

Centre for Learning and Innovation

Ormiston College

A4LE 2020 LE SOLUTIONS AWARD

Executive Summary.

Redefining the role of the Library

The educational outcome and philosophy behind the Ormiston College Centre for Learning and Innovation was to create a facility that was true to its name. It had to be adaptable, resourceful and multi-functional in its ability to adjust, not only for its current students but for the future generations that are to follow.

The CLI has become the cultural and learning hub that actively embraces the school community, where learning both inside and outside the classroom occurs anywhere, anytime.

Over a long period of time, several different shareholder groups researched, discussed and planned in order to ensure all necessities were included. Serious consideration was given to the ever-changing educational needs of the 21st century student and teacher.

The facility had to be a functional resource for a school of the future. It was important for it to blend with surrounding structures on campus. It had to fit in with the pedagogy and professional needs of all teaching staff. It needed to provide spaces that would inspire both staff and students.

Whilst the physical building was completed at the end of 2018, the true impact it was to have on the teaching and learning upon staff and students was not truly recognised until it was in full use throughout 2019.

It has not only met requirements but has exceeded all expectations, mainly due to the versatility of the various spaces.

As a preferred venue on campus, it has certainly become more favoured over the traditional individual classrooms.

The Plaza and Café area, and the extensive Library facilities, have become particularly popular for both Junior and Secondary students before and after school and during the morning and lunch breaks.

Due to the many months of research and the amount of time spent in discussion, plus meticulous planning undertaken prior to all final agreements on design, very few challenges arose. These were efficiently handled as frequent meetings were held between architects, builders, members of the Ormiston College community and other shareholders, with nothing left to chance.

The timing of the project was extremely significant due to educational changes occurring nationally and globally. The purpose-built facility needed to meet many requirements if it was to fulfill the demands of the 21st century.

The project was an immense undertaking for Ormiston College, and as a result it is already proving to be an outstanding acquisition that will undoubtedly play a major part in the education of current and future student generations.

The educational specifications were remarkably translated from ideas, plans and final designs into a building that has now taken on its true name, the Centre for Learning and Innovation.

[Watch the video here.](#)





Scope of Work and Budget.

Project Details

- Project Name**
Centre for Learning and Innovation
- School**
Ormiston College
- Location**
Brisbane, Australia
- Headmaster**
Brett Webster
- School Roll**
1400 Students
- Occupancy Date**
14 January 2019
- Grades Housed**
Prep (Reception) - Year 12 (Senior)
- Gross Floor Area**
3,945m²
- Project Value**
\$14,000,000

Project Team

- Builder**
Rohrig Constructions
- Structural Engineer**
Summit Consulting
- Civil Engineer**
Jones Nicholson
- Hydraulics Engineer**
MRP
- Electrical Engineer**
Electrical Design Group
- Mechanical Engineer**
Ralph Engineering Concepts
- Landscape Architect**
Jeremy Ferrier Landscape Architects
- Building Certifier**
Bartley Burns
- Town Planner**
Clegg Town Planning

Learning Environments Australasia
Australasian Winner 2020
Queensland State Commendation 2019

Australian Institute of Architects
Brisbane Regional Award (Education) 2019
Queensland State Award (Education) 2019

Master Builders Queensland
Education Facilities over \$10million
over \$10million 2019

Australian Education Awards
Innovation in Learning Environment Design
Finalist 2019

School and Community Engagement.

“ By redesigning the learning environment, Ormiston College has created a highly active, productive and diverse hub of learning ”

Re-imagining the Ormiston College Library

At a time when schools both in Australia and overseas were questioning the need for a school library, Ormiston College committed to reconceptualising the role of such a facility.

This ensured students could access activities, networks and expertise to supercharge their connection with learning, their academic success, and their opportunities beyond school.

Through a comprehensive and global process of collaboration, consultation, research, reflection and futurist considerations that accompany strategic planning at Ormiston College, the role of the school's library was reviewed, reimagined and redefined.

The Educational Brief was developed to ensure provision of the effective support of the teaching and learning framework is relevant to the digital age.

Key library personnel attended and presented at the International Evidenced Based Library and Information Practice Conference in the USA.

The session 'From Library to Centre for Learning and Innovation' led the College to trial new approaches in the old library, introducing new spaces, technologies, furniture and pedagogies for teachers and students to explore and evaluate.

Staff consultation and discussion forums were established to consider how redefining the role of the College library could

" Whilst we cannot predict the future with precision, it is our responsibility to guide our young people and help them develop a strong mind set and arm them with the necessary tools required to cope with the dramatic changes that will occur over the course of their lifetime "

