERS

PROFESSIONAL PRACTICES TO INCREASE  
STUDENT ENGAGEMENT IN LEARNING

ISSUE 1

Insights and ideas



# LEARNING FRONTIERS IS A COLLABORATIVE INITIATIVE CREATED TO TRANSFORM TEACHING AND LEARNING SO THAT EVERY STUDENT SUCCEEDS IN AN EDUCATION WORTH HAVING.

The project brings together clusters of schools and other interested parties – ‘design hubs’ – to explore **professional practices that increase student engagement in learning**. Design hubs will explore teaching, learning and assessment practices that are built upon four design principles for engaging learning.

Learning Frontiers is:

**A large scale collaborative enquiry**, drawing on the collective wisdom, experience, ambition and imagination of participants to develop professional practice that increases student engagement in learning. Teachers themselves will construct the new knowledge the education community needs to move the professional practice of every Australian teacher forward.

**High quality professional learning** for participants in and out of design hubs. As individuals and in groups, participants are likely to reconfigure their practice – leadership and pedagogic – iteratively and over time as they observe the benefits of students’ increased engagement in learning. Teachers will learn from each other, from experts and others about learning that engages learners behaviourally, emotionally and cognitively.

**A system level intervention**, explicitly intended to stimulate the growth of new relationships between schools, and between schools and new partners: families, communities, for- and non-profit organisations and public services amongst others. These new arrangements – design hubs – are geared to and formed for the purpose of increasing students’ engagement in learning, for instance by extending learning environments and opportunities beyond the classroom, and for connecting in-school learning with the outside, ‘real world’, of students’ lives.

**A scaling and diffusion program**, designed to enable professional practice that increases student engagement in learning to spread beyond the design hub where the practice originates, to benefit students in developer schools; students whose schools are not taking part; and even students who don’t go to school at all.

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Professional practices to increase student engagement in learning



The Australian Institute for Teaching and School Leadership (AITSL) provides national leadership for the Commonwealth, State and Territory Governments in promoting excellence in the profession of teaching and school leadership.



As a not-for-profit social enterprise we're committed to using the power of innovation to solve social challenges.



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# ARE AUSTRALIAN SCHOOLS PROVIDING AN EDUCATION WORTH HAVING

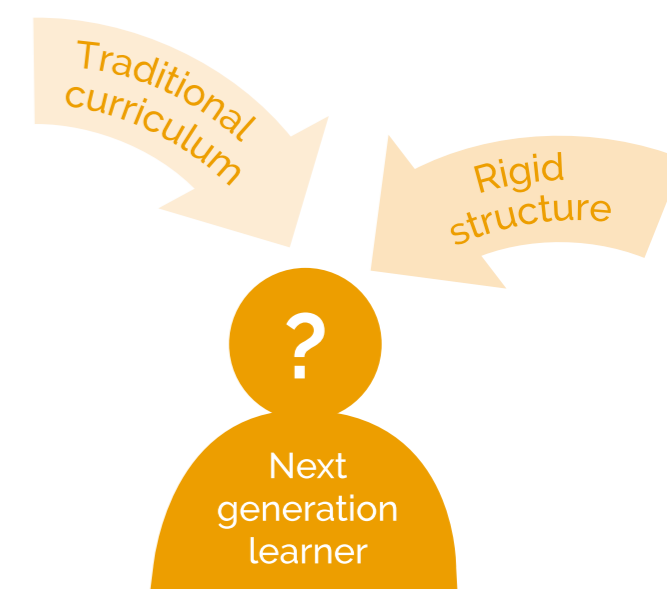
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Ask school leaders, teachers, parents, employers and young people themselves about the education system and they agree: **there is a problem with our schools.**

At the heart of the problem is lack of positive change. The schools we have today were established in a different age, for a different set of purposes.

The world has changed, the needs of learners have changed, but our education system hasn't. How do we bring it up to date?



# EDUCATION IS DISCONNECTED

## From young people's needs...

Students are worried that education is too focused on exam results and is not preparing them for their careers and lives in the 21st century.

"We feel like our education is teaching us about the world but those lessons don't reflect reality... Our society needs to empower individuals by learning about issues of global importance and therefore make change through practical means and community interaction."

Student Shout Out is an online consultation with Australian students that is run by the Foundation for Young Australians. In 2012 over 4,436 students took part. The largest group of student votes (over one third of votes, and 19% of submitted questions) were concerned with improved student engagement in the classroom and with orienting the school system towards the needs of students.

## and their likely future...

Today's learners are the most formally educated generation in history. They are starting education younger and are projected to stay in education for longer.

## But...

when 'Generation Z' learners leave education they are predicted to have 17 employers across 5 separate careers, working in jobs that don't even currently exist.



"The primary aim of the education system should be to develop and apply key life skills such as leadership, communication, teamwork and community involvement in order to overcome challenges and solve future problems."

Student Shout Out, 2012

## From the demands of employers...

Employers are frustrated with school leavers' lack of key skills.

Across the developed world, employers report frustrations that all too often young people are ill-prepared for life in the workplace. The consequence for young people is often a struggle to find meaningful or lasting employment. Governments too acknowledge that these skills are not just useful for the workplace but help to build cohesive communities with active citizens playing a role in civic life.

The Developing skills for life and work report from the Young Foundation, The Australian Centre for Social Innovation and the Foundation for Young Australians, argues that despite efforts to improve formal qualifications and work-based training, there is a growing consensus that more must be done to build the 'softer' skills which employers say are increasingly important in getting on at work.

