Solais Sandpit
Domremy College

Category: Small / Special Project
Solais Sandpit, Domremy College

Executive Summary

As part of their masterplanning process Domremy College identified the opportunity to transform an existing traditional classroom block, the Maureen Watson building, into a prototype space enabling which better enabled the aspirational pedagogical activities to take place in the which they aspired to in their future development. The block was originally one of the most hated spaces in the school, however, its transformation into the Solais Sandpit has now made it one of the most loved spaces.

The space was designed specifically to support teachers and students to transition into new innovative learning environments (ILEs). As a more student-centred environment, a greater range of learning settings were designed into the space to reflect a diversity of functionalities and pedagogical practices. These include team teaching, collaborative learning, large and small group work as well as direct instruction. The response to the original building, a 200sqm (2152.78sqft) large open space, was to insert a series of walls and joinery to add bring more definition to learning zones and to provide a range of purposeful settings.

A rigorous research program involving staff and students has and continues to inform future design decisions and supports teacher practice in transitioning to ILEs. In June 2018 a student survey exploring students’ perspectives and experiences of the Solais Sandpit was undertaken. Complementary to the student survey was a Participatory Action Research project led by PhD candidates involved in the University of Melbourne Innovative Learning Environments and Teacher Change (ILETC) project. This project involved working with a group of Domremy College teachers over several months to investigate teacher perceptions of the space, and support the process of practice change in order to enhance teaching and learning both within the Solais Sandpit and in future new buildings.

“Our prototype, the Solais Sandpit, is assisting in the transformation of the delivery of our Stage 4 Curriculum from teacher centred to student centred. It is a powerful change agent because the design of the space works and both staff and students love to be in there.”

— Vivienne Awad, Principal, Domremy College
Solais Sandpit, Domremy College

Scope of Work + Budget

**SCOPE OF WORK**
- Type of facility: Prototype learning space
- Fixed purposeful learning settings enabling collaborative and dynamic learning opportunities.
- Design and Documentation: 3 months
- Construction: 4 months

**TOTAL CONSTRUCTION COST**
AUD $0.4M

**TOTAL PROJECT BUDGET**
AUD $0.5M

**SPACE PER STUDENT**
4.1m²

**COST PER M²**
AUD $1740

Total construction cost: USD$0.27M, space per student: 44.1 square foot, total project budget: USD$0.37M, Cost per m²: USD$1,175
“The Solais Sandpit helps us collaborate and expand our knowledge through different ways instead of just sitting at a table.”
— Student
Domremy College, a girls secondary school in Sydney, Australia is one of 152 schools as part of the Sydney Catholic Schools system. Established in 1911 by the Presentation Sisters, the school has grown from originally 12 students to its current population of 600 students and 53 teachers. School buildings have been successively developed over the years to accommodate the growth, all predominantly based on a traditional single cell classroom model.

As part of a master-planning process for the school, and in consultation with the school community, a vision emerged for the need to enable more diverse pedagogical activities to better support students in preparing for a rapidly evolving world - one in which skills including communication, collaboration, creativity and critical thinking are vital. This required new spaces to support a wider range of pedagogies, and these now form part of the schools strategic capital works plan. School leadership recognised a key challenge was to help ease staff anxiety about teaching in a new and unfamiliar space and letting go of a traditional teacher-directed classroom.

A small 200sqm (2152.78sqft) building deemed for future demolition was identified as an opportunity to develop as a quick and low-cost prototype space, and one in which the types of spaces proposed for new developments could be ‘mocked-up’ and tested. Since it’s completion in November 2017, many teachers in the school and their students have had the opportunity to used the space. A Participatory Action Research (PAR) project run by the Learning Environments Applied Research Network (LEaRN), University of Melbourne has taken place with a group of teachers centred around enhancing their use of this space. This process has proven to be invaluable in developing spatial literacy in teachers and empowering them to recognise the potential of space as a resource for learning.
“The development of the Solais Sandpit as a prototype has enabled staff and students to become familiar with the affordances provided and time to test the effectiveness of their differences.”

