LEARNING FRONTIERS IS A COLLABORATIVE INITIATIVE CREATED TO TRANSFORM TEACHING AND LEARNING SO THAT EVERY STUDENT SUCCESSES 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 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 are constructing the new knowledge the education community needs to move forward the professional practice of every Australian teacher.

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 – over time as they observe the benefits of students’ increased engagement in learning. Teachers are learning 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, businesses 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.

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.
Welcome to the fourth issue of Insights and Ideas.

Insights and Ideas is designed to be an informal ‘research journal’ for Learning Frontiers. It provides a place to share learning, evidence and emerging practices from within and beyond the program in order to support design hubs as they develop and test their own approaches to engaging learning.

We are using this issue to share some of the most ‘promising practices’ the schools involved in Learning Frontiers are developing. These practices highlight some of the great work these schools are undertaking as they provide opportunities for deep learning and greater student engagement through enhanced professional practice. Taken together, they indicate the power of the collaborative approach to the design of new practices and approaches that Learning Frontiers has supported.
<table>
<thead>
<tr>
<th>School Name</th>
<th>Type</th>
<th>Size</th>
<th>Sector</th>
<th>Principal</th>
<th>URL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Birdwood High School</td>
<td>Secondary (8–12)</td>
<td>550</td>
<td>Public</td>
<td>Steve Hicks</td>
<td><a href="http://www.birdwoodhs.sa.edu.au">www.birdwoodhs.sa.edu.au</a></td>
</tr>
<tr>
<td>Mylor Primary School</td>
<td>Primary School (R–7)</td>
<td>50</td>
<td>Public</td>
<td>Ngari Boehm</td>
<td><a href="http://www.mylorps.sa.edu.au">www.mylorps.sa.edu.au</a></td>
</tr>
<tr>
<td>Hilltop Public School</td>
<td>Primary School (K–6)</td>
<td>720</td>
<td>Public</td>
<td>Natalie See</td>
<td><a href="http://www.hilltoprd-p.schools.nsw.edu.au">www.hilltoprd-p.schools.nsw.edu.au</a></td>
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<tr>
<td>Campbelltown Performing Arts High School</td>
<td>Secondary School (7–12)</td>
<td>1,080</td>
<td>Public</td>
<td>Stacey Quince</td>
<td><a href="http://www.pc.cpaahs.nsw.edu.au">www.pc.cpaahs.nsw.edu.au</a></td>
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<tr>
<td>Australian Science and Mathematics School (ASMS)</td>
<td>Senior High School (10–12)</td>
<td>350</td>
<td>Public</td>
<td>Susan Hyde</td>
<td><a href="http://www.asms.sa.edu.au">www.asms.sa.edu.au</a></td>
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<tr>
<td>Mount St Benedict College</td>
<td>Girls’ Secondary (7–12)</td>
<td>1035</td>
<td>Independent, Catholic</td>
<td>Maria Pearson</td>
<td><a href="http://www.msb.nsw.edu.au">www.msb.nsw.edu.au</a></td>
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<tr>
<td>Methodist Ladies’ College</td>
<td>Girls’ Day &amp; Boarding School</td>
<td>2,060</td>
<td>Public</td>
<td>Miss Diana Vernon</td>
<td><a href="http://www.mlc.vid.edu.au">www.mlc.vid.edu.au</a></td>
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<tr>
<td>Woodleigh School, Minimbah Campus</td>
<td>Junior Campus (prep–4)</td>
<td>220</td>
<td>Independent</td>
<td>Rod Davies</td>
<td><a href="http://www.woodleigh.vic.edu.au">www.woodleigh.vic.edu.au</a></td>
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<tr>
<td>Wooranna Park Primary School</td>
<td>Primary (prep–6)</td>
<td>360</td>
<td>Public</td>
<td>Ray Trotter</td>
<td><a href="http://www.woorannaparkps.com.au">www.woorannaparkps.com.au</a></td>
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<tr>
<td>Gungahlin College</td>
<td>Senior High School (10–12)</td>
<td>880</td>
<td>Public</td>
<td>Gai Beecher</td>
<td><a href="http://www.gungahlincollege.act.edu.au">www.gungahlincollege.act.edu.au</a></td>
</tr>
<tr>
<td>Mount Eliza Secondary College</td>
<td>Secondary (7–12)</td>
<td>620</td>
<td>Public</td>
<td>Angela Pollard</td>
<td><a href="http://www.mesc.vic.edu.au">www.mesc.vic.edu.au</a></td>
</tr>
<tr>
<td>Amaroo School</td>
<td>Combined (K–10)</td>
<td>1,550</td>
<td>Public</td>
<td>Richard Powell</td>
<td><a href="http://www.amaroos.act.edu.au">www.amaroos.act.edu.au</a></td>
</tr>
</tbody>
</table>
The third teacher: co-designing learning spaces with students

St Paul’s School
TYPE: Combined (prep–12)
SIZE: 1,400
SECTOR: Independent
PRINCIPAL: Paul Browning
www.stpauls.qld.edu.au

Kedron State High School
TYPE: Secondary School (8–12)
SIZE: 1,200
SECTOR: Public
PRINCIPAL: Joseba Larrazabal
www.kedronshs.eq.edu.au

Mount Alvernia College
TYPE: Girls’ Secondary (8–12)
SIZE: 810
SECTOR: Catholic
PRINCIPAL: Kerrie Tuite
www.mta.qld.edu.au

Information about all the schools involved in Learning Frontiers can be found in the first two issues of Insights and Ideas, which are available on the AITSL website - www.aitsl.edu.au/learning-frontiers
Learning Frontiers schools from the Adelaide and Sydney design hubs are working together to put students in the driving seat of their own learning. Teams of teachers across four schools are enabling students to connect and collaborate to create rich learning. Such experiences are inspired by the passions and interests of the participating students, leading to the development of deep knowledge and skills bases. Students are being empowered to have a voice in their own learning and to actively participate in the creation of authentic learning experiences that are implemented beyond their classrooms, schools and localities.

**KEY FEATURES OF THIS PROMISING PRACTICE**

- The development of passion-led, project-based learning experiences that are rigorous and challenging
- Students designing learning with and for one another, across school sites and geographical boundaries
- Students are empowered and engaged as they learn real-world collaboration skills as they engage in deep learning and build an in-depth understanding of what good learning looks like
- The practice is leading to the development of a toolkit for other schools to use in developing their own approaches to student-led learning design

**HUB: ADELAIDE**

- Mylor Primary School
  Ngari Boehm (Principal)
  dl.0301.info@schools.sa.edu.au

- Birdwood High School
  Steve Hicks (Principal)
  dl.0770.info@schools.sa.edu.au

**HUB: SYDNEY**

- Hilltop Public School
  Ruth Close (Assistant Principal)
  Ruth.close@det.nsw.edu.au

- Campbelltown Performing Arts High School
  Kirstine Gonano (Deputy Principal)
  kirstine.gonano@det.nsw.edu.au
A SHARED FOCUS ON CO-CREATED LEARNING

Teachers from four Learning Frontiers schools (Birdwood High School, Campbelltown Performing Arts High School, Hilltop Public School and Mylor Primary School) have established a common interest in co-created learning - one of the four engaging learning design principles underpinning the program. Each school has a specific ‘exploratory question’ which connects to a desire to provide students with opportunities to problem-solve and collaborate in learning beyond their peer groups and outside of their own schools.

“Co-creation has changed how I think about my learning. I now have more control and my learning is more fun. I am sure that these skills will be beneficial to me in the future. Working with outside agencies has let me know that I can make a difference in the world. I am excited about school and these projects and I can’t wait to see what they look like when they are finished.”

Tarsha, Year 8 student, Campbelltown Performing Arts High School

Learning Frontiers exploratory questions:

How do you ensure intellectual stretch when students are co-designing learning?
Birdwood High School

How will we utilise student passion to shape a unit of work, co-created to enable heightened engagement and improved learning outcomes?
Campbelltown Performing Arts High School

How can we engage students in co-created and authentic learning experiences?
Hilltop Road Public High School

LEARNING FRONTIERS DESIGN PRINCIPLE

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.
STUDENTS COLLABORATING TO CREATE PASSION-LED, PROJECT-BASED LEARNING DESIGNS

A key challenge for the project has been to ensure there is sufficient rigour and challenge in the learning designs that are being collaboratively created. Working from the belief that passion-driven learning can lead to heightened student engagement, teachers have supported students in a design process that uses student interest and passion as the starting point, but which focuses on developing project-based learning that encourages ‘hard thinking’ and ‘intellectual stretch’.