These skills include discipline, and the ability to interact with adults, to take feedback, to deal with setbacks and more.

## From the digital age, modern communication and participation...

Today's new learners are the most technologically literate and socially empowered generation of children ever. They are highly intuitive and confident unaided users of digital technology who are too young to remember its arrival.

In the digital era communication is 'multi-modal' - the internet is not a literate tool but an interactive, hyper-linked medium of discovery, sound, video and images

The age of reason has given way to the age of participation – we are in an era of user-generated opinion, collaboration and storytelling.

In his book The ABC Of XYZ: Understanding the Global Generations Mark McCrindle shares his belief that most schools have 'recognised the futility of equipping students purely for a closed-book exam culture when they live in an open-book world, only three clicks away from any information on the planet' (p111).

# THESE DISCONNECTIONS MEAN OUR YOUNG PEOPLE ARE NOT FULLY ENGAGED IN LEARNING

## Young people know it

34% of students are concerned about the failure of the education system to engage them and meet their learning needs.

They would like:

- increased agency over how they learn in the classroom and beyond
- more of a say about what they learn, through greater input into the curriculum and choice of subjects
- better teacher-student relationships

Student Shout Out 2012 online survey of over 4000 students

"The overwhelming majority of modern students are disenchanted with schooling and education. The system is not at all flexible, and students have little choice or say in adapting education for an ever-changing world. We want to live in a world where students are willing and motivated to challenge the status quo, as well as express and pursue their opinions and dreams. They must be motivated to be central to their own lives and own education."

Student Shout Out, 2012

## Educators know it

"School has moved too far away from modern life, which now enables students far more information, movement and communication. But classrooms are still quiet, short on communication opportunities and there are limited levels of information and challenge."

Teacher, Design Principles Workshop

Educators believe lack of engagement is because...



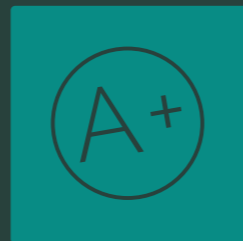
Education is disconnected from students' reality



The work is boring



Educators are disengaged



Too much focus on the 'Exam Agenda'

Top 4 attributes taken from discussions with educators in six states and territories as part of Learning Frontiers



lack of engagement

# WHEN YOUNG PEOPLE ARE ENGAGED IN LEARNING...

"When my students are deeply engaged in learning they experience flow. They are just there. They don't want to leave. Time is not an issue at all."

Tim Smith,  
Mt Alvernia College, Brisbane

At its simplest, being engaged in something means being involved in and meaningfully connected with it. If you don't feel engaged in what you're doing, you won't care about it, and you'll be unlikely to succeed at it.



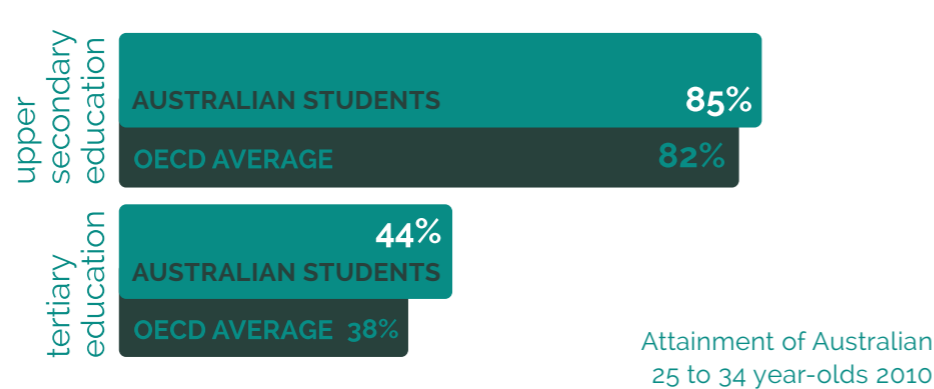
When students are deeply engaged in learning, they are happy, see the relevance and lose track of time.



# RECONNECTING EDUCATION

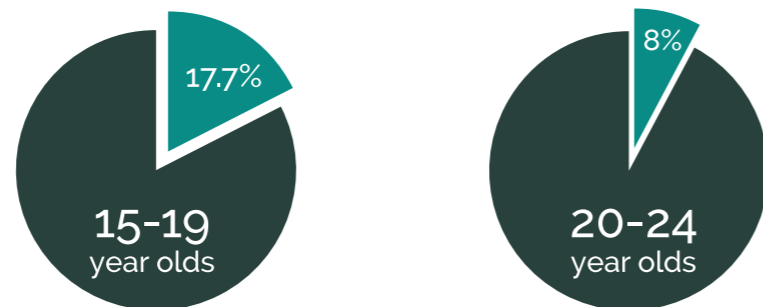
## Where we are now:

Students in Australian schools are doing OK in terms of 'performance'...



OECD, 2012

But youth unemployment, underemployment, labour underutilisation and rates of casual employment among young people have been rising...



How young people are faring report, Foundation for Young Australians (2013)

Unemployment rates, 2012

And parents and communities want better...



Based on a survey of community attitudes presented at the Education Future Forum in 2013.

Overall, how effective are schools in educating students today?

Should schools work harder at engaging with students and making learning interesting?

## Where we need to be:

"Young Australians should not be made to conform to someone else's idea of an education worth having. All efforts should be made to empower them to drive their learning with passion, connect to their community and grow holistically."