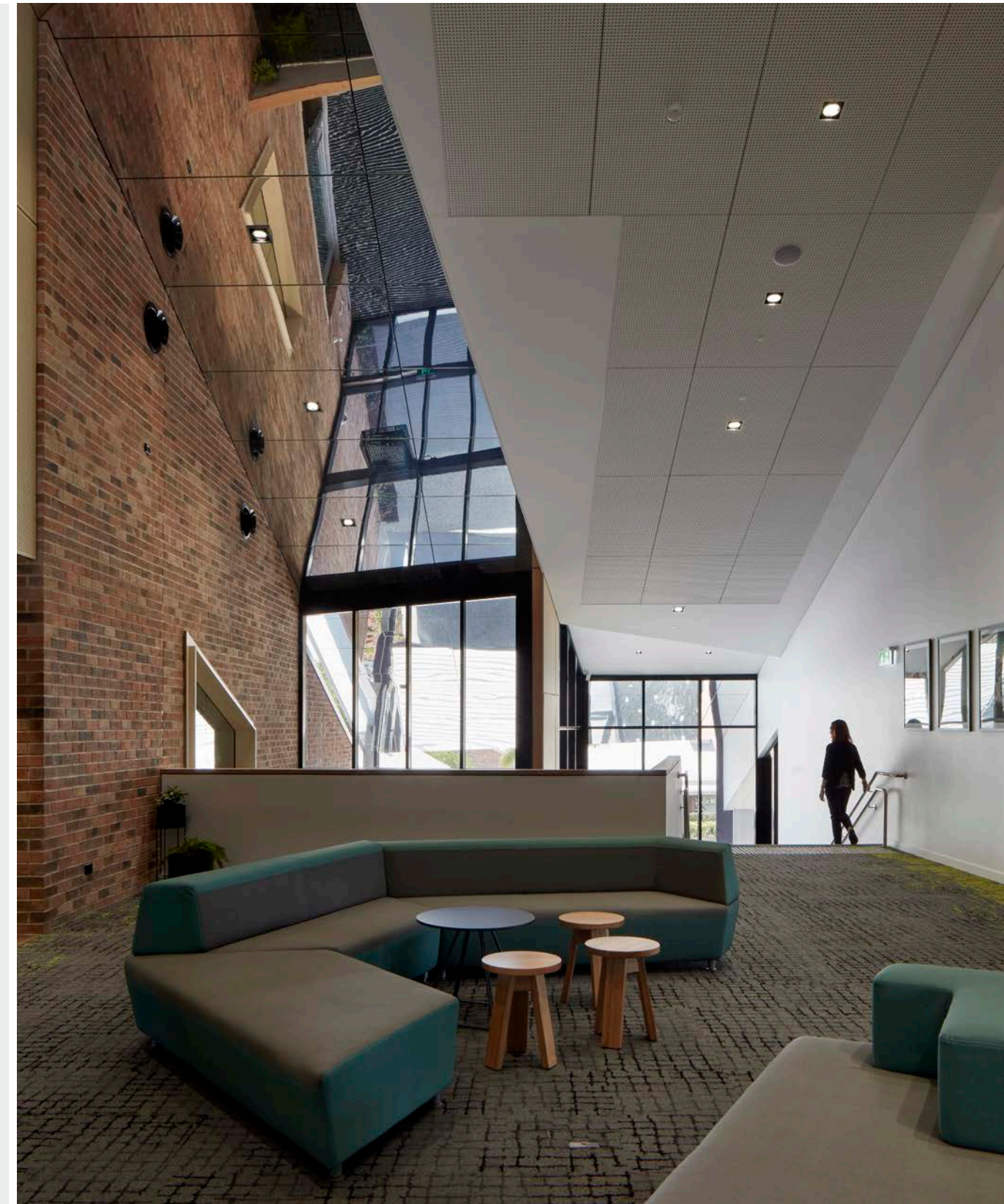
optimise its value to the College's students and how this could support a leading innovative school, all the while developing further the Educational and Technical Brief.

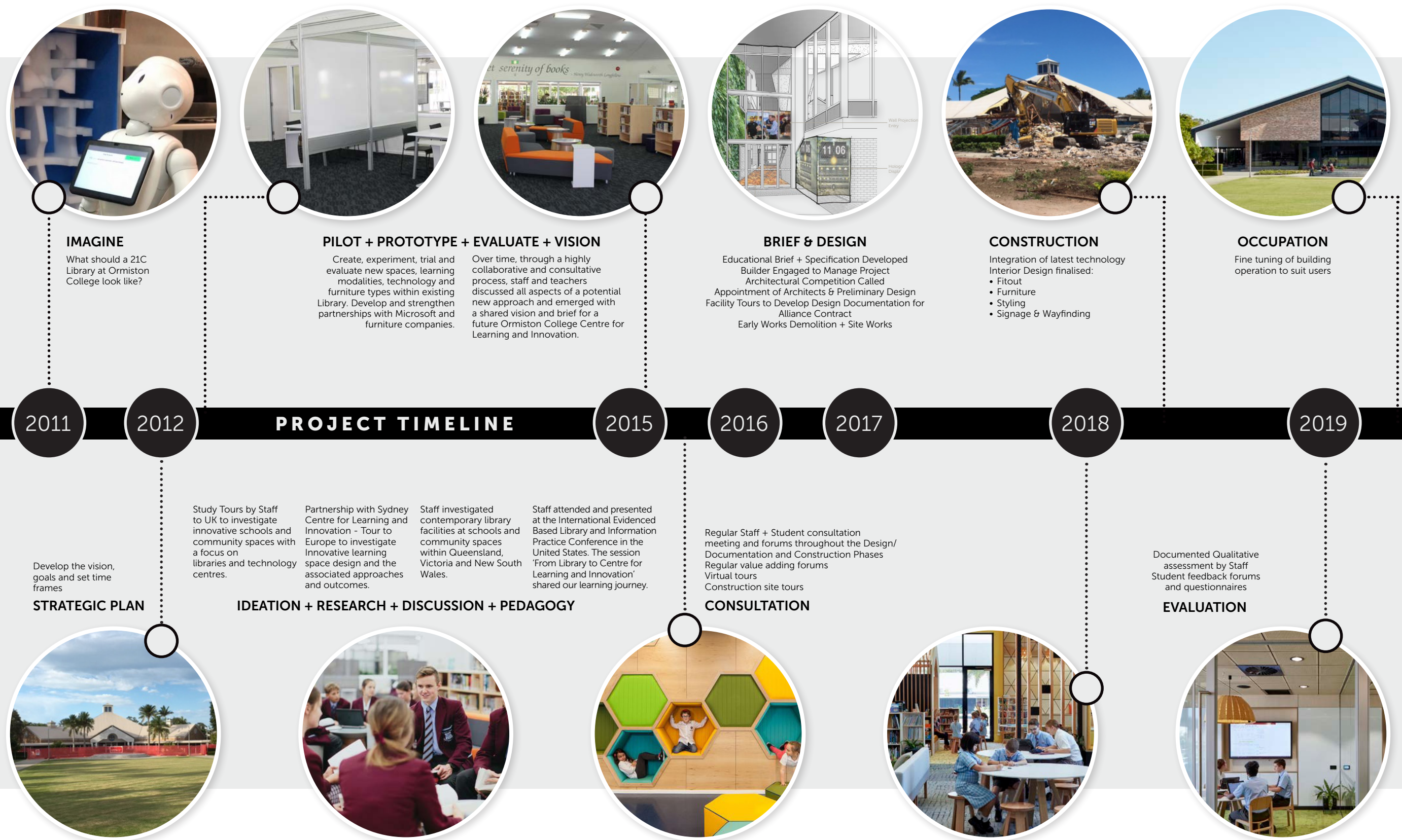
Board and think-tank forums with staff, student groups, architects and builders and comprehensive investigation and tours of contemporary and innovative libraries in schools, universities and community spaces in Queensland, interstate and internationally, were all part of the collaborative approach.