“We believe in a school where our students co-construct all aspects of their learning, resulting in higher levels of intellectual engagement and achievement. But right now the reality is that rigour, higher order thinking and authentic assessment are often the first casualties when students ‘choose their own project’, resulting in work that looks ‘pretty’ but has limited depth and value.”

Steve Hicks, Principal, Birdwood High School

A STAGED APPROACH

The design process that students have embarked on is deeply collaborative and draws on the essential elements of high quality project-based learning (PBL). It involves a number of key stages:

STAGE 1: Identify shared passions and interests
Students identify shared passions and are supported to collaborate across sites with others who shared the same interests.

STAGE 2: Co-create a series of learning activities
Students identify essential learning and research activities that are required to develop understanding of key concepts, and work with their teachers to develop a sequence of learning activities. Students are directly involved in developing lessons and activities for their peers to complete.

STAGE 3: Co-create assessment criteria
Students work in groups to identify and describe the features of a good final learning product. This description is then used by the students to develop marking criteria to assess the final products.
THE STORY SO FAR

In February 2015, 6 teachers and 16 students from Hilltop Road Public School and Campbeltown Performing Arts School in Sydney joined staff and students from Birdwood High School and Mylor Primary School to work on a cross-hub collaborative project that puts students in the ‘driving seat’ of their own learning.

Students and teachers worked together over two days developing project-based learning units based on student ideas and interests. Students used a range of technological solutions – email, an online learning space, Skype – to continue collaborating on the writing and implementation of these units after they had met. Students from Birdwood and Mylor Primary School will travel to Sydney to continue working on the units they devise and to do a joint presentation of the work they have undertaken.

The primary school students developed four project ideas, including a unit of work called ‘Is the law fair?’, which is currently being implemented in Year 6 at Mylor Primary School and also at Hilltop Road Public School.

Is the law fair?

PROJECT CONCEPT - To enable students to understand that there are laws in society that people live by, however sometimes these laws are not fair or are changed as community values evolve.

WHAT WILL THE PROJECT ENTAIL? - This project requires students to identify a problem in the community, then propose a piece of work that an organization or population will really use. To do this, students will produce an item, spearhead an effort, or participate in a campaign that has a measurable impact on the community and meets a real and current need. They will work in teams to generate ideas, refine drafts, analyze results, showcase work, and share feedback. The final product will be meaningful, have significance beyond the classroom, and benefit particular segments of the community.

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**Project-based learning - A checklist of essential elements**

As part of this work, students engaged in learning activities to develop their understanding of how to design effective project-based learning. They investigated the eight essential elements developed by the Buck Institute for Education alongside the outcomes from several syllabuses.

- Key knowledge, understanding and success skills
- Challenging problem or question
- Sustained enquiry
- Authenticity
- Student voice and choice
- Reflection
- Critique and revision
- Public product


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**STAGE 4:** Pitch and scale

Students develop a ‘hook event’ that will stimulate student interest and then pitch their ideas for their project to their peers, who choose which project they are going to participate in. Students draw upon their passions and learning in the area to encourage other students to opt-in to their project.

**STAGE 5:** Collaborate and access local and global resources

Students are supported to collaborate (eg. using phone conferencing, emailing, document collaboration) and share their learning in their own time and at their own pace. Protocols, timelines and roles are established in order to replicate a real-world experience and keep things on track. Students are also encouraged to make community connections and access external resources to deepen the learning for all students taking part.

**STAGE 6:** Exhibit to an authentic audience

The final products are assessed against the co-created assessment criteria and shared with community members involved in the project.
WHAT NEXT? A TOOLKIT TO SUPPORT STUDENT CO-CREATION OF LEARNING

Teachers and students within the Adelaide and Sydney design hubs have established their initial projects as prototypes. That is, they are explicitly using this work to learn about a new practice by testing it on a small scale. Their intention is to use this learning to create an online tool that enables other schools to introduce their own co-design process with students. Currently in its early stages, the toolkit will be far more than just a series of actions to be followed. It will be explicitly designed to build capacity for collaboration learning design and will include the following elements:

- An exploration of why students co-creating learning is a 'promising practice', including a set of discussion starters, provocations and questions to explore
- Tools to improve task design - ensuring learning activities provide intellectual stretch and opportunities for students to develop strategic competence
- Video examples of students co-creating learning
- Details of the prototype projects already implemented across Learning Frontiers schools

The toolkit will also draw on learning from other Learning Frontiers projects within the Sydney and Adelaide Hubs, including: Big Ideas Program (West Lakes Shore Primary School), Big Picture Academy (Birdwood High School) and Student Voice (Australian Science and Mathematics School).

Although in its infancy, the schools involved in the project believe it demonstrates great promise given the observable heightened levels of student engagement, and student voice and choice in their learning.

A wider perspective on student-led learning design

Extracts from a recent blog post by Steve Hicks, Principal at Birdwood High School (BHS)

In a recent blog post, Steve explores the future world of work and, specifically, how this connects to the current emphasis on STEM (Science, Technology, Engineering and Maths) education in schools. He poses the question - What would 21st Century STEM education look like through the lens of the four design principles for engaging learning that underpin Learning Frontiers?

His response captures some propositions around what the future of learning might look like at BHS, and how students should be involved in its design and implementation...

‘Our existing ‘Academy of Innovative Learning’ (AIL) structure is perfect for 21st Century STEAM. We already have integrated units of work with authentic driving questions linked to real world problems and genuine student ‘voice and choice’ built into them. However, I feel there is a chance to make STEM at school look more like it does in the real world… One of the best ways to achieve this is through an ‘innovation lab’ (or commonly called a maker space). The maker space should be a place where students can tinker, create, be inspired and get excited about STEAM. As well as a design thinking space, it should include the more technical aspects of making including 3D printing, robotics, coding, using sensors to interact with the world around them, but equally more traditional maker activities including woodwork, growing food, textiles and a range of arts and crafts.

I would also like for interested students to co-create the space, co-design the open-ended, integrated units of work, co-create the management structure for the maker space and trial the use of a variety of tools that have recently become accessible to schools due to their affordability.’
INTEGRATED LEARNING PROGRAMS:
ENABLING DEEP LEARNING, INTERDISCIPLINARY TEACHING
AND THE DEVELOPMENT OF 21ST CENTURY SKILLS

Learning Frontiers schools are using different approaches and models to support the powerful integration of subjects, learning content, knowledge and skills, and professional practice. In the Sydney design hub, Mount St Benedict College have been inspired by the four Learning Frontiers design principles, which they have used as the basis for a new integrated course for year 7 students, and in Adelaide, the Australian Science and Mathematics School (ASMS) runs an integrated, interdisciplinary curriculum for their combined year 10 and 11 classes with a specific focus on Science Technology Engineering and Maths.

HUB: Sydney
Mount St Benedict College
Sharon McGowan
MYBennies (Middle Years)
Innovation Team Leader
smcgowan@msben.nsw.edu.au

HUB: Adelaide
Australian Science and Mathematics School (ASMS)
Jayne Heath
(Director Professional Learning)
Jayne.Heath@asms.sa.edu.au

KEY FEATURES OF THIS PROMISING PRACTICE

- Teachers and students working across disciplines through thoughtfully constructed integrated learning programs
- Reframing and reorganisation of curriculum content around real-world, complex problems and ‘fertile questions’
- Student-led assessment and feedback to parents, public exhibition of learning outputs
- Development of approaches to the assessment of deep learning and 21st century skills, in partnership with universities
POWERFUL FEATURES OF INTEGRATED LEARNING PROGRAMS

In schools where integration is used as the starting point for the development of learning programs and approaches, educators, students and parents are seeing clear benefits. The table below and on the following pages compares some of the key features of integrated learning in programs being delivered at two Learning Frontiers schools.