Jon Andrews, St Paul's School, Brisbane



OUR NATION NEEDS YOUNG AUSTRALIANS WHO ARE:

Top 4 attributes taken from discussions with educators in six states and territories as part of Learning Frontiers

The Melbourne Declaration on Educational Goals for Young Australians, endorsed by all of Australia's Education Ministers in 2008

"We keep doing things the way they have always been done and expect different outcomes. If the current climate suggests that we aren't getting the results we want, obviously there is a need for a fundamental shift in the way we do things."

We know that learning takes place when it is tailored; tailored to the diverse needs of our students. Why then do we continue to educate in environments that lack any real flexibility, with bell times and physical environments designed to ensure structure and protect the standardisation of learning?"

Year 11-12 teacher, Independent school, QLD



# FOUR DESIGN PRINCIPLES:



Engaging learning is

## CO-CREATED

It draws on both adults and students as a powerful resource for the co-creation of community, the design of learning and the success of all students.

Engaging learning is

## PERSONAL

It builds from student's passions and capabilities, and helps them to personalise their learning and assessment in order to foster their individual talents.

Engaging learning is

## CONNECTED

It connects with and uses real-world contexts and contemporary issues, and is permeable to the rich resources available in the community and the wider world.

Engaging learning is

## INTEGRATED

It emphasises the integration of subjects, of students and of learning contexts.

The four high-level design principles at the heart of Learning Frontiers are informed by complementary sources:

- The OECD Centre for Educational Research and Innovation (CERI)'s 2010 [The Nature of Learning: using research to inspire practice](#). This was an exhaustive international review of evidence from research and practice, which identified the key features consistently found in effective learning environments.
- The [Global Education Leaders' Program \(GELP\)](#)'s 2013 [Redesigning Education: shaping learning systems around the world](#), which builds on the findings of The Nature of Learning combined with work with system leaders in thirteen jurisdictions transforming their education systems to make them fit for learning in the 21st century. Redesigning Education sets out some design principles teachers, school and system leaders can use for creating engaging learning.



This short film explains in more detail the relationship between these sources (and others) and the Learning Frontiers program.

Engaging learning is

# CO-CREATED

It draws on both adults and students as a powerful resource for the co-creation of community, the design of learning and the success of all students.

When learning is co-created many different people are involved in designing what, how, when and where learning takes place. Students, teachers, parents and partners from beyond the school contribute positively to the learning community – working and taking decisions together that improve the learning environment and experience. Through this process students become more engaged, knowledgeable and independent, and often more invested in their learning.



## Research evidence

Research shows a number of other benefits that come from providing more learner choice and control. These include greater displays of active planning and self-monitoring of learning, higher levels of student awareness of their own progress and achievement, more resourcefulness and efficiency in using learning resources, and higher levels of sensitivity to the social learning context (Zimmerman, 1994). Benefits can also include broader educational outcomes such as staying in school, higher academic performance, self-regulation of learning such as doing schoolwork, feelings of competence and self-esteem, enjoyment of academic work, and satisfaction with school (Deci & Ryan, 2002).

*American Psychological Association Teacher guide*

Research suggests that the fit between adolescents' psychological needs and their school environment influences both motivation and school engagement.

*Wang & Eccles, 2013*

If schools do not provide developmentally appropriate educational environments for adolescents, they do not offer the kind of social context that continues to motivate students' interest and engagement.

*Upadyaya & Salmela-Aro, 2013*

Students want stronger relationships with their teachers, with each other, and with their communities – locally provincially, nationally and globally.

*Willms, J. D., Friesen, S. & Milton, P. 2009 p36*

Co-design projects stand or fall on whether the people involved trust the relationships within them.

*By Us, For Us: The power of co-design and co-delivery, 2013*

Research from the psychological sciences confirms that providing students with choice, or other conditions that stimulate natural curiosity and motivation to learn, causes the negative impact of low motivation to all but disappear (Bransford, Brown, & Cocking, 2001; Lambert and McCombs, 1998; McCombs & Whisler, 2997; McCombs & Miller, 2006; Pintrich, 2003)

*American Psychological Association*

Students who believe they have a voice in decision-making are seven times more likely to be academically motivated than those who do not.

*Quaglia 'My Voice' surveys, 2013*

Examples of practice

### Room 13 International, Scotland

Room 13 began in 1994, at Caol Primary School in Fort William, Scotland. It started with one local Artist-in-Residence and a school studio. The average age of the management team of this original Room 13 was ten years old. Students at the school have maintained a self-sufficient business for the last 20 years.

Other individuals contribute to and benefit from working in the studios alongside schools, students and artists. They include recent school leavers, educators and corporate professionals.

### Colegio Cardenal de Cracovia, Chile

Founded in 1980 for students excluded from other schools, Colegio Cardenal de Cracovia serves an area of high deprivation in Santiago, Chile's capital city. In order to engage its students, the school has reconstituted itself as an 'independent republic' with a student-led government.

A referendum was held for students, parents and teachers on whether the school should become a republic. It passed with 87% of the vote. Now, the school has its own political constitution, cabinet, current, bank and a range of 'government departments' run by students, including a Department for Health and a Department for Education.

### Purdue University, Indiana, USA

Purdue University is a well-regarded research university based in Indiana, USA. Since 1995, their School of Engineering has been operating a program that brings together students from across the departments of the university, to work together on genuine problems in their community.