— Vivienne Awad, Principal, Domremy College
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Educational Environment

The school’s educational vision is outlined in the Educational Brief developed in collaboration with Dr Ben Cleveland from the University of Melbourne. Workshops with staff, students, parents and Hayball enabled broader stakeholder input into the articulation of an aspiration for more collaborative, entrepreneurial and interdisciplinary education.

Domremy College staff recognised the need to shift the delivery of the Stage 4 Curriculum, in particular, from the traditional teacher-centred approach to a more student-centred model. There was energy amongst the staff in building learning spaces that are varied and allow students greater choice to work where they feel they can learn best. Sometimes students might work independently, other times in small or larger groups harnessing the power of social learning. The development of the Solais Sandpit as a prototype, has enabled staff and students to become familiar with the affordances provided and time to test the effectiveness of the different affordances. Professional learning and mentoring in problem-based learning as well as time-release has supported teachers to work collaboratively to plan units of work that are authentic, interdisciplinary and take advantage of the student-centred learning spaces.

The scale of the Solais Sandpit, and range of purposeful settings enable teachers to team-teach, and students to engage in a range of different activities and group sizes from whole class to small group and independent. The Solais Sandpit has encouraged staff to reflect on their own teaching practice, facilitating student-centred learning that is collaborative, student-led and inquiry-based. Writable walls and abundant digital screens allows student thinking to be visible and feedback from peers and teachers to be immediate.

Spaces are agile with multiple modes of operation possible within any given space. For example, the tiered learning space equally enables student presentations, performance and teacher or visitor lectures or briefing sessions. Mobile furniture throughout the space enables learning settings to be changed dependent on teachers pedagogical intentions.
Solais Sandpit, Domremy College

Physical Environment

BEFORE

AFTER
Solais Sandpit, Domremy College

Physical Environment

As a refurbishment, the Solais Sandpit effectively re-uses existing building assets to create more diverse learning spaces whilst maintaining visibility between zones and maximising natural light. The range of purposeful learning settings include: a tiered presentation space; a multi-modal tutorial space for a range of activities including direct explicit teaching; two incubator spaces for small group work, withdrawal, retreat and media; an enclosable Boardroom for a range of focused group activities; and a central Learning Commons.

Positioned at the heart of the school, the Solais Sandpit symbolically and physically offers a guiding path and link towards Domremy College’s vision for a more collaborative, interdisciplinary and entrepreneurial education. School leadership now hold their meetings in the Solais boardroom, partly as they enjoy being in the space, but also in order to model collaborative working behaviours to students in the vicinity. Students intuitively know how to utilise the space and are comfortable to choose where they feel they learn best in.

Most importantly, the space has empowered teachers in the process of changing their practice and widening their pedagogical repertoire beyond what was possible in traditional classrooms. It did not take long for anxiety around new learning spaces to disappear and now the Solais Sandpit is the most popular teaching space in the school.
The purposeful settings within the Solais Sandpit include: a tiered Presentation Space for briefing, rehearsal and performance; a Boardroom for groups of up to 18 students for more focussed large group discussion; a Tutorial Room well-suited to explicit teaching or reconfigurable for hands on lessons; two smaller more contained ‘incubator’ spaces for withdrawal, retreat, filming or recording, and a Learning Commons supporting a range of settings from collaborative to independent learning.
Solais Sandpit, Domremy College

Learning Commons

The Learning Commons is a light and transparent space connecting all learning spaces within the Solais Sandpit. It is a non-defined space enabling many different uses, in particularly, collaborative and hands-on learning.

Ground Floor
Solais Sandpit, Domremy College

Incubator Rooms

The Incubator Rooms are smaller defined spaces, particularly suited for withdrawal and small group work. They vary in nature, with one space being more encloseable, enabling acoustic separation.

Incubator Room 1
With pinnable surface for acoustic absorption and focused small group work

Booth Seating
Comfortable group work space with whiteboard table to encourage brain-storming and collaboration

Incubator Room 2
With green screen and enclosable door for multi-media use and acoustic separation
The Tutorial Room is most like a traditional classroom, however, has multiple writing surfaces on the walls. The multi-model nature of this space blurs boundaries between teachers and students.
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Presentation Space

The tiered Presentation Space is a popular ‘touchdown’ area for briefings, rehearsals and presentations.