<table>
<thead>
<tr>
<th>NAME OF INTEGRATED LEARNING PROGRAM:</th>
<th>STARTING POINT FOR THIS WORK:</th>
</tr>
</thead>
<tbody>
<tr>
<td>MYBennies</td>
<td>A mission to: Educate young women in a Catholic community where all are encouraged to contribute with the gifts given to them to make a difference in the world.</td>
</tr>
<tr>
<td>WHO EXPERIENCES THE LEARNING?</td>
<td>MYBennies Innovation Project - evidence based project with the central belief that students learn best when they have strong connections, feel valued, respected and known, and when their learning is relevant and interesting.</td>
</tr>
<tr>
<td>All year 7 students in classes of 21-23 (9 classes)</td>
<td>Learning Frontiers design principles for engaging learning central to the development of the course.</td>
</tr>
<tr>
<td>WHEN DOES THE LEARNING HAPPEN?</td>
<td></td>
</tr>
<tr>
<td>Seven periods per fortnight – a double per week and three singles of 50 minutes.</td>
<td></td>
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</table>

<table>
<thead>
<tr>
<th>NAME OF INTEGRATED LEARNING PROGRAM:</th>
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</thead>
<tbody>
<tr>
<td>Central Studies</td>
<td>A charter for innovation and reform in teaching and learning of science and mathematics.</td>
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<tr>
<td>WHO EXPERIENCES THE LEARNING?</td>
<td>Platforms of innovation at the ASMS:</td>
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<tr>
<td>Combined year 10 and 11 classes</td>
<td>• Learning environment</td>
</tr>
<tr>
<td>WHEN DOES THE LEARNING HAPPEN?</td>
<td>• Teacher learning</td>
</tr>
<tr>
<td>All learning for year 10 &amp; 11 students is designed to be in the semester long Central Studies. Lessons are in 100 minute blocks with each Central Study allocated up to 500 minutes each week.</td>
<td>• Student learning</td>
</tr>
<tr>
<td></td>
<td>• Learning programs</td>
</tr>
<tr>
<td></td>
<td>Aspirations for interdisciplinary studies:</td>
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<tr>
<td></td>
<td>• Connected</td>
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<tr>
<td></td>
<td>• Coherent</td>
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<td>• Contextual</td>
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<td>• Complex</td>
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<td>• Creative</td>
</tr>
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<td></td>
<td>• Compelling</td>
</tr>
<tr>
<td></td>
<td>• AUTHENTIC</td>
</tr>
</tbody>
</table>
“Through making the courses interdisciplinary, the focus became less the exact science being taught, and more how that science related to something else. Understanding scientific material was easier with this indirect approach, because while you learnt about, say, the chemistry relating to a particular phenomenon, you also learnt about the biology, the physics, and to some extent the philosophical implications and historical aspects of the given topic. This made the learning more interesting, but also more memorable.”

Eiler, 2014 graduate student, ASMS
Involves nine specialist teachers from Religious Education, English, History, HSIE (Human Society and its Environment), TAS (Technological and Applied Studies), PDHPE (Personal Development, Health and Physical Education) and Drama/Dance.

All teachers also teach their year 7 core subject so they can share what is being taught in the integrated program with colleagues in their faculty.

Focuses on the development and assessment of six 21st century skills:
• Creativity and problem solving
• Communication
• Critical thinking, Information and media literacy
• Global citizenship
• Collaboration and teamwork
• Independence in learning

The Central Studies are designed for students to develop:
• deep understanding of fundamental concepts
• Ethical understanding
• Critical and creative thinking
• Personal and social capability

The curriculum is designed to enable students to prepare for their present and future lives as thoughtful, active, responsive and committed local, national and global citizens.
Lessons are taught in flexible learning spaces with the ability to open classrooms to aid collaboration amongst classes and for students to reconfigure classroom furniture to suit their personal needs.

Teachers run ‘need to know’ workshops and create flipped classroom videos, podcasts etc to support the learning program.

Project-based Learning and Inquiry-based Learning activities are authentically assessed by external experts.

A Student-led Conference (SLC) has replaced the traditional parent-teacher interview for this program.

Students are co-creating the course of learning with their teachers and are involved in evaluation of activities in a number of ways, e.g. through surveys, photo voice, student products and student self-assessment.

Design thinking approaches were used in consultation sessions with staff and student focus groups in 2014, and parents of the current year 7 student body took part in an information session where the design principles for Learning Frontiers were shared.

A Parent Focus Group has supported the design and delivery of the Student-led Conference.

Development of evaluation models are being undertaken with other Sydney hub schools and the University of Western Sydney, the hub’s academic partner.

Members of the public with an interest and or expertise are involved in providing feedback to students on their learning via the Student Learning Exhibitions.

Flinders University researchers and academics are actively involved in working with students and staff, resulting in learning programs designed to connect with current research in science, technology and education.

Student Learning Exhibitions allow students to present their learning in public exhibitions, including events such as:

- Techno-history Museum
- Nanotechnology Expo
- Earth Summit
- Student Inquiry Project Proposals
- Challenge Based Learning Solutions

Students are assessed on their knowledge and understanding as well as their capacity to work collaboratively, undertake research and present their findings to authentic audiences.
WHAT ARE WE LEARNING ABOUT IMPACT?

Both schools report significant benefits to the delivery of their integrated learning programs. At Mount St Benedict College, there has been a shift in teacher attitudes and practices as a result of the different subject teachers working together to create and deliver the new integrated course:

“There is a new openness to being innovative, each staff member is deeply committed to working collaboratively to develop the MYBennies course. The nine teachers email each other and meet informally regularly sharing their ideas for future lessons. Teachers walk into each other’s classes and support students and each other with ease. A fortnightly team meeting begins with a what went well reflection of practice which acknowledges each other’s strengths and passions and considers how to support the well-being and advancement of the students in our classes. Some of our early observations noted that our students were far more independent in their learning than in previous years and that they are able to discuss their learning and make connections between their subjects more authentically.”

Sharon McGowan, Middle Years Bennies (MYBennies) Innovation Leader

Students and staff at the ASMS are also clear about the specific benefits of interdisciplinary learning:

“I love the way that working in an interdisciplinary curriculum gives me the chance to explore the world with new eyes. I’m always learning and I’m always searching for new connections. As much as I love my topic area (Biology), it becomes more alive, more real, more exciting when it’s framed in a context which incorporates a bigger world picture.

Cat Stone, Biology Teacher, ASMS

“What is it about learning in an interdisciplinary curriculum that provides opportunities to design learning that is intellectually challenging for each student? The skills that are taught in one subject area can be practised and honed through the interdisciplinary curriculum as students learn that these skill are valuable across the different subjects. This allows teachers to evaluate a student’s ability to master these skills while designing tasks which enable students to be intellectually challenged.”

Geetha Nair, English teacher, ASMS

“By learning our subjects though Central Studies (name given to our interdisciplinary curriculum), we gain a deeper understanding of how the subject relates to the real world through our assessment tasks. We also have more of a range of opportunities to express ourselves in the work we do.”

Bridget, Student, ASMS
UNDERSTANDING AND MEASURING ENGAGEMENT IN LEARNING

In the Victorian design hub, Learning Frontiers schools are finding ways to better understand and measure levels of engagement in learning. They are working on systematic, research-informed approaches to measurement and evaluation that involve different parts of the school community and span school phases. Crucially, teachers in these schools are using what they learn to identify and test specific classroom practices they believe will lead to increased engagement and greater ‘student agency’, and to improve the wider curriculum.

HUB: Victoria
Methodist Ladies’ College
Linda Shardlow
(Head of Mathematics)
shardlla@mlc.vic.edu.au

Woodleigh School, Minimbah Campus
Sally Rawlings (Deputy Head of Campus)
srawlings@wooleigh.vic.edu.au

KEY FEATURES OF THIS PROMISING PRACTICE

★ Seeking multiple perspectives (learners, teachers, parents) on levels and nature of engagement in learning

★ Using an enhanced understanding of engagement to develop greater student agency

★ Working across school phases (primary and secondary) to develop a shared professional understanding of engagement and how to develop it further
SEEKING MULTIPLE PERSPECTIVES ON ENGAGEMENT

At Methodist Ladies’ College (MLC) teachers are creating a range of data collection tools and processes that enable them to gather different perspectives on the problem of disengagement. Learning Frontiers has stimulated a specific, school-wide focus on engagement, which has now been established as a key theme for teachers to explore in their annual action research program - the Collaborative College Project. A cross-disciplinary group of around 12-15 staff have been tasked with leading the focus on engagement within the school, guided by an initial key question: What if all students were engaged in their learning in all classes, and realised their own power in improving this learning?

The Learning Frontiers project group at MLC kicked off by exploring their own understandings of student engagement. Their starting point was a recognition that student engagement is the centrepiece of teaching and that, to fulfil the school’s mission of providing an education which ‘inspires young women to be the citizens the world needs’, all teachers needed to be engaged in engaging students in their learning. Early on they drew on a definition that emphasises the importance of cognitive or intellectual engagement: ‘When students are engaged in learning they are not merely ‘busy’, nor are they just ‘on task’. Rather they are intellectually active in the learning.’