Each EPICS team is matched with a local non-profit that has signed up to receive support with technology. This organisation, referred to as the 'project partner', works closely with the EPICS team to identify the nature and extent of their problem and to come up with a solution.



## Learning Frontiers exploratory questions

Early questions identified by the first design hubs

How will we utilise student passion to shape a unit of work (e.g. a day or a year), co created to enable heightened engagement and improved learning outcomes?

How do we ensure intellectual stretch when students co-design learning?

What do we need to do to create a school where peers, parents, teachers and community feel comfortable to attend and contribute in meaningful ways for a shared sense of ownership?

When we engage in co-design (teacher, student, parent, community partners), how will we ensure the integrity and the quality of the outcomes as determined by the co-design process?



Engaging learning is

# PERSONAL

It builds from student passions and capabilities, and helps them to personalise their learning and assessment in order to foster their individual talents.

When learning is personal it is understood and appreciated by students. Students clearly understand how to learn, and are given regular, timely, individualised feedback from their peers and teachers. Because they understand the process of learning, they are confident and motivated to take responsibility for their own learning and to be involved in supporting the learning of others. Teachers give more choice and autonomy to students, and this in turn increases engagement. Technology is used to support increased autonomy because students can control how, where and when they work, and can easily share their learning with others.



## Research evidence

When students feel that their teachers convey reasonable and clear expectations, provide appropriate instrumental help and support their autonomy, they are more likely to value a task and experience positive feelings towards it.

Wang & Eccles, 2013.

There is growing evidence that positive perceptions of the school environment lead to students having higher levels of confidence in their academic self-concept.

Wang & Eccles 2013.

Technology potentially allows learners to set their own agendas as it opens up new opportunities for regular participation on evolving and relevant issues.

Future Lab Learner Engagement, 2008

Effective feedback has twice as large an effect on academic outcomes as the average educational intervention – as twice as large an effect as socioeconomic background or homework.

Hattie, 2009

If feedback is directed at the right level, it can assist students to comprehend, engage, or develop effective strategies to process the information intended to be learned.

Hattie & Timperley, 2007

Formative assessment cannot be done to the pupils but must be done with them. The aim is to enable pupils to become independent learners.

Marshall & Williams, 2006

Over the 19 years span of the Project for Enhancing Effective Learning (PEEL) teachers and schools in Australia have reported substantial change in engagement, learning and outcomes as students develop the ability to speak and share about their learning and their learning processes.

## Examples of practice

### Phoenix school, Finland

Feeniks-koulu (Phoenix school) is an unofficial school which has non-mandatory attendance. It combines the philosophies of home-schooling and democratic schools with new technology to provide higher quality learning opportunities.

This online platform prioritises the need for inner motivation and is designed with a vision of the learner as an independent constructor of knowledge: as far as possible, students are able to choose what they study.

### Massively@jokaydia, Global

Massively@jokaydia is a 'Guild' of players of Minecraft, the award-winning world-building game played by millions of players globally.

The Guild is aimed at children aged four to 16 and is designed in a way that players develop digital media skills, creativity and online social skills. There are several 'maps' players can follow, allowing them to pursue a range of activities while choosing their own pathways and adventures.

### PROTIC, Canada

PROTIC (Programme de formation au secondaire axe sur les technologies de l'information et de la communication) is a parallel program offered within College des Compagnons, a school in Quebec City, Canada.

PROTIC projects are consciously organised around the development of social and meta-cognitive competencies.



## Learning Frontiers exploratory questions

Early questions identified by the first design hubs

How do we personalise learning to deeply engage students?

How do we ensure every student uses meaningful feedback to enhance their learning?

How can we collate and represent the available data around individual students' learning to support their engagement in personalisation? What tools would facilitate this process?

How do we support and encourage students to overcome the numerous barriers to ensure they are 'leaving to learn'?

Engaging learning is

# CONNECTED

It connects with and uses real-world contexts and contemporary issues, and is permeable to the rich resources available in the community and the wider world.

When learning is connected it has direct meaning and value to students. Learning is designed with a clear and 'real-world' purpose and a significant proportion of learning takes place outside of the school in the local or wider community. Students know they are learning for a purpose because they create ideas, products or services for others. The focus of learning often connects to students' interests, passions and needs, but also to global issues and contexts.



## Research evidence

Some studies have shown that students report more frequent experiences of flow and engagement in organised out-of-school activities and in non-academic subjects than during regular classroom hours.

Upadyaya & Salmela-Aro, 2013

Students in Big Picture learning schools, where between a third and half of learning time is outside school, have consistently higher engagement rates and graduation rates than district equivalents – in 2009, evaluators found that Big Picture schools had significantly lower drop-out rates, and a 92% graduation rate as opposed to a 74% average.

BPL longitudinal study, 2010

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

Willms, J. D., Friesen, S. & Milton, P., 2009, p34

Design for Change is a model of learning now used worldwide with children of all different ages. Students carry out a design process to create a new product or service for others. A study of the program found it resulted in increase in motivation among students, and

over the years the percentage of students and teachers wishing to participate a second time has increased to 100%.

Good Project, 2012

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

Strobel, J. & van Barneveld, A., 2009

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 & Eccles, 2013 p20

## Examples of practice

### Ørestad Gymnasium, Copenhagen

Ørestad Gymnasium has a curriculum built around real-world case studies, designed and taught in collaboration with a range of educational institutions and media specialists, including the Danish Design School and the University of Copenhagen.