A shared vision for a future Ormiston College CLI started to emerge and take shape.

Student, parent and staff forums gave stakeholder representatives the opportunity to engage further and directly with architects, builders and school leaders to inform the design, fitout, technology, furniture and styling of the building, throughout the design and construction phases.

This journey, begun in 2011, resulted in Ormiston College demolishing the existing library in December 2017 and delivering the Centre for Learning and Innovation in January 2019.







A new epicentre for school and community

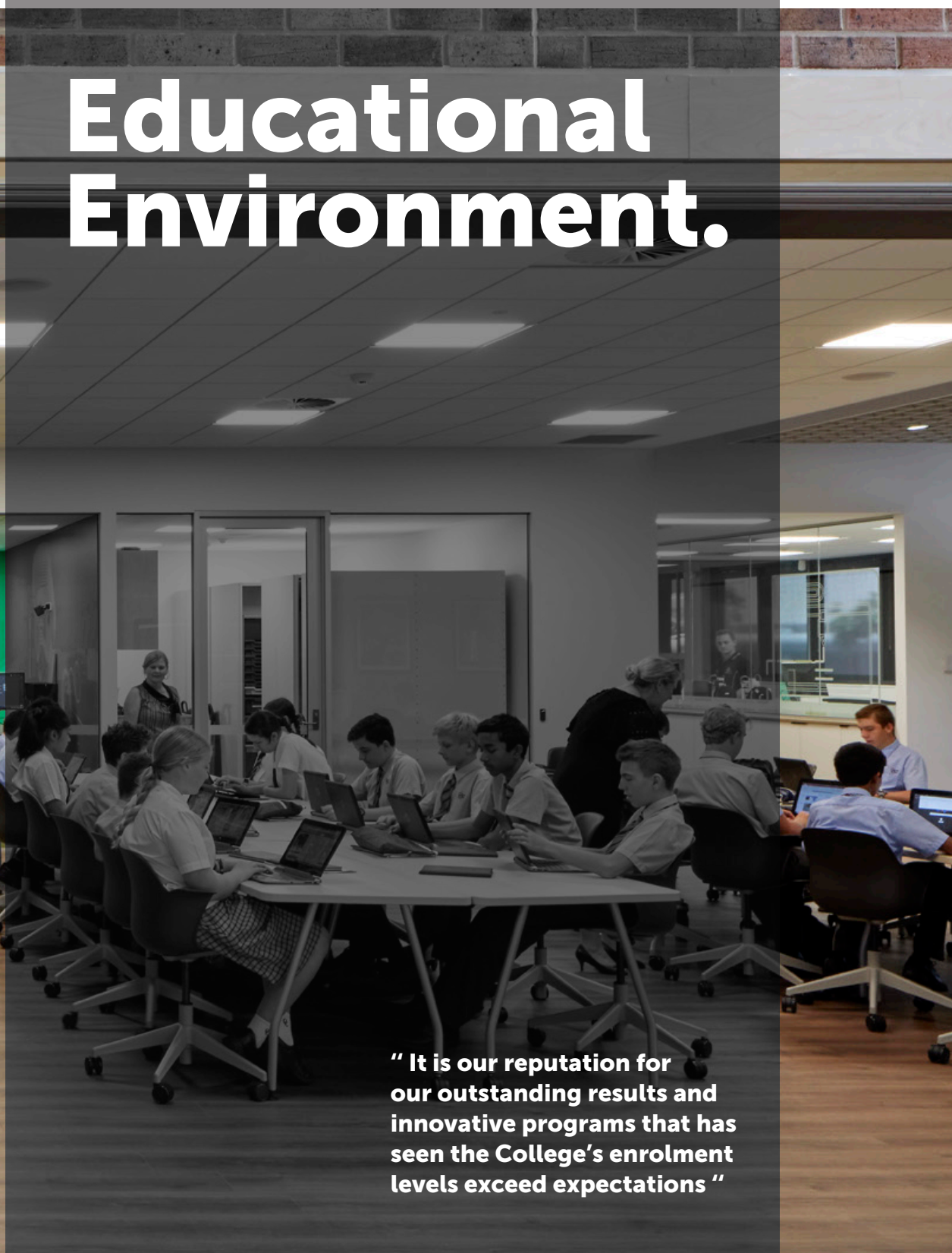
**The Centre for Learning and Innovation
has quickly become the learning and social
epicentre of Ormiston College.**

It has reactivated the heart of the campus and reemphasised that learning is physically and symbolically central to life at Ormiston College and to life outside of school. -

As a result, there is a high level of ownership and pride in the new facility and the feedback from students, families and staff after accessing the new CLI has been nothing short of phenomenal.

The facility brings to life the Ormiston College Teaching and Learning Framework, including a focus on Collaboration, Innovating to Solve Real-World Problems, Skillful Communication, Self-Regulation, Digital Creation and Construction of Knowledge.

The Centre for Learning and Innovation aims to provide a community owned 'Learning Commons' that will better position the College and its graduates for the future.



Educational Environment.

“ It is our reputation for our outstanding results and innovative programs that has seen the College’s enrolment levels exceed expectations ”

Learning Architects: Pedagogy, Programs and Places

Ormiston College models the adage that *the best way to predict the future is to create it*.

Ormiston College are leaders in integrating technology with delivering quality future-inspired education, helping students become fully prepared to tackle the world of tomorrow. Named as one of Australia's most Innovative Schools by the Educator for five successive years (2015-2019).