The Learning Frontiers Engagement Survey was taken by over 4500 students across Australia. It was designed to take account of the following aspects of deeply engaging learning:

1. Is learning a part of the students’ identity?
2. Is learning pervasive – does it extend beyond the school?
3. Is learning social – does it extend to relationships with peers and others in the community?
4. Is learning deep – does it result in memorable and meaningful experiences?
5. Is learning relevant – do students feel its connection to their future lives, not just their next exam?

“If we can help students become engaged in their learning, and know they have the agency to do so, then they will certainly have the capacity to create their future. And this future will be an informed and better one for us all.”

Linda Shardlow,
Head of Mathematics and Leader of Staff Learning, Methodist Ladies’ College

2 Results from the program-wide engagement survey are explored in Issue 2 of Insights and Ideas
3 Ruth Deakin Crick, Helen Jelfs, Shaofu Huang, Qing Wang, Learning Futures Final Report, 2011
BUILDING AN EARLY PICTURE OF ENGAGEMENT

The group sought to explore and benchmark current levels of engagement within the school using a tailored version of the Learning Frontiers engagement survey. Each teacher took the survey to a ‘focus class’ and their parents, gathering a total of 165 student responses and 71 responses from parents. The results were broadly in line with the findings of the program-wide survey, in which all Learning Frontiers schools participated.

Although at a glance students like being at MLC and feel they work hard...

“I find school hard. I don’t think I’m very good at it. I don’t ask for help. I don’t do the homework always. I don’t do practice tasks. I don’t know why I don’t do them. My results are not great. I daydream a lot and I just get through.”

Year 12 Student

Follow up interviews with a small group of the most disengaged students revealed that, when asked directly, students acknowledge there is a problem with their learning, but they feel unable to do much about it.

Digging deeper, there was a significant minority of students with a less positive attitude to school and what they are learning:
EXPLORING THE CAUSES OF DISENGAGEMENT AND CONSIDERING POSSIBLE SOLUTIONS

Following their early stage of exploration (surveys, interviews, classroom observations), the project group led a whole staff meeting with all 200 teachers that focused on identifying potential causes of disengagement and considered how they might be addressed. Key findings of the work undertaken in the first phase of the project (2014) were also presented at the College Annual Staff Conference, signalling to the entire school the critical importance of tackling engagement.

<table>
<thead>
<tr>
<th>CAUSES OF DISENGAGEMENT</th>
<th>POSSIBLE SOLUTIONS</th>
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<tbody>
<tr>
<td>Learning is out of reach</td>
<td>Set small achievable goals, acknowledge achievement, celebrate personal success</td>
</tr>
<tr>
<td>Teachers lack understanding about what motivates and engages individual students</td>
<td>Ensure teachers are engaged in their own learning</td>
</tr>
<tr>
<td>Curriculum is irrelevant</td>
<td>Promote student ownership of learning</td>
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<tr>
<td>Boring delivery - lack of variety, monotonous teaching style</td>
<td>Shift the emphasis from short term assessment to long term relevance</td>
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<tr>
<td>Learning is teacher-centred not student-centred</td>
<td>Get parents, teachers and students working towards shared learning goals</td>
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<tr>
<td>Lack of connection to students’ real lives</td>
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<tr>
<td>Students don’t see future value</td>
<td>Foster a culture where knowledge and skills are valued</td>
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<tr>
<td>Students (and their learning) are motivated by results, not love of learning</td>
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**STUDENT UNDERSTANDING AND OWNERSHIP OF LEARNING AS A ROUTE TO ENGAGEMENT**

In the second issue of Insights and Ideas, we explored two key challenges emerging from the program-wide engagement survey and suggested approaches and practices that schools taking part in the program should explore further. The table below summarises how the work being undertaken at MLC connects to and builds upon those ideas.

<table>
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<tr>
<th><strong>CHALLENGE</strong></th>
<th><strong>RESPONSE</strong></th>
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<tbody>
<tr>
<td>Students are confused about what learning is and what good learning looks like</td>
<td>Develop responsible, knowledgeable learners</td>
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<tr>
<th><strong>APPROACH 1</strong></th>
<th><strong>APPROACH 2</strong></th>
<th><strong>APPROACH 3</strong></th>
<th><strong>APPROACH 4</strong></th>
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</thead>
<tbody>
<tr>
<td>Help students understand what good learning is</td>
<td>Build student ownership and responsibility for learning</td>
<td>Ensure excellent guidance and feedback</td>
<td>Develop student/teacher relationships</td>
</tr>
</tbody>
</table>

**MLC key findings in 2014**

- Students want to play an active part in the whole of the learning process - not just as recipients, but as contributors to design and evaluation.
- There is a significant flow-on effect from obvious teacher passion.
- Articulating the rationale for why we are doing something in classes engages students. By sharing our rationale, students feel more in control of the learning and take more ownership.
- "We as teachers need to see ourselves as learners. In every class, teachers should be the best learners." (Teacher) - We cannot overrate the importance of students believing that we are in a partnership, where students and teachers are learning together.
- "It's interesting to see teachers watching other teachers." (Student) - Class observations help to model engagement in lifelong learning.
- We need to seek a range of perspectives - student voice, teacher voice, parent voice.
- The fact of the intervention was more important than the mode of the intervention – students saw we were interested in supporting and improving their learning and that we were willing to listen to what they said, and this had an impact on their engagement.
FROM UNDERSTANDING ENGAGEMENT TO DEVELOPING STUDENT AGENCY AT MLC

As they develop their whole-school work on engagement, the new Learning Frontiers project group is now looking specifically at what it takes to give students increased agency in their learning. They have developed a new focus question for 2015: How can we help students develop a belief that they can positively affect and drive their own learning to become more resilient learners, i.e. develop a sense of agency in their learning?

The group wants to emphasise the observation of learning behaviours that lead to improved learning. In doing so, their goal is to gather multiple perspectives on approaches to learning and their impact, including those of teacher and student observers, and parents. Current work involves a systematic approach that will identify and track individual students over time to assess their levels of engagement and the extent to which they demonstrate agency in their own learning. The project group are using research evidence to create processes and associated tools, for example, teacher observations of intellectual or cognitive engagement drawing on the work of Fredericks, Blumenfeld and Paris (School Engagement: Potential of the Concept, State of the Evidence, 2004).

The MLC Learning Frontiers project on developing student agency is closely connected to other work in the school focused on psychological research. In mathematics teachers are deliberately and purposefully attending to the importance of learners having a ‘growth mindset’ in their approach to learning, i.e. when students believe they have the capacity to improve in their learning and the power to achieve this. Linda Shardlow, Head of Mathematics, explains one of the practical strategies being used: “We send out ‘Welcome Back’ letters to students at the start of the year, letters that talk about the importance of making mistakes and learning from them and focusing on learning goals rather than marks. We talk about growth, about looking at the difference between starting points and end points, instead of just test results”.

“I am beginning to believe that the opposite of success in learning is not failure but inaction. If we want our students to become adults that have the understanding, knowledge and skills with which to actively and positively interact with the world and enact change, then this sense of agency needs to be modelled and developed in schools.”

Linda Shardlow, Head of Mathematics and Leader of Staff Learning, Methodist Ladies’ College

EVIDENCE

Mindset is a simple idea discovered by world-renowned Stanford University psychologist Carol Dweck through decades of research on achievement and success.

In a fixed mindset, people believe their basic qualities, like their intelligence or talent, are simply fixed traits. They spend their time documenting their intelligence or talent instead of developing them. They also believe that talent alone creates success – without effort.

In a growth mindset, people believe that their most basic abilities can be developed through dedication and hard work – brains and talent are just the starting point. This view creates a love of learning and a resilience that is essential for great accomplishment.
“Imagine a school where there are no boundaries between the primary and the secondary setting. Where there were shared approaches to, and understandings of, student learning that involved student voice and choice. And where, as educators, we had the measurement tools to determine student engagement from term to term and year to year.”

Sally Rawlings,
Head of Campus, Teaching and Learning Coordinator,
Woodleigh School,
Minimbah Campus

TRACKING STUDENT ENGAGEMENT ACROSS SCHOOL TRANSITIONS

Within the Learning Frontiers Victorian design hub, teachers are also exploring how to track student engagement as they move between primary and secondary school. The ‘Building Bridges’ project is a collaboration that will involve all the Victoria hub primary and secondary schools, and is being taken forward with industry partners. Together they are developing the Learning Futures engagement survey into a data collection tool (incorporating student, parent and teacher voice) that can be used to track individual and cohorts of students through the middle and transitioning years of late primary and early secondary education.