The school's philosophy of practice is to be a school "where we let ourselves be distracted by the outside world to constantly develop new ways of teaching".

The curriculum has been built around real-world case studies, with specialised study programs including Digital Media, Globalisation, Biotechnology and Innovation.

### Maison Familiale Rurale, France

A Maison Familiale Rurale (family and rural house) is an education center offering a curriculum based on real local needs.

Learners at a Maison spend one week out of every three boarding at the house, and the other two at home putting into practice in the family farms what they have learnt.

### Big Picture, US

Big Picture began in 1995 with a single school in the city of Providence, Rhode Island. 'The Met' (originally the Metropolitan Regional Career and Technical Centre) was founded with the philosophy that the best way to engage students in learning is to help them to discover and follow a passion.

Students spend at least two days a week pursuing personal projects or internships, which they choose together with their advisor.



## Learning Frontiers exploratory questions

Early questions identified by the first design hubs

How can community and learning environments make student learning authentic?

Our interdisciplinary curriculum is now 10 years old and is based on last century's big ideas in science. What are the next century's big ideas in STEM that can re-define

our interdisciplinary curriculum to engage students in teaching and learning?

How effectively does our interdisciplinary curriculum connect learning with real world applications of knowledge and authenticate the assessment methodologies?

How do we look beyond traditional school boundaries to connect with student passions?



Engaging learning is

# INTEGRATED

It emphasises the integration of subjects, of students and of learning contexts.

When learning is integrated it is a seamless, logical and meaningful experience for learners, teachers and parents. Everyone involved in the learning process can better support it because they use and understand the same 'language of learning'. Integrated learning uses assessment to inform and respond to the learning experience. Assessment takes place when it is needed and useful, and takes a variety of forms. Students work with a wide range of other students of different ages and abilities, and undertake high quality projects that facilitate learning across subjects and offer choice as well as obligation. The learning of skills is integrated with knowledge acquisition.



## Research evidence

The schools which make up the New York Performance Assessment consortium – which emphasizes shared and authentic assessment in place of external testing – have college progression rates far above the national average – despite taking in primarily disadvantaged students (Foote, 2005). 86% of parents of Consortium schools are pleased with their child's school, as opposed to a 64% national average; 95% of parents of students at those schools believe they have a good understanding of their child's strengths and weaknesses.

Gallup, 2007

An assessment activity can help learning if it provides information to be used as feedback, by teachers, and by their pupils, in assessing themselves and each other, to modify the teaching and learning activities in which they are engaged.

Marshall and Wiliam, 2006

All of these studies show that innovations which include strengthening the practice of formative assessment produce significant, and often substantial, learning gains.

Black and Wiliam, 1998.

As students enter middle school, their social networks have an increasingly important social-emotional influence on their attitudes toward school and motivation to succeed.

Bempechat & Shernoff, 2013

The quality of parental relations has thus been linked not only to higher engagement (Chen, 2008), but also to academic performance (Furrer & Skinner, 2003) and achievement (Hughes & Kwok 2007).

Bempechat & Shernoff, 2013

Intrinsically motivated behaviours, which are performed out of interest and satisfy the innate psychological needs for competency and autonomy are the prototype of self-determined behaviour. These spontaneous behaviours [results of intrinsic motivation], although clearly bestowing adaptive benefits on the organism, appear not to be done for any such instrumental reason, but rather for the positive experiences associated with exercising and extending ones capacities.

Deci and Ryan, 2002

## Examples of practice

### High Tech High, San Diego

Perhaps the best known and most complete illustration of the 'integrated' design principle applied in practice is in the High Tech High Schools. Teaching and learning in High Tech High centres on three 'integrations': of head and hand; of school and real world learning; of rigour (academic) and applied (vocational) learning.

Teaching and learning in the schools is inter-disciplinary (integration of subjects) and project based and is driven by the passions of teachers and students in multi age groups (integration of students) who work together in learning relationships based on mutual respect and shared goals. Through their collaboration, students and teachers produce work of value, which is exhibited publicly for parents, families and the community to see.

### Life Learning Academy (LLA), San Francisco

Life Learning Academy (LLA) is housed in a former military base on Treasure Island, in San Francisco Bay. The aim of the school is to develop students' life skills, and give them practice of working in an interdependent community.

At the Life Learning Academy, the school's pedagogical philosophy is summarised by the phrase 'each one teach one' - every student shares responsibility for the learning of others, and for the whole group's academic success.

### Urban Academy, New York City

Urban Academy is a small high school on the Julia Richman Education Complex, a campus of six schools in New York City. Since 1993 it has developed its practice to facilitate consistently rigorous learning for its intake of disadvantaged students.

Urban Academy uses performance assessment that attends to individual differences while holding students to high standards.



## Learning Frontiers exploratory questions

Early questions identified by the first design hubs

How do we take the pockets of brilliance around assessment for learning strategies to scale in our school, to ensure it is embedded in our culture?

How do we support every learner to go from 'shh and colour' to tasks with high intellectual challenge?

How can we integrate subjects so they are grounded in the real world context?

How can we develop, implement, scale and sustain authentic integration of subjects for high learning and engagement?

# DESIGN HUBS

Learning Frontiers is a collaborative initiative. It brings together clusters of schools and other interested parties into 'design hubs', through which they will learn about and test professional practices that increase student engagement in learning.

If we think of the combination of schools and other kinds of organisations interested in learning within a state or a city as an ecosystem, the design hub becomes the focus and channel for the unique contribution that each school, individual or organisation can make to meeting the challenge of increasing student engagement in learning.