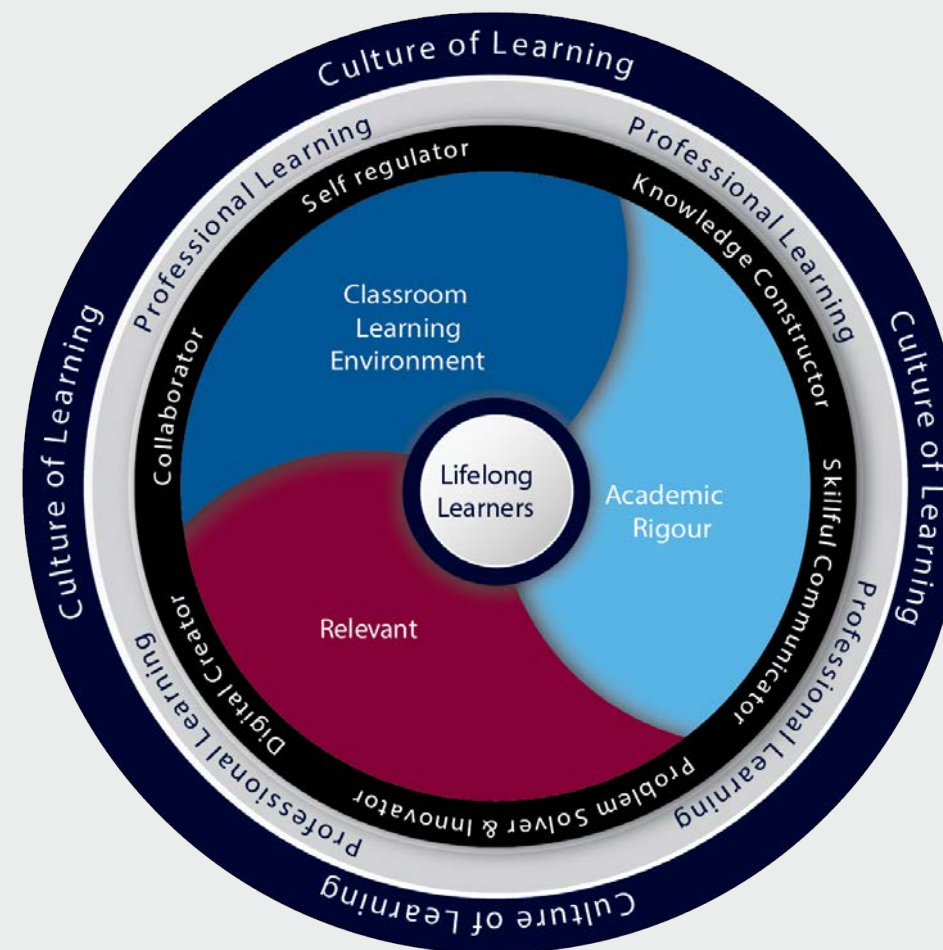
At the heart of every program Ormiston College delivers, a unique Ormiston College Teaching and Learning Framework guides teachers as 'Learning Architects' ensuring greater connectedness to the curriculum, the individual modern learner and the world beyond the classroom.

This has required new pedagogies, change leadership and system economics in supporting students' success.

Ormiston College demonstrates a commitment to innovation and to preparing students for the 21st century and beyond. It strives to develop learners who think flexibly, work independently and collaboratively, take risks, solve real world problems and demonstrate higher order thinking skills.

Ormiston College is widely identified as a leading school in creating a community that fosters creativity and innovation through relevant and scalable programs that can serve as models for other schools.

Already recognised at the forefront in its field as Queensland's most Innovative School for four years running and as a Microsoft Showcase School, Ormiston College is focusing on embracing emerging technologies while building specialised skillsets which will arm students with competency for life after school.



Spaces that Support the Framework

As our contemporary Teaching and Learning Framework has evolved, and emerging technologies have gained a solid foothold across the campus, the last piece in the puzzle is ensuring that our learning environment supports our 21st century deep learning practices.

The CLI's primary purpose in the design is to provide learners with a range of spaces to support the six deep learning dimensions from our framework.

Innovative Spaces supporting the explicit development of students' 21st century skills.

Skillful Communicators - a Junior School Library with tiered seating, a recording studio with green screen technology, and an outdoor stage area.

Self-Regulators - a Secondary Library, general learning areas and a dedicated Senior School quiet study area with pods, inbuilt cubbies and lounges.

Real-World Problem Solvers and Innovators - a large makerspace, print lab and design lounge.

Collaborators - private incubators with writable glass and wireless TV screens, indoor and outdoor café area and collaborative 'pods'.

Knowledge Constructors - two large flexible learning areas for team teaching, robotics and drone flying.



“ Through living the experience of a character as you read, you grow your mind, your heart and your soul “

Junior Library

The Junior Library area is extremely adaptable and is dedicated to the College's younger students.

The College has a strong focus on developing students' literacy skills and building a reading culture, so our students undertake scheduled classes in the space each week.

Lessons are based around themed events, introducing students to new books and genres, supporting classroom projects and units of work, and developing information literacy skills.

The space houses:

- Two round tables catering for approximately 10 students
- Two large tiered benches to create a stage area
- One cubby
- One large couch
- Flexible furniture

Supporting Classroom Activities

To reinforce the College's Six Traits of Writing framework of imitation, innovation and invention, students listen to well-known stories.

They then practice 'imitation' by listening, joined in using props, and then role-played to re-enact these beloved tales.

Using the various spaces in the Junior School Library, students discussed and designed their own re-enactment of the story.

Secondary Library

The Secondary Library is suitably appointed for independent research and quiet study.

With the added convenience of a workroom for storage of resources, wheeled out for use during lesson time.

This space empowers our students' choice and control over their environment.

With the flexible arrangement, students can choose where they work and with whom.

Unlike a traditional classroom with rows of forward-facing seating, this space is modular and arranged to support collaboration, self-direction and active learning.

During the consultation process, students requested a quiet study area for students in the older grades to use before and after school and during the breaks.

A dedicated space was built on the second floor that is housed with bean bags, couches, tables and chairs.

The warm and relaxing environment of the Secondary School Library is attracting many of the Colleges students to use the space for independent study and quiet reading before and after school.



“ Both the Junior and Secondary School Libraries have had a positive impact on our students' interest in personal reading and subsequent borrowing of books “



Maker Space and Design Lounge

The dedicated Makerspace provides unrestricted room for both Junior and Secondary students.

At the core of the maker movement is the understanding that 'learning happens best when learners construct their understanding through a process of constructing things to share with others' (Donaldson, 2014).

The key to the success of the makerspace is the shift away from ready-made knowledge to an environment that promotes exploration, creativity, innovation, and collaboration with hands-on materials and real-world problems.