The tool uses student language and includes protocols created for consistency of data collection across the hub. Online responses are collected, analysed and used to generate visual representations that can be easily shared and discussed. In particular, the data is used to assess anomalies between different perspectives on a student’s level of engagement. Are there misalignments, for example, between the teacher and student, or student and parent responses?

Essentially, the tool is designed to support collaboration and improved learning. It will create a foundation for open discussions about learning and engagement of students between educators across campuses, schools and sectors. If successful, the information it provides will help to create a shared understanding of the impact of student learning experiences from primary to secondary school, which will lead to shared professional learning and development of new practices. It also has the potential to empower students with the knowledge they need to contribute to the development of learning and the wider curriculum.

The tool is currently being prototyped with year 6 classes at Woodleigh School and year 7 and 8 classes at Mount Eliza Secondary College. Data that is being generated from responses will be used to:

- Evaluate curriculum and programs
- Reflect on teacher practice
- Explore communication between home and school
- Consider implications during transition into secondary school
- Provide opportunities for discussion between parent, teacher and student based on the quantitative data gathered
- Identify students ‘at risk’ through disconnection and or dissatisfaction with school programs
- Consider the long term implications for meeting the needs of all key stakeholders
- Encourage other staff to consider utilising the tool to generate their own data
- Track student engagement throughout different times of the year using the same set of questions
CREATING A WHOLE-SCHOOL LEARNING JOURNEY TO FOSTER ENGAGEMENT IN THE PRIMARY YEARS

Learning Frontiers school Wooranna Park has a clear mission: to provide students with a learning environment that recognises children learn best when they are engaged in real world, authentic tasks, which involve problem solving, enquiry and collaboration with their peers. At Wooranna Park, students are empowered to take responsibility for their learning and teachers undertake the roles of coach and facilitator. The school has created a highly unusual and immersive school environment and developed a set of core pedagogical practices that support student agency, communication and deeply personalised learning.

HUB: Victoria
Wooranna Park Primary School
Janet Whittle (Deputy Principal)
whittle.janet.m@edumail.vic.gov.au

KEY FEATURES OF THIS PROMISING PRACTICE

- Deep, immersive, imaginative learning experiences through ‘Stimulating Learning Platforms’ and ‘Enigma Missions’
- Gaming and collaborative technology to support different dimensions of the learning experience, and to make connections beyond the school
- Prep students taking on the role of teachers and to design and develop learning activities for their peers
- Students supported to select what, where, with whom and from whom they will learn
IMMERSIVE LEARNING

At Wooranna Park, the school has built what they call Stimulating Learning Platforms (SLPs) in a number of their Learning Communities. They capitalize on children’s innate ability for imagination and creativity, allowing them to take their School Bus, Dragon Boat or Spaceship on learning journeys. These imaginary experiences place children in life-like situations in which they are encouraged to grapple with worldly experiences, often involving mathematical and scientific principles. How far is it to New Zealand? What direction do I turn the boat to? How fast are we travelling? What is a light year?

As a concept, Stimulating Learning Platforms are not new to schools. Any area in a school created to stimulate children’s learning could be described as a platform for learning. A make-believe medical centre or kitchen area, or a robotics room or construction area could be called a learning platform. What is different at Wooranna Park is the nature of the SLPs they build, along with the pedagogy underpinning their use. The learning is primarily directed by the students themselves, as they are encouraged to use their imagination and creativity to create an exciting context for their learning. For young children this form of playful learning is every bit as authentic as other forms of real life learning, in that they build on their existing understandings as they create imaginary experiences with their peers.

“In a world where humanity may be its own worst enemy, the future will depend on the creativeness and character of our children to shape a better world.”

Ray Trotter, Principal, Wooranna Park Primary School

Leveraging gaming and collaborative technologies

Wooranna Park has evolved its practice over the last couple of years with the introduction of technology, which includes:

• the Oculus Rift for Unity based game development
• Leap Motion for ‘Dragon Boat’ and Google Earth integration
• a force feedback steering wheel for the unit ‘Vehicle’
• learning and collaboration from any device (and location) via Google Apps for EDU and myEd
• Minecraft and Kerbal Space Program servers that can be accessed by the students both at school and at home, which has led to the school’s first international Minecraft based project with Immersive Education, and the launch (and docking) of an inter-school space station via the Kerbal Space Program server at the CoderDojo
• 3D printing, WeVideo video-production, Podcasting and Google Hangouts have become a real focus for the students’ Enigma Missions

Learning Frontiers exploratory questions:

Many educators believe that the environment can be the third teacher after home and school. How can more stimulating learning environments be created with a wider, diverse range of stakeholders?

Student engagement is heightened when they create products and services of value to others. How do we create purposeful learning through entrepreneurial activities and mindsets?
THREE SIGNATURE PRACTICES

1. LEARNING AGREEMENT TIME: SUPPORTING LEARNER AGENCY

Supporting and encouraging student agency is the cornerstone of Wooranna Park’s approach to learning, and Learning Agreement (LA) time is the signature practice in their armoury. While the form it takes varies from Prep to Year 6, Learning Agreement time is the chief means through which children exercise their autonomy by selecting what, where, with whom and from whom they learn.

For younger students, different ‘provocations’ for learning are carefully designed by teachers to stimulate discussion, questioning and creativity, then students select between different learning zones. By negotiating (or ‘conferencing’) with students, teachers ensure there is sufficient challenge and variation in a student’s selections about how to use their LA time. During LA time teachers also listen and document student interactions in order to gather evidence about the learning that is taking place and to inform future planning and differentiation.

For middle years students, there is more of a focus on developing enquiry skills. Students are able to book into workshop sessions and take part in both collaborative and independent research projects, whilst tracking their own development using a ‘learning journey’ tool.

Older students further develop independence and ownership of learning by taking on more complex investigative tasks. Students are encouraged to use their peers as sounding boards and to act as mentors to each other, drawing down support from teachers in various ways (small groups, one-to-one tutoring, conferencing). As students become more experienced in managing their own learning, they are able to earn the acknowledged status of Autonomous Learners. As Autonomous Learners students have earned the right to co-create curriculum, plan their own learning journey and work in any space in the school without direct teacher supervision.

EVIDENCE

The ‘third teacher’ concept of Reggio Emilia

In the aftermath of World War II, parents in the city of Reggio Emilia in northern Italy founded a group of early-years schools so that their children would learn a better way of living than the one that had led Italy into war by Hitler’s side. The first of Reggio Emilia’s parent-run schools were founded using cash raised by selling supplies left by the retreating German army. The new schools flourished, and in 1967 the municipality formally took responsibility for them, embedding them within the city’s education system.

“Reggio Emilia approach”, as it is known, is now a global educational philosophy that has inspired schools all over the world, and is based on a number of distinctive principles:

• Children must have some control over the direction of their learning;
• Children must be able to learn through experiences of touching, moving, listening, and observing;
• Children have a relationship with other children and with material items in the world that children must be allowed to explore;
• Children must have endless ways and opportunities to express themselves.

Film: students are supported to select what, where and from whom they will learn
www.youtube.com/watch?v=yH-gZ2-PXHg
Distinctive aspects of the Reggio Emilia approach include attention to the relationship between home and school, long-term projects for children, the use of the "environment as teacher", and an understanding that teachers should see themselves as researchers.

2. PREP PROFESSORS: KIDS TEACHING KIDS

Inspired by colleagues teaching grade 5 and 6 students who were planning to allow students to design their own timetables, the prep teachers decided to develop their own practice that would allow increased student ownership over their learning. The idea was to give these 5-6 year olds the chance to teach their peers in a subject of their strength or an area they were passionate about. The foundational question posed to the children was, ‘If you were a teacher for the day, what would you teach?’

‘Professors’, who wear name badges and are referred to by their title, lead activities ranging from design and make tasks to teaching their peers to write new languages. The practice has seen students turn surface knowledge into deep learning and develop a range of crucial skills as they plan, create and communicate with their peers.

“In the beginning they thought that I was tricking them and they were a bit overwhelmed by the question, but as the realisation of the depth of what I was asking them to do sunk in, it triggered a frenzy of creativity, confidence, a real sense of leadership within the room.”