NETWORK/ASSOCIATION

Parents' Associations  
Principal Associations  
Teacher Networks or unions  
Student groups



SCHOOL

Primary, Secondary or all-through  
Government, Catholic,  
or Independent  
Alternative providers



NGO

Philanthropic foundations  
Social enterprises – service and  
technology providers



PUBLIC SERVICE PROVIDERS

Early childhood education  
Healthcare providers and police  
Local government agencies



CREATIVE & CULTURAL ORGANISATION

Cultural-interest organisations  
Cultural institutions



RESEARCH INSTITUTION

Universities  
(Education departments, psychology departments, graduate schools, schools of public policy)  
Specialised institutes  
Education, leadership, child development, social policy  
Think tanks



LOCAL PARTNER

Church  
Community group  
Special interest group  
(related to context)  
Activity provider



BUSINESS

Local employers  
Corporate sponsors  
Edtech companies



INDIVIDUAL

Inspiring teachers  
Thought Leaders  
Consultants  
Edupreneurs



# WHY DO WE NEED DESIGN HUBS?

## Meeting the challenge

Schools taking part in Learning Frontiers are in the vanguard of a growing number of schools and education systems around the world that recognise the need to radically rethink their approach to learning. Deeper understanding about neuroscience and the nature of intelligence coupled with concern about the challenges of the new century have led to international calls for young people to develop what have come to be known as '21st century skills'. In Australia, we have identified a need to develop and promote professional practices that increase student engagement in learning. Teachers addressing such serious challenges recognise that they need to change both what they teach, and in how they teach it.

<http://www.p21.org/>

Lucas, B. And Claxon, G. *New Kinds of Smart: How the science of learnable intelligence is changing education*, Open University Press, 2010

## Collaboration and risk management

Teachers and school leaders often experience innovation as a high risk, low reward activity, undertaken in a high accountability environment with few incentives. Practitioners need explicit models and processes to give them the skills and confidence to innovate in their practice. In addition, school and system leaders need to ensure that schools become environments that are culturally and practically conducive to the development of new practices. Mostly this is about creating opportunities for collaboration and helping practitioners to accurately calculate and manage risk.

Moore, M.H., *Breakthrough Innovations and Continuous Improvement: Two different models of innovative processes in the public sector Public Money and Management*, 2005

Hannon, V. *Next Practice in Education: A disciplined approach to Innovation*, Innovation Unit, 2007  
*Teachers as Innovative Professionals*, OPM for the General Teaching Council for England (GTC) and Innovation Unit, 2008

## Sharing the load

Schools working together to develop and test new practices generate a more robust evidence base about their impact and effects than schools working alone. Such schools are also in a position to share around the activities and distribute responsibilities, which might otherwise prove too difficult for individual organisations.

Hargreaves, DH. *Education Epidemic: Transforming secondary schools through innovation networks*, Demos, 2003

## Trusting and productive partnerships

Social capital and trusting relationships develop in successful partnerships between schools and are essential for effective collaboration in innovation processes. There are complexities associated with schools working in partnership, but also considerable experience to draw upon to address these.

Lieberman, A. *Networks National College for Leadership of Schools and Children's Services*, 2006

Hargreaves, DH. *Creating a Self Improving School System*, National College for Leadership of Schools and Children's Services, 2010