The College's strategic focus has been on infusing STEM priorities across the whole school and not just as a 'token' one-off unit within a year level.

Year 10 Mathematics - students were challenged to plan, design and cost a suitable freestanding 3D sculpture to be placed on the outdoor stage of the new CLI building. To begin the unit, students used playdough in the Makerspace to individually prototype their sculpture.

Students then photographed their creations from a variety of angles to conceptualise their structure. Using 3D modelling software, they then created their models and calculated the surface area and volume to determine the cost of supply. Using augmented reality, students anchored their models into the physical world to view their final product.

Prep STEM Unit 'Anywhere Farms' - students studied 'Living Things'. Using the design thinking process, they created a farm and then built circuits and sensors to protect their environment.



Recording Studio

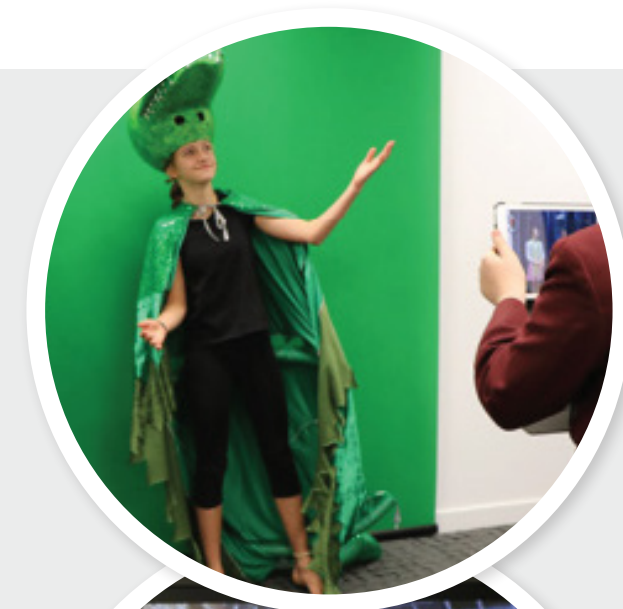
The dedicated Recording Studio provides a space for students to create and produce multimodal content.

We know that in the changing landscape of the 21st century, students will require high-level use of written, verbal and non-verbal skills in person, on paper and on screen.

The soundproofed area has specialised lighting, blackout curtains, movie making equipment and a dedicated green screen.

Year 6 students researched the role of green screen technology by film makers. They explored how this technology was used in the Harry Potter series and used the space and the technology to create their own special effects multimodal report to explain the process.

Year 8 Humanities students participated in a green screen mini task. Using collaborative research from their History lessons on Feudalism, students presented the information in a multimodal presentation.





“ Our students will be ready to step into any university or workplace with confidence ”

Virtual Reality Lab and Media Lounge

It is predicted that this technology will change the way education approach learning experiences, now and in the future.

Virtual and mixed reality has become more cost effective and accessible. This means that we are able to create tactile learning experiences that enable a hands-on approach to learning in many subject areas and year levels that was previously inconceivable.

It is these next level learning experiences that bring fidelity to the learning process in a way that a computer screen or book cannot.

The space houses a virtual reality system (HTC Vive) that allows a user to interact and work in 3D virtual environment and a Media Lounge where students can work with holographic content.

Year 7 English Presentations: Students used VR to support the development of their verbal presentation skills.

In preparation for their live persuasive speeches, students practised their speeches in a simulated 'real audience' environment to help manage anxiety and enhance their overall performance.

Year 8 Medieval Castles: Students analysed the design of castles and then applied their understanding to collaboratively build a class model in the virtual world of Minecraft.

Each group was responsible for an aspect of the overall structure of their class castle. Students took turns during the construction phase and then the group leaders collaborated to ensure the completed structure embodied the ideas from the whole class. The castles were judged on presentation and authenticity.

VR for Experiments: Year 12 Biology students used VR in their Biology experiments to gain a greater understanding about the correlation between gender, heart rate and blood pressure in stressful situations.

Using VR, they were able to simulate a stressful situation in a safe and controlled virtual environment.

General Learning Areas and Incubators

The CLI provides many spaces to encourage collaboration, ensuring our students are developing future ready skills that will see them well placed in the coming years.

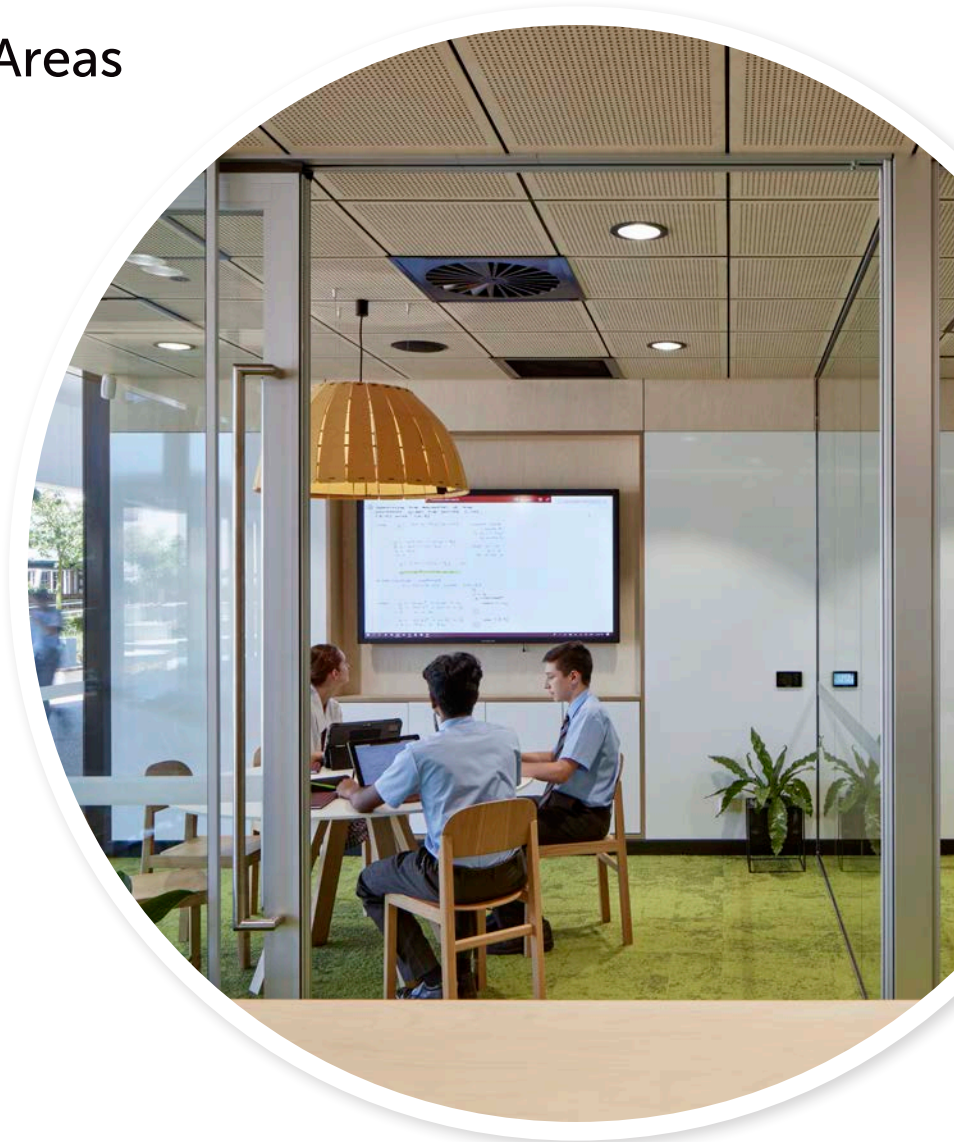
Providing students with collaborative tasks allows them to learn the important collaboration skills of negotiation, conflict resolution, agreement on what must be done, distribution of tasks, listening to the ideas of others, and integration of ideas into a coherent whole.