Jessie Waters, Prep teacher, Wooranna Park Primary School

Film: prep students are supported to take on the role of teachers and to design & develop learning activities for their peers

www.youtube.com/watch?v=cA1DnR1jCFs
3. ENIGMA MISSIONS: THE DEEPER THE BETTER

Since 2013, the school has been prototyping a new practice that combines their approach to creating an immersive physical environment with their desire to give students high levels of ownership and autonomy. In ‘Enigma Missions’ the starting point for learning might be a video provocation or an individual student’s curiosity and interest. Students are then asked to undertake research in order to produce a digital artefact of their own learning to share. Students work individually, in pairs or small groups to create questions for their enquiry and then discuss them with peer and staff mentors, refining them and writing new ones as they occur through the research phase of the project. They then draw on school, community and online resources, including outside mentors if no one in the school has the required level of expertise, to complete their project.

“I chose autism as my topic because I have a relative who is autistic. At first I didn’t know anything about autism, [but] I was very interested in the topic.”

Year 5 student, Wooranna Park Primary School

“It’s like a passion project - something that the teachers will help challenge us to expand our knowledge of what happens around the world and what’s in the real world out there.”

Year 6 student, Wooranna Park Primary School

Film: interdisciplinary enquiry projects that span several months which challenge knowledge and create change
www.youtube.com/watch?v=gQUutbxAUxg

A NEW STIMULATING LEARNING PLATFORM: THE ENIGMA PORTAL

A new SLP was developed to house Enigma Missions. It is designed to open a doorway for older students to an endless variety of exciting learning experiences, involving students in collaborative, problem solving situations. Named by the students ‘the Enigma Portal’, it has a spaceship-like Bridge positioned in front of three large television screens which is connected to computers and Google Liquid Galaxy (an array of screens displaying Google Earth). There is space for up to eight members of a mission team and the portal includes facilities for students to create, record and edit film and music.

On entering the Enigma Portal children are enticed, via a short film clip, to undertake missions to explain the paradoxes, conundrums and mysteries of our existence (these can be viewed at ‘Mission Control’). Students are further immersed into the enquiry by wearing a costume identifying them as a member of the Mission Team and encouraging dramatic role playing. Students who agree to undertake an Enigma Mission are required to report weekly to Mission Control on their progress and prepare a film of their learning to be placed on the school’s Enigma Website. Students who have developed competence in this approach to learning are able to undertake the role of Mission Controller; designing the Mission and acting as a mentor to younger students.

A new range of important skills and feedback mechanisms are integral to Enigma Missions, including research, cross-referencing and filmmaking. Students embarking on Enigma Missions develop these additional skills and understandings through small group and workshop sessions and through connections with outside parties.

Throught the last year, the school has modified the practice by adding a forum for peer review through which an oral digital presentation can be scrutinized by staff and students who question and give feedback. These ‘live forums’ take place every two weeks, becoming an ongoing source of reflection and formative assessment. Questions from the Enigma Missions may be reframed to take the student deeper into their research or to explore tangential ideas. The live forums help students to understand whether they have a good knowledge of their research content and to develop their personal ability to articulate and debate their learning.

Some early ‘live forum’ presentations are available on the the Enigma Portal website:
www.plus.google.com/111926588313171462962/posts
One of the most exciting developments in design hub schools has been the appearance of learning that creates new ways for students to make meaningful connections to individuals and groups in their local communities. Three such projects are highlighted here: Ready, set, connect in Campbelltown Performing Arts High School in the Sydney Hub; Artpreneurs in Gungahlin College in the ACT Hub; and Senior Techies at Mount Eliza Secondary College in the Victoria Hub.

**HUB: ACT**
Gungahlin College
Craig Edwards (Associate Principal)
craig.edwards@ed.act.edu.au

**HUB: Sydney**
Campbelltown Performing Arts High School
Kirstine Gonano (Deputy Principal)
kirstine.gonano@det.nsw.edu.au

**HUB: Victoria**
Mount Eliza Secondary College
Luke Kerr (Program Director of Real Time Learning)
lkerr@mesc.vic.edu.au

**KEY FEATURES OF THIS PROMISING PRACTICE**

- Students produce work that has value in the real world beyond their school
- Learning is motivating – increasing self efficacy and self esteem for students
- Students develop 'soft' skills that employers value: empathy, communication, collaboration
READY, SET, CONNECT AT CAMPBELLTOWN

Project-based learning is important at Campbelltown Performing Arts School, and the community can provide a powerful learning environment and resources for dynamic and meaningful projects. However, teachers discovered that around 45% of students at Campbelltown hadn’t ever spoken with anyone in the community as part of a learning project.

Ready, set, connect is a four step process and online tool that has been developed to guide students through the process of making meaningful community connections using a series of online scaffolds that involve teacher feedback and assistance.

Ready, set, connect: The process

**STEP 1 - Ready** is an evaluation tool to assess how students initially feel about contacting community members.

**STEP 2 - Set** encourages students to think about questions they need to ask to support their learning and identify people in the community who may be able to assist. Teacher feedback is provided to help students to reframe their questions, ensure they are accessing the right community members and that they are asking questions that will obtain the information that they need.

**STEP 3 - Connect** is a series of questions that can scaffold a phone or email exchange which students may have with their community contact. The questions are fed into a script for a phone conversation and email correspondence which the students print out. Students are then able to make contact with the community member following teacher approval.

**STEP 4 - Evaluate** is a series of questions that supports students to think critically about their phone or email conversation with the community member after they have made contact. This evaluation is then fed into a database of potential community contacts to assist future projects within and across schools.

Students who previously said they felt nervous and scared about working with the community found the tool empowering. They were able to craft focused questions, which meant they could elicit information that helped them develop their understanding and deepen their learning.

Working with the community has enabled Campbelltown students to extend the scope of their projects. One group of students contacted the Council Environmental Officer as part of the collaborative redevelopment of a local park. During their investigation students needed to clarify water pollution levels, testing processes and safety requirements. Contact with the council enabled students to refine their initial prototype and develop a new one based on scientific research, and council planning and safety policies.

“I was pretty new to speaking to a community member, feeling scared and nervous. I feel like I can now get more information from them and am much more confident.”

Kaitlyn, Year 8 student, Campbelltown Performing Arts School

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EVIDENCE

Soft skills are the new hard skills. Having big parts of your brain storing technical stuff is going to be less valuable in the future. How you collaborate, solve problems creatively and authentically lead people will matter more.

KPMG and Price Waterhouse Coopers in The Sunday Age, 15 March 2015
goo.gl/hNDnU5
ARTPRENEURS AT GUNGAHLIN COLLEGE

In 1994, a group of students in Fort William, Scotland set up an art studio in Room 13, Caol Primary School. They formed a management team, opened their own bank account and ran the studio as a business. They employed an artist in residence, bought in equipment and supplies, staged exhibitions, took on commissions, sold photographs, stationery and artwork to generate a profit, and occasionally applied for grants to fund their on-going activities.

From the original studio in Scotland, Room 13 grew to establish an international network of student-run art studios, serving an expanding community of young artists and schools and communities worldwide. Each Room 13 studio is founded on business principles and facilitates the work of young artists alongside a professional adult artist in residence.

Inspired by the Room 13 model, students at Gungahlin College are planning a shared community art studio. Using the College’s excellent facilities, community members would pay a small fee to use the space and to take part in workshops run by their artist in residence. They envisage photography and ceramics amongst the range of media they’d be able to offer.

To fund the enterprise and to explore and grow demand for the studio, students at Gungahlin have been making art to exhibit and sell at local community and cultural events. As you might expect, the ‘artpreneurs’ include photographers and painters, but sales of cupcakes and henna hand painting also feature alongside musical performances as part of the broad and diverse artistic offering. Over $1000 was raised for the community art studio at one event alone.

www.room13international.org
VOLUNTEERING FOR SENIOR TECHIES AT MOUNT ELIZA

Senior Techies is a Melbourne based social enterprise that teaches seniors how to use the latest technology with the aims of reducing loneliness and increasing connections in older age. It runs face-to-face iPad training events for over 55s so they can stay better connected to their families and communities.

Each training session, which takes around 2 hours, is run by a team of professional trainers, adult support helpers and local young volunteers. Participant group sizes range from 15 -20 seniors.

During the session, the lead trainer explains and demonstrates new skills on a large screen at the front of the classroom. An assigned young trainer then spends about 15 minutes helping their senior practise the new skill.

Volunteers from Mount Eliza Secondary College recently had the opportunity to hone their skills for supporting seniors on a field trip to Apple, where they learned about the genius bar and how an Apple genius supports learning. The school has partnered with Senior Techies as part of their Real Time Learning program, which is available to all students in years 7 and 8. Real Time Learning is designed to give staff and students greater flexibility to engage in purpose-driven, student-centred learning. The program sits outside the classroom and focuses on the application of learning: emphasising practical activities and so-called ‘soft’ skills over curriculum content.