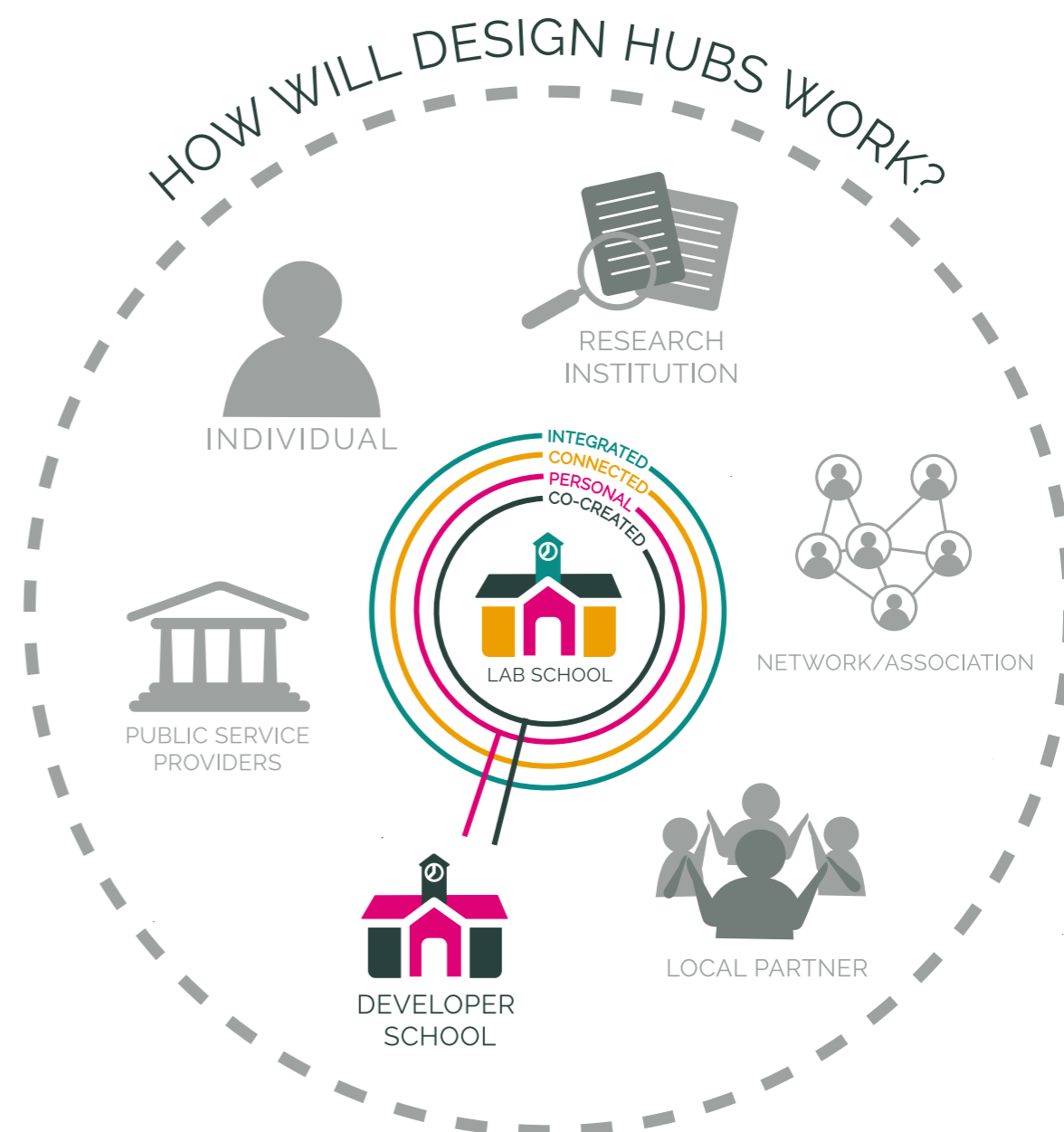
## New opportunities and new players

Education, for so long defined and dominated by schools, is diversifying – fast. New players in the education scene include philanthropic organisations, social entrepreneurs, the creative and cultural sector and, perhaps most controversially, for-profit businesses, all of whom are making new and exciting offers to young Australian learners.

These new entrants represent a great opportunity for schools hoping to expand their capacity to be creative about how to better meet the needs of their students. We know that environments that support creativity feature mixed groups of individuals and organisations with diverse capacities and interests. And we know too that new entrants into a market place stimulate new practices and create significant shifts, in ways that existing providers on their own are less likely to achieve.

Toward a learning ecosystem: new players, new partnerships in *Redesigning Education: Shaping learning systems around the globe* Innovation Unit for the Global Education Leaders' Program, Booktrope Editions, 2013

Baxter, D., Schoeman, M., Golfin, K and Michieli, P. *Public Sector Innovation, The Role of Commercial Partnerships* Cranfield School of Management and Sterial Ltd, 2010  
 Christiansen C., *The Innovator's Dilemma*, Harvard Business School Press, 1997



Design hubs will provide opportunities and support for schools and other partners to develop and unite around the four design principles for engaged learning (co-created, connected, integrated and personal). Design hubs will explore teaching, learning and assessment practices that are built upon these four principles.

Each design hub will be comprised of 'lab' and 'developer' schools, and other members. Lab schools will be characterised by:

- high levels of potential to work at the 'frontiers' of practice

- preparedness to undertake serious reform of practice and structures
- desire and capacity to work across all the design principles

Within a design hub, one or more lab schools will work with developer schools that will develop and trial a smaller number of substantial new practices, focusing on one or more design principles.

# CREATING THE FIRST DESIGN HUBS

Following an expression of interest process in late 2013, two design hubs have been formed in Adelaide and Sydney.

## ADELAIDE DESIGN HUB

### Lab schools

- [Australian Science and Mathematics School](#)
- [Birdwood High School](#)

### Developer schools

- [Fremont Elizabeth City High School](#)
- [Henley High School](#)
- [Mylor Primary School](#)
- [Open Access College](#)
- [Prospect North Primary School](#)
- [Underdale High School](#)
- [West Lakes Shore School](#)
- [Woodcroft College](#)

### A strong history of partnership and collaboration at Australian Science and Mathematics School (ASMS)

ASMS has a strong partnership with Flinders University which involves them in research with the Faculty of Education and exciting work with the Faculty of Science and Engineering. The school also works with many secondary schools in Professional Learning programs and several Professional Learning Communities, most having a STEM focus. ASMS is also a partner in LEaRN, a collaborative Australian wide network focused on innovative learning environments.

The unique mathematics teaching and learning program offered by the school is only made possible through strong collaborative teamwork. They are keen to explore whether their approaches to school organisation, which aim to facilitate collaboration, are transferable to other sites.

### Birdwood High School's (BHS) Academy of Innovative Learning

BHS have created a model called the 'Academy of Innovative Learning' (AIL) which was recognized in 2011 by the OECD as an Innovative Learning Environment. In AIL, students study an Integrated Curriculum which is partly co-created and connected along with high levels of student autonomy and hence ownership of the learning program.