The General Learning Areas 1 and 2, cater for approximately 90 students. The spaces are housed with flexible furniture, private collaboration 'pods', couches, private nooks and charging stations.

In addition, each space also has four Incubators, all of which are soundproof, a wireless television screen enabling connection to student devices, large whiteboards and writable glass, plus seating and circular tables.

Year 6 App Development: In groups, students designed working apps to aid in the recovery and support of their chosen natural disaster.

Year 12 Chemistry Simulations: Students used the incubators to work on their Chemistry virtual simulations. Using the wireless screens and collaborative online notebooks, they recorded the group data, and used the whiteboards to analyse results for suggested improvements.





Flexible Learning Areas

Large, open and flexible spaces encourage team teaching.

This approach allows more opportunities for small group work, one-to-one learning, and modelling during lessons.

The co-planning process encourages teachers to bounce ideas of each other in order to deliver a more personalised lesson to cater for the range of learners.

In addition, the space allows for activities that are not possible in a fixed furnished classroom and for larger cohort activities.

In each section, the space houses flexible tables and chairs catering for approximately 50 students. The space can be divided into two rooms.

Each area has full length writable walls and a collaborative pod.

Year 6 Mathematics Coding: Year 6 students cleared the space to undertake their coding unit in Mathematics using the Sphero Balls. Using an app, students investigated area, perimeter and geometry.

Year 7 AI Challenge: All Year 7 students used the Flexible Learning Area to participate in the AI for Good Challenge. They embarked on a design thinking workshop to understand AI and to innovate concepts for how this technology could be used to solve a real-world problem.

Drone Design Thinking Challenge: Year 4 students used the space to learn how to code drones. Using the Design Thinking Process, they then created an invention using the drone to solve a problem.



Supporting Co-Curricular Activities

Junior School STEM Club

Over 100 students in Years 4-6 use the Makerspace each week to undertake a STEM inquiry-based project. Their recent project involved students participating in group rotations for their Lights, Camera, Action projects. Students learned how to use the 3D printers to create props; the Recording Studio's green screen technology to produce multimodal presentations and mixed reality; and the Sphero balls to create a 'light painting'. Students then drew on these skills to produce their own movie product.

ESports Team

In the Makerspace and Design Lounge, students in both our Junior School and Secondary School compete with other schools in their weekly Esports competitions. The program helps students learn about team work, effective communication, leadership, maintaining a positive mindset, as well as online safety and online etiquette.

Junior and Middle School Robotics

Each week, students meet in the Makerspace to work on their projects for the local area Innovate competition. Students produce video games and program robots for Sumo and Rescue challenges.

Board Game Challenges

Every lunchtime, both our Junior and Secondary School students have access to board games to play with their peers. This promotes socialisation and communication; operating within a certain rule set; strategizing; and dealing with both success and failure.

CLI Plaza Lunchtime Cultural Days and Musical Performances

The Cultural Leadership Committee regularly hosts festival days in the CLI Plaza in conjunction with the Café. In addition, each Friday, students and staff are entertained by the Colleges bands, choirs and musicians.





Community Hub of the College

The CLI has become the cultural and learning hub that actively embraces the school community, where learning both inside and outside the classroom occurs anywhere, anytime.

Reading Design Challenges: Each day the College offers Reading Design Makerspace activities for our Junior School students. Using literature as a hook, students engage in a range of collaborative making activities.

Year 3-6 Great Wall of China: To celebrate Chinese New Year, the Year 3-6 students worked in groups of four to make a replica of the Great Wall of China. In the Makerspace, students were given two sheets of cardboard, straws, pipe cleaners and sticky tape to create either the longest or strongest structure in 10 minutes.

Year 3-6 Lego Masters Challenge: Over a period of four weeks, our Junior School students participated in a Lego Challenge to recreate a setting from selected authors.

Reading Minecraft Challenge: These activities are aimed to introduce our students to a new author. Students are challenged to build a scene, character or concept from less familiar authors.

Student-Led Minecraft Tutorials: Each week, our Year 6 students run regular Minecraft tutorials for our younger students to learn new features to assist in the reading design challenges.



“ Everything, from the cafeteria to the VIVE to the incubators and to even the toilets, everything has been amazing and I have loved the new CLI ”

Physical Environment.