Mount Eliza has become much more visible in the community because school leaders see the development of partnerships, like the one with Senior Techies, as a door to more and better learning opportunities for their students.

The community has whole-heartedly embraced the chance to play a meaningful role in the school. They provide glowing feedback about the difference students are making. Parents are also thrilled by the new opportunities and students relish the chance to engage in projects and tasks that matter to them. Many are starting to make connections to long-term career possibilities - one year 9 student is already seeking out internship programs to become a software engineer.
In the ACT design hub, Amaroo School is looking at student leadership of learning through a number of different lenses. Two promising practices are: student-led tech teams and student-led conferences.

In both projects, students and teachers are working together using design thinking and methods to develop and test new approaches and gather evidence of impact. Amaroo chose these projects because they draw on the strengths and interests of students and encourage them to be independent, confident learners.

HUB: ACT

Amaroo School
Tiffany Mahon (Deputy Principal)
Tiffany.mahon@ed.act.edu.au

Ian Thompson (for EduHack article)
Ian.Thompson@ed.act.edu.au

KEY FEATURES OF THIS PROMISING PRACTICE

🌟 Builds on the interests and strengths of students
🌟 Stimulates metacognition; requires students to reflect on and apply their learning
🌟 Teachers and students collaborate to design and test new approaches
STUDENT-LED TECH TEAMS

Amaroo school regularly introduces and upgrades the technology students and teachers use to support teaching and learning. Most recently they have been developing and rolling out Bring Your Own Device (BYOD) and Google Apps for Education (GAFE) Programs across the school.

Bring Your Own Device (BYOD) refers to a school policy and enabling cloud-based technology which means that students and teachers can use smartphones, tablets and laptops to access the school's resources (curriculum material, student records, management information etc). Protocols for registration and use are important to protect the integrity of the content and the environment. Issues of equity need to be considered too and some schools provide devices for students who do not have them or, in some cases, for all students.

Google Apps for Education (GAFE) is a suite of free applications that Google offers to schools. These communication and collaboration apps include Gmail, Calendar, Drive, Docs and Sites, and a GAFE account unlocks access to dozens of other collaborative tools supported by Google. All of these applications exist in the cloud, meaning that they can be accessed from any device with an Internet connection. Schools wishing to use GAFE, register their school domain (web address), and administer all teacher and student accounts from a central administrative dashboard.

As you’d expect, these new programs are sponsored by Amaroo’s IT Executive, Deputy Principal and the IT Service. But they are also co-designed, implemented and supported by student-led tech teams; a group of year 9 and 10 students collaborating to solve real world problems encountered by the school as they implement new technology.

The tech-teams project empowers students to explore and develop their own talents and ideas and create new ways of implementing and exploiting ICT that improves teaching and learning in the Amaroo school community.

In the first term of the project, 12 students have been involved. They work out of a `tech bar` in the school library, which is run in a similar way to a professional technical support service. There is a roster and students take their shifts seriously. Jobs (problems, additions, modifications) come in and the shift students on shift work together to develop a response.

LEARNING FRONTIERS DESIGN PRINCIPLE

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.
SOLVING REAL WORLD PROBLEMS

The very real value of the tech team became apparent recently, when a serious technical problem occurred in the back office support for BYOD. More than 250 devices being used across the school couldn’t ‘speak to’ the platform designed to support them. As a result the entire school’s ICT system was grinding to a halt on a Friday afternoon. It was inconvenient from a practical point of view but, equally important, all the hard work that had been done to secure funding and build confidence in the BYOD approach was at risk. So it was important to find a fix, and to find it fast.

At 08:15 on Monday morning, 10 of the student tech team gathered together. They applied design-thinking approaches they’d learned in school and brought all their talent and experience to bear to ‘hack’ the problem, which they dubbed ‘the dinosaur of death’.

A hack or hackathon is an event in which a multidisciplinary group collaborates intensively on a shared problem or project. Usually applied to software design or development, hacking is now used as part of the language to describe design thinking and practice. In Amaroo the students were so motivated by their ‘dinosaur of death’ hack and its outcome that they are now developing a toolkit for other students to use to apply the hack method for solving other problems.

Within an hour the students had come up with: a fix for the 250 devices; a way to roll out the fix across the school; and a prototype for making the fix sustainable through automatic updates. Within four days all 250 devices had been successfully reimaged.

A WINDOW INTO WORK

The student tech team is working alongside the ACT Government Shared Services team and the Education Directorate Digital Learning Team to test and debug new apps in the GAFE platform.

Andrew Beecher, who facilitates the tech team, sees this as just one examples of the way in which this experience will be valuable to the students beyond school: “The skills I see these students developing are going to be a great stepping stone towards careers in the IT industry, and my goal is to give them as much real life experience and exposure as they can possibly get.”

“As well as being extremely proud of (and grateful to!) the team, I was fascinated to see how the experience bonded them as a group. They took what they’d learned about design thinking and made it real; made it authentically their own.”

Andrew Beecher, Teacher, Amaroo School

“Tech is going to be a big part of society and it will be really important to us when we go to the College (Gungahlin College). We’re hoping to establish ourselves as part of the tech crew in the school. So when a student or a teacher has a problem they’ll come to us, rather than waiting for just the one or two teachers who can help them.

The project has lots of potential. We want to expand to include students from other year groups and attend more of the ACT Education Services meetings. We were the first students to be invited to that.”

Student, Amaroo School

EVIDENCE

The ability for learners to see connections and “horizontal connectedness” between the formal learning environment and the wider environment and society is important. The “authentic learning” this promotes fosters deeper understanding.

OECD 2012
STUDENT-LED CONFERENCES

Teachers at Amaroo school are designing a suite of tools to support the delivery of student-led conferences with the intention to replace traditional parent-teacher interviews. Student-led conferences maximise the engagement of students and parents in the school by:

- Increasing students’ self-confidence and self-awareness as learners
- Facilitating partnerships between parents and teachers
- Providing opportunities for goal-setting interactions between staff, students and families

“Student-led conferences have brought more focus on learning by requiring the student to generate feedback about their learning to their parents. Parents are keen to encourage their children to showcase their learning at school.”

Richard Powell, Principal, Amaroo School
WHAT HAPPENS AT A STUDENT-LED CONFERENCE?

Students are supported to prepare a conference script to present and discuss their learning. The script takes in general interests, personal and academic achievements, goals and ambitions as well as deeper dives into subject areas and skills of particular importance to the student.

As evidence to support their presentation, the students build a portfolio of their work on a Google site. The portfolio includes:

- A piece of work they’re proud of
- A piece of work they’d like to improve upon
- Reflections on both pieces
- Other materials that demonstrate what and how they are learning (videos, photos, audio)

Students get feedback from their teachers on their script and on their portfolio. This is a critical part of the process.

 Parents use an online booking system to arrange an appointment to meet with the student and a teacher who knows the student well. During the conference, the student leads a conversation which starts with them sharing their interests and summarising their strengths and weaknesses. They highlight their achievements so far for that term or year, and share their personal and academic goals. Choosing a particular subject to focus on, they also discuss what they’ve found most interesting and why, and what they’ve learned that was new. Finally, they choose a skills focus, such as research or persuasive writing, and talk about why they’re important and how they’ve developed them.

So far 290 year 9 and 10 students have led conferences with their parents and teachers. Evaluations show that 80% of parents found the student-led conferences useful; and 100% of staff found them to be a valuable experience.

“One of the things I found most exciting was how inclusive the student-led conferences are. I look after a group of students with learning difficulties and special needs. These are students who can struggle to identify learning and as a result find it challenging to communicate what they’ve achieved. However, in this scaffolded and supported setting they were able to show their parents what they were proud of, what they had learnt and why this was important, as well as reflecting on avenues for future improvement.”

Ian Thomson, School Leader, Amaroo School

“Usually you forget your feedback. Now I can remember it all, and I can add what I’d have done differently into my future assignments.”

Jess, Student, Amaroo School

“It was a very positive discussion and hearing from the student instead of the teachers was empowering. My daughter taking ownership of her learning journey was great to see and hear.”

Marie, Parent, Amaroo School

EVIDENCE

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
THE THIRD TEACHER: CO-DESIGNING LEARNING SPACES WITH STUDENTS

Schools in the Brisbane design hub have been inspired by the co-design experiences of their fellow Learning Frontiers educators, and are exploring how to support teachers to design learning spaces in collaboration with their students. Inspired by the Reggio Emilia concept of the environment being the ‘third teacher’, these schools recognise that learning spaces need to support inquiry and self-determined learning, and also that there needs to be student agency in the design process itself. Involving students in co-design means learning spaces can be developed around their needs and ultimately support greater levels of engagement.