Pinnable Acoustic Surface
For acoustic absorption

Ground Floor

Tiered Seating
For presentations, performances and direct instruction
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Boardroom

The Boardroom is an ideal seminar space seating up to 18 students. School leadership meetings are also held here blurring boundaries between work and learning and to showcase to students collaborative working practices amongst staff.

Ground Floor

Acoustic
Carpet in this space gives textural variety and greater sense of acoustic absorption

Transparency
Glass doors reduce noise and create privacy while still enabling transparency between Boardroom and Learning Commons
Results from two studies have demonstrated that the Solais Sandpit project is achieving its educational objectives. A student survey undertaken in June 2018 by 153 participants has shown that the majority of students enjoy learning in the space. It has enabled greater diversity in how they learn, more opportunities for collaboration and empowered them in their learning.

The Participatory Action Research (PAR) project led by PhD candidates involved in the University of Melbourne Innovative Learning Environments and Teacher Change (ILETC) project has supported teachers to enhance their practice both within this space, and in future ILE spaces proposed for development. Findings from this research will not only be shared amongst the Domremy College teacher community, but also with the greater Sydney Catholic Schools community. Further to this, a set of tools to support change for teachers transitioning to ILEs is being developed as a result of the initial study. These tools will be shared more broadly through publications and conference presentations as part of the aims of the ILETC project.
Solais Sandpit, Domremy College

Results of Process + Project

The majority of student respondents prefer working in the Solais Sandpit to traditional classrooms because they had more choice in where they learnt, were able to work more collaboratively and were more comfortable in their learning.

Do you prefer working in the Solais Sandpit to a normal classroom?

- 76% Yes
- 14% No
- 10% I Don’t Know

“I prefer working in the Solais Sandpit because I feel free to choose my learning environment, I get to talk to classmates about our work and I’m not trapped in a classroom.”

— Student
Solais Sandpit, Domremy College

Results of Process + Project

The majority of student respondents felt the Solais Sandpit changes the way they learn as they are more comfortable and engaged in this space.

Do you think having lessons in the Solais Sandpit changes the way you learn?

![Pie chart showing percentages: 89% Yes, 9% No, and 2% I Don't Know.]

“I think lessons in there do change the way I learn, I feel more at ease. Therefore, I absorb the work better and I have fun while doing designated work put in place”

— Student
The least preferred space is the Tutorial room, the most traditionally configured space in the Solais Sandpit.

When given the choice, which area of the Solais Sandpit do you like to use most?

“In my other class they’re happy... well not happy... but they’re compliant, they just sit there and absorb. They don’t seem to want to take control...they’re not on the edge of their seat and want to start work as much.”

— Teacher
Solais Sandpit, Domremy College

Results of Process + Project

The most popular features in the space Solais Sandpit are the whiteboard table and wall surfaces. These features are good for expressing and sharing ideas, brainstorming and they are fun to use.

What facilities or resources in the Solais Sandpit do you enjoy using?

“...its breaking down that barrier between teacher space and student space and more like, we share, we work together”
— Teacher C
Students indicated the Presentation Space was the least enjoyable space in the Solais Sandpit. It was apparent from discussions with teachers that whilst some do teach differently here, many have not changed their practice in using this space. This gives some clues as to why the Presentation Space is least preferred, as it is not well-suited for chalk and talk instruction. This triangulation of data shows the importance of the need to investigate multiple perspectives.

What facilities or resources in the Solais Sandpit do you least enjoy using?

“I still did the activity which I would have done in my four walled classroom. The shape was different but the actual teaching wasn’t”
— Teacher A

“This space is really exciting to me because I think it’s making me think differently about my teaching”
— Teacher B
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Results of Process + Project

When asked how the space could be improved, comfortable furniture accounted for 25% of responses. This was followed by smaller enclosable group rooms (10%).

If you could add anything to the Solais Sandpit what would it be and why?
Solais Sandpit, Domremy College
Research Dissemination

Findings from this research will not only be shared amongst the school teacher community, but also developed into a set of tools to support change for teachers transitioning to ILEs. This will be shared more broadly through publications and conference presentations as part of the aims of the ILETC project.