“ The layout of the building has worked well. This specific layout has enabled a sense of freedom, but encourages a positive attitude to learning/studying ”

The Educational Value of Space

Situated at the epicentre of the campus, the Centre for Learning and Innovation is purposefully located to reactivate the heart of the College.

Embedded in the landscape, the building perimeter is an assembly of diverse socio-spatial environments for learning, interaction and engagement. The extended landscape blurs the boundaries by connecting exterior and interior spaces both physically and visually.

A strong focus for the project was the interaction between indoor and outdoor spaces working in synergy with the environment and technology.

The internal street is a continuation of the outside, reflecting the landscape and connecting the campus by creating an active pedestrian thoroughfare.

The interior streetscape immerses students in a convergence of technology in an environment that nurtures creativity, imagination and information.

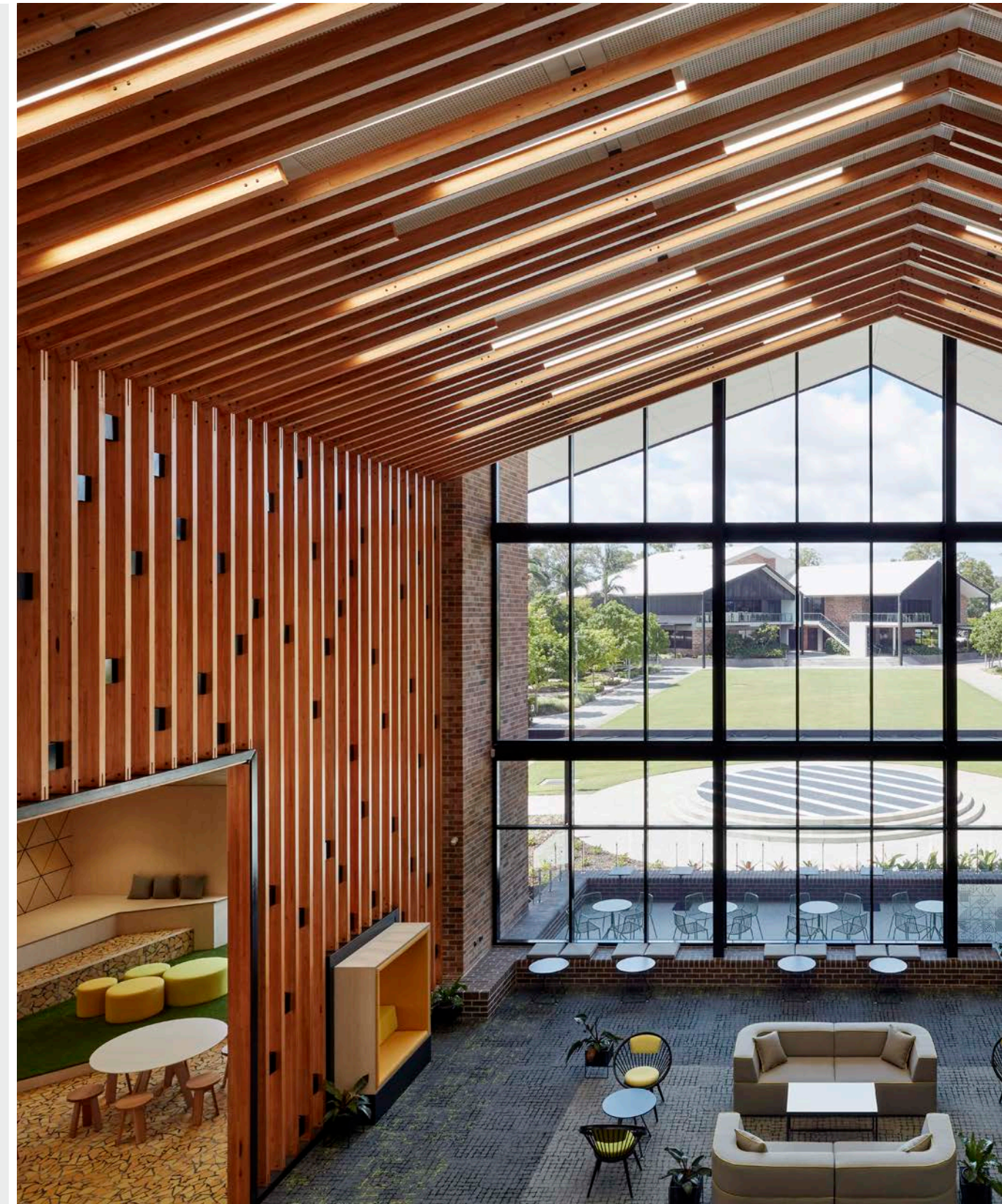
The lush, natural environment of the internal laneway encourages casual interaction, discussion and play.

The arrangement of internal functions and configuration of spaces across two floors promotes the flow of learning from noisy, active, collaborative group areas to quiet, personalised and individual places.

Ultimately, this allows teachers to utilise modalities (digital, tactile, and visual) aligned with their pedagogical intent to support the full spectrum of student learning experiences. The array of spaces can support the scaffolded acquisition of concepts and content through to creative and critical thinking.

The building as a learning experience is a collation of academic, creative, student services, social (café) spaces all technology infused to create a synergy of expertise rarely found in a school environment. The result is a cultural and learning hub that actively embraces the engagement of students, teachers, parents and the broader community, where learning occurs anywhere, anytime.

The Ormiston College Centre for Learning and Innovation is a place where minds are engaged and inspired, where students are encouraged to seek and achieve. It pushes aside the conventional typologies of primary and secondary education facilities, making way for a learning centre that engages students in self-directed learning, empowers teachers as facilitators of knowledge and the school community as active participants.





Response to Changes in the Educational Pedagogy

The Ormiston College Centre for Learning and Innovation's primary purpose is to provide learners with a range of bespoke and flexible spaces to support the six deep-learning dimensions from the College's framework.

Internally, varying volumetric spaces, materials, colour, tonal variances, textures and graphics combined with bespoke joinery identify spaces and circulation zones.

The prevalence of natural light from the carefully positioned and shaded windows, combined with considered acoustic attenuation, creates a vibrant learning environment that transcends from year-level cohort to individual.

A thoughtful, tailored furniture selection purposely encourages flexibility, facilitating arrangements to suit both teaching and studying preferences.