HUB: Brisbane

St Paul’s School
Des Hylton
D.Hylton@stpauls.qld.edu.au

Kedron State High School
Joseba Larrazabal (Principal)
info@kedronshs.eq.edu.au

Mt Alvernia College
Kerrie Tuite (Principal)
mta@mta.qld.edu.au

KEY FEATURES OF THIS PROMISING PRACTICE

- Taking a systematic and collaborative approach to designing engaging learning spaces that are conducive to deep learning
- Encouraging student agency through a co-design approach
- Building democratic approaches and whole community engagement
Making a Case for Change

Teachers as St Paul’s School are working alongside students, parents and other schools in the Brisbane hub to test the impact of different learning spaces on learning and develop tools to support others to undertake similar trials. A first stage in the project has been to create a compelling case for change that is shared by the school community.

During a teaching and learning scan at St Paul’s, teachers used McREL Walkthrough software to gather data about the learning environment through informal short observational drop-ins. They captured observations against agreed criteria, for example: Is the learning environment conducive to creative thinking? Is the layout of the learning environment conducive to independent inquiry? Are students provided with opportunities for autonomy? Through this process staff observed a lack of student-driven inquiry within the Middle School; identifying that the spaces themselves were not encouraging inquiry.

Alongside this process, school staff had also been using scenario planning to support strategic thinking. They explored what the world might look like in 2028 when their current pre-prep students graduate and, in response to their findings, identified a range of strategic priorities to focus on over the coming years. These included a focus on designing learning that is highly engaging and empowering, which supports students to understand themselves in order to develop maturity in their thinking and actions, and to engage the broader community through its education programs.

What is scenario planning?

The Centre for Research, Innovation and Future Development at St Paul’s School defines scenario planning as: ‘the process which, through rigorous research, we broaden the traditional approaches to developing strategy. It is about looking at the complexity of future environments in order to be sustainable and to continue to flourish as a school. Scenario planning is a process which changes the way each of us sees the world, engaging conversations with the future and how we might respond as an organisation. It is not a way of predicting the future.’

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Evidence

“There is some evidence supporting the impact of co-design, or involving potential beneficiaries in taking responsibility for learning spaces and changing their behaviours as they adapt to new settings.”

Education Endowment Fund, 2015

GENERATING AND EXPLORING IDEAS

Inspired to act on addressing the priorities emerging from scenario planning and the data collected about the efficacy of current spaces, teachers set up focused investigations into challenges and opportunities presented by their learning spaces. The teacher leading the project established an open online space for students and teachers to communicate outside of class time on this ‘Third Teacher’ project, and initiated preliminary discussions with the students. This involved exploring the challenge with a group of Year 7 students, using question such as; ‘What do you think a classroom should look like, and why? Learning should always be at the heart of a classroom layout and design, so should what and how we learn influence how we use the classroom?’ Showing them a 700 year old painting depicting rows of learners sitting in rows in front of a teacher on a pedestal, with one learner asleep and others talking amongst themselves, they asked students: ‘What has changed in 700 years?’

Students started considering what an environment that promotes engagement in learning might look like, and how it could support physical and emotional wellbeing. First, different variations of seating were tested out to see how this would impact on different sorts of activities – from lecture-style delivery of content to wide circles for sharing ideas and student-led learning, plus whether standing at higher tables would have any effect on energy levels and posture. As the group started to test configurations, students started to pay closer attention to their own learning needs, and what their learning program required of them.

‘An Environment for Learning is one where the learning space is purposefully developed to encourage incidental learning and engagement through interaction, curiosity, and humanisation. An adaptable environment that can offer active areas for investigation and collaboration, as well as quieter ones for reflection will result in a more conducive setting for inquiry learning.

The use of space in the classroom should not be viewed as a place to simply decorate and look pleasing to the eye, but rather a reflection of the learning journey of students, which helps them reflect on what and how they learnt, providing a narrative of their discovery.’

St Paul’s School Teaching and Learning Survey, October 2013

Design and democracy in action

During a lunchtime meeting a student commented that a significant minority felt the current learning zones layout was not working for them. The student put forward a way to give everyone a voice in designing a new layout to meet the needs of students. Supported by the Third Teacher Committee Chair, Sophie (a Year 10 student who volunteered her time to lead the explorations), students organised into groups of three, paying close attention to not grouping with people they frequently work with. Each group was charged with designing a particular area of the room, with each group giving feedback and ideas to one another to improve their concepts. Students then voted on their favourite design aspects within each contribution in order to come to a consensus about what they might pursue next.

Increased ownership of learning

As students put more energy into exploring how their environment could adapt, they began to describe their learning needs with greater specificity and feel an increased sense of ownership over what was previously just a room filled with tables and chairs.
Xanthe, one of the students involved, posted on the online space: ‘I love the way our classroom is set out but I am struggling to concentrate. I would like to have a quiet area where we can or at least I can concentrate.’ Xanthe put forward some ideas for how a space in the room could be configured to allow for quiet, personal learning time, and tested a range of locations in and out of the classroom with a sound meter. Xanthe found there was little fluctuation in noise levels within the classroom itself and is now looking at where and how a peaceful outdoor space could be created.

The ‘Genius Table’ was the result of an investigation into how collaboration might be supported in a redesigned learning space. One student suggested that whiteboard-topped tables might help students to share ideas and strategies rather than using personal workbooks. Inspired by Apple Store Genius Bars, staffed by experts ready to quickly solve technical problems, the student group set about creating their own to foster peer-to-peer learning.

At the end of the lesson, students attending the Genius Table feed back to the room what particular concepts students were struggling with and what strategies or guidance was used to help solve their problem. Students identified that the Genius Table was being most effectively used in Maths, but was being used in some other subjects e.g. Science and Geography. Teachers have been exploring how they can begin to incorporate the room design into their planning, such as the use of the Genius Table to support differentiation and the various phases involved in inquiry learning.

“During the lesson if a student feels that they have a firm grasp of the concept, they can elect to be a genius for that lesson. If a student is having particular difficulties with a concept they can go over to the Genius Table, ring the bell and a Genius (a student who has the ability to support others) can come and quickly work with that person. Every single student has the opportunity to be a Genius.”

Year 7 Teacher, St Paul’s School
GATHERING PERCEPTIONS AND USING DATA

After a term, Year 7 teachers conducted a perception survey with participating students to find out whether they were identifying a benefit of focusing on their learning spaces.

Students working within the project took the data and analysed the trends, noticing that although most students believe the learning environment is important and they should have input into what it is like, around 20% didn't feel like it was an appropriate use of teaching and learning time. Students themselves facilitated a robust discussion about their perspectives on this issue, considering when might be a reasonable time to reconfigure their space if not in lessons, or what it might take for that 20% of students to feel that a focus on the environment is also a focus on teaching and learning.
Sophie, the Year 10 Third Teacher Committee Chair, strongly believes that student engagement can only happen if parents and families are engaged too. The Year 7 Third Teacher group decided to hold a wine and cheese evening for their local community to share their progress on redesigning their learning spaces, and to talk about the reciprocal relationship between teaching, learning and the environment. Around 50 people attended to hear presentations from participating students on the designs they have implemented so far, and parents responded very positively.

The lead teachers from St Paul’s have started collaborating with other schools in the Brisbane design hub – Kedron State High School and Mt Alvernia College in particular – to prototype tools that might support a similar co-design process in other schools across Australia. Learning Frontiers leaders from Kedron, Mt Alvernia and St Paul’s came together in Melbourne to participate in a ‘tools hackathon’, designing a process whereby teachers can collect data about the current ways students are using the learning environment, conduct action research with students about how space can impact on learning and vice versa, and engage parents and community members as partners in the co-design process. St Paul’s and Kedron are now working together to introduce the Third Teacher project to other members of their school communities through cross-school professional learning events.

The involvement of other schools in the hub will bring diverse perspectives to the development of the practice and tools, helping them to be shaped to meet the needs of a range of different learning contexts. Schools in the hub are also keen to explore partnerships that would enable students to co-create furniture or learning technologies with local and global industry groups.

“My son has been inspired by the developments in the classroom environment and always very keen to share the changes that are occurring and is very keen to be a part of it. I can tell he feels a part of a group making positive changes from his comments after school.”

Parent, St Paul’s School