## SYDNEY DESIGN HUB

### Lab schools

- [Northern Beaches Christian School](#)
- [Campbelltown Performing Arts High School](#)

### Developer schools

- [Busby West Public School](#)
- [Camdenville Public School](#)
- [Hilltop Road Public School](#)
- [Hornsby Heights Public School](#)
- [Liverpool Girls High School](#)
- [Mount St Benedict College](#)
- [Ravenswood School for Girls](#)
- [St Patrick's College](#)

### What we hope to achieve through Learning Frontiers: Campbelltown Performing Arts High School

**Build on our work with the community** – how we can harness the skills and expertise of the local and broader community to enhance the engagement of our students and make learning a more seamlessly authentic learning experience

**Continue implementing project-based learning** to provide more opportunities for students to have a voice in the broad community and solve authentic problems in innovative ways.

**Refine our model of cross-curriculum collaboration** – investigating ways that subject teachers can collaborate on an ongoing basis and ensure that our students' learning landscape is more integrated, rather than a compartmentalised subject-based approach.

**Continue our work in the area of personalised learning** – finding ways to ensure that personalisation is achievable and manageable across stages and subjects.

### Progress so far

Lab schools met with AITSL and Innovation Unit in early March 2014 to develop a set of questions to guide the enquiries of each design hub based on the four design principles. Lab schools also considered what support might be required to enrich the explorations of their design hubs, and what leadership and governance arrangements are required for the hub to function.

In late March/early April 2014 lab and developer schools came together in their own cities to form their design hubs and begin the process of developing an action plan for the activities of their schools. Developer schools used the enquiry questions established by lab schools in early March as the basis for creating questions for their own school context, and considered what the implications of these explorations might be for:

- leadership
- technology
- pedagogy
- community partnerships and parental engagement
- assessment
- learner agency

Design hubs also started to think about how they might approach their questions, and who they might need to partner with in order to flourish.

### Professional learning at Northern Beaches Christian School

"We know first hand that teachers giving significant thought to, and being able to articulate why they do what they do is a crucial outcome of their ongoing professional practice and learning."

It is part of the culture at NBCS that professional learning models what is considered to be best-practice student learning; it is engaging, meaningful and participatory, there is choice and flexibility. Professional time off-class is prioritised so teachers can share and reflect on practice, implement new ideas and challenge assumptions. Each week teaching staff take part in professional learning outside school hours, including: in-house workshops, online modules and design-thinking projects.

# GETTING INVOLVED IN LEARNING FRONTIERS

Learning Frontiers wants to make sure that engaging learning practices are available in every school and to every student. We need to design a system that supports teachers and principals to focus on student engagement both as a valuable end in itself and as a route to improved learning outcomes.

If Learning Frontiers is going to successfully develop and spread engaging practices, it will need to work with learners, their families and communities, with professionals in schools, and with partners in business, voluntary, creative and cultural sectors.

## How can you participate?

Unless the initiative involves individuals and organisations beyond the design hubs themselves, it will not reach a critical mass. Whatever your interest in improving learning, we want you to feel encouraged and able to participate.

Schools, individual teachers or principals, and other organisations can participate in Learning Frontiers by:

- providing expert advice to schools working within design hubs
- participating in research activities with your students
- suggesting, trialling, evaluating and iterating new promising practices for engaged learning in your own school context
- working with schools to share practices with the profession and the wider community outside of design hubs
- convening a network of peers to discuss student engagement and consider how to apply practices emerging from Learning Frontiers in your own contexts

Please register your interest if you would like to be kept up to date with project activities and participation opportunities.

If you are a student or a parent, you can participate in Learning Frontiers by:

- sharing your story about engagement with the Learning Frontiers community (see 'how to connect' section)
- suggesting that your local teachers and schools connect with the initiative and apply to be part of a design hub
- bringing together a group of parents, students and teachers or a conversation about student engagement and the role you might each play in deepening it
- partnering with a teacher to develop or trial a new practice
- contributing to the 'promising practices' website

## Coming soon

We are creating an online 'promising practices' website that will unite design hubs and the wider community around a shared goal of developing powerful practices to increase student engagement. Teachers, school leaders, students, parents and the community will be able to contribute to and participate in a rapid prototyping process ensure that practices are shaped, refined and enriched by diverse sources of knowledge and experience.

## Connect with Learning Frontiers

Help us find out more about the extent to which young people in Australia are engaged in learning

We are inviting teachers, school leaders, students, parents and members of the community to participate in our student engagement survey to create a broad, brushstroke picture of engagement in Australia. [You can find the survey here.](#)



[Join our Google+ community](#) to share resources, ideas and conversations



[Follow us](#) on Twitter through @LFrontiers and #learningfrontiers



[Email](mailto:learningfrontiers@aitsledu.au) the Learning Frontiers team at learningfrontiers@aitsledu.au

Please email us if you would like to access a text only version of this publication.

## Making learning multi-dimensional – the importance of engaging parents

Thoughts from Charuni Weerasooriya, President, [APFACTS \(Association of Parents and Friends of ACT Schools\)](#)

"Our current schooling culture must grow crucial partnership between parents and schools to bring about greater student success and shared responsibility of learning."

Schools fail to authentically engage the many people who influence student learning directly with their learning – students learn from everyone and everything in their lives. While schooling continues to be transactional instead of relational, we miss the opportunity of inspiring learning to be rich, deep, engaging and this limits a student's potential.

Schools have operated one dimensionally for a long time and this has led to parents being disengaged from their children's learning. The mechanisms, structures, policy and practice of schooling primarily reports on student progress.

Pedagogy, curriculum and even motivated and skilled teachers are not enough to build lifelong learning in young people. We must start now to develop a culture of systemic practice that values and trusts in the partnership between parents and schools so our young people are skilled, supported and empowered for their future.



Professional practices to increase student engagement in learning