This approach allows more opportunities for individual, one-to-one personalised learning through to larger collaborative group work arrangements during lessons.

The co-planning process encourages teachers to bounce ideas off each other in order to deliver a more personalised lesson to cater for a range of learning styles.

Spaces allow for activities not possible in a fixed furnished classroom, and larger cohort activities.

As the College's contemporary teaching framework has evolved, spaces to support the framework and emerging technologies include:

- **Skillful Communicators:** A Junior School Library with tiered seating, a recording studio with green screen technology, and an outdoor stage area;
- **Self-Regulators:** A Secondary Library, General Learning Areas, dedicated Senior School Quiet Study Area, pods, inbuilt cubbies and lounges;
- **Real-World Problem Solvers and Innovators:** A large makerspace, print-lab and design-lounge;
- **Collaborators:** Private incubators with writable glass and wireless TV screens, indoor and outdoor café area and collaborative 'pods';
- **Knowledge Constructors:** Large flexible learning areas for team teaching, robotics and drone flying.

Innovation

Supporting students to be future-ready.

The Centre for Learning and Innovation provides Ormiston College with a cutting-edge 21st century facility in which students and community connect, collaborate, innovate and learn.

Within the building, students engage with innovative technology and flexible environments, and a range of services to support their class and individual learning, and the development of 21st century skills. This engagement occurs during school time and after hours.

Large group areas, small group break out zones, a state-of-the-art makerspace laboratory, a STEM laboratory, robotics room, drone flying areas, recording studio, dedicated mixed reality facilities, reading areas and private study zones have all helped take Ormiston College's award-winning innovative approaches to teaching and learning to the next level.

College students of all ages engage with Australia's largest interactive floor where students and teachers become regular coders, creators and curators of the educational content to be displayed on the floor.

Students access information, learn, create, invent and solve problems through design thinking, coding and robotics activities.

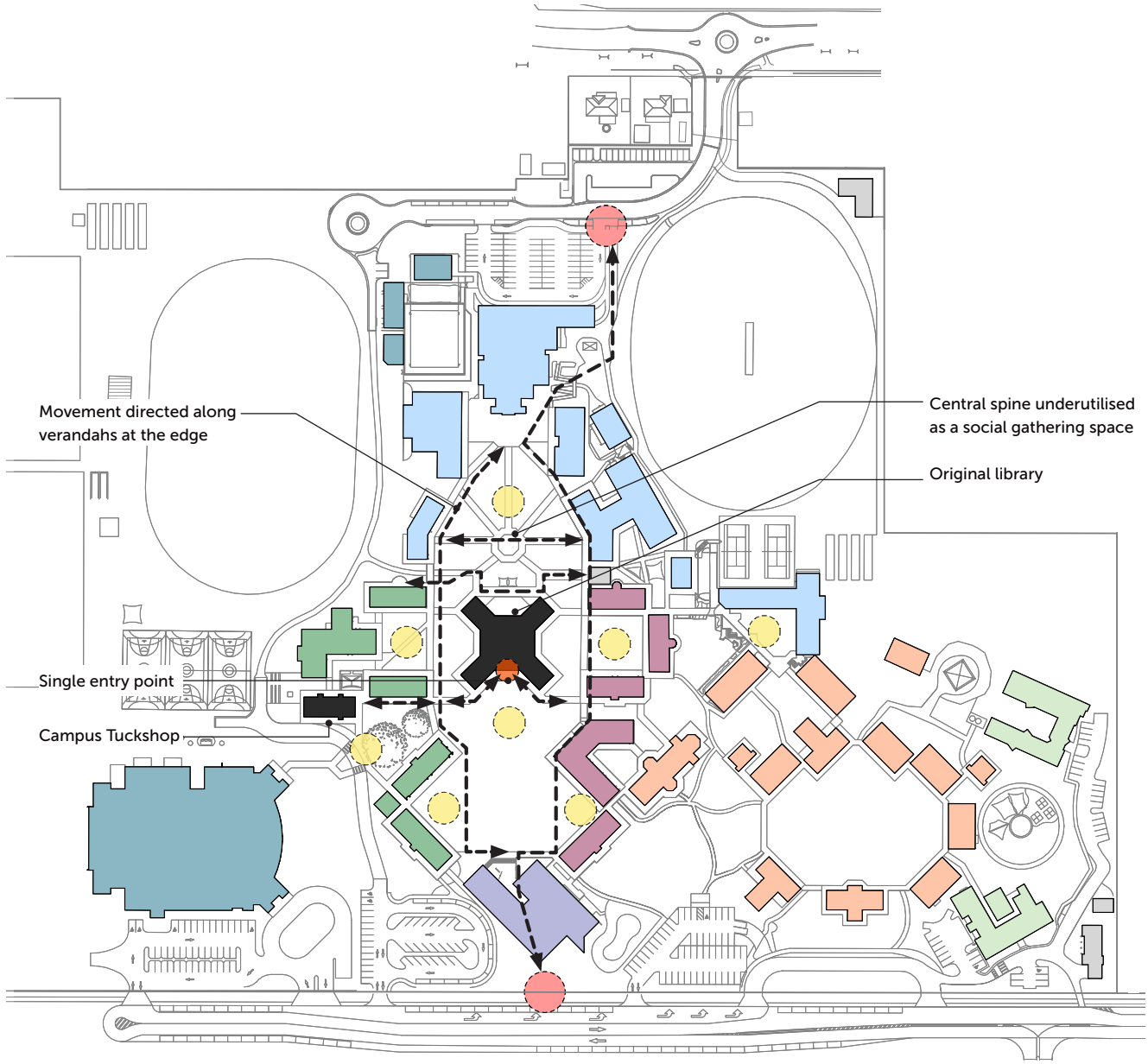
They are experiencing new dimensions with virtual reality, multimedia and drone flying.

The Centre for Learning and Innovation incorporates an impressive new café precinct which has ensured that the new building supports our burgeoning sense of community and fulfills its intended role as a vibrant social and learning hub for the campus.

The learning environment design is not only innovative in itself but provides a platform to continually showcase learning innovation and, in so doing, further shapes the campus-wide culture of innovation that has developed at Ormiston College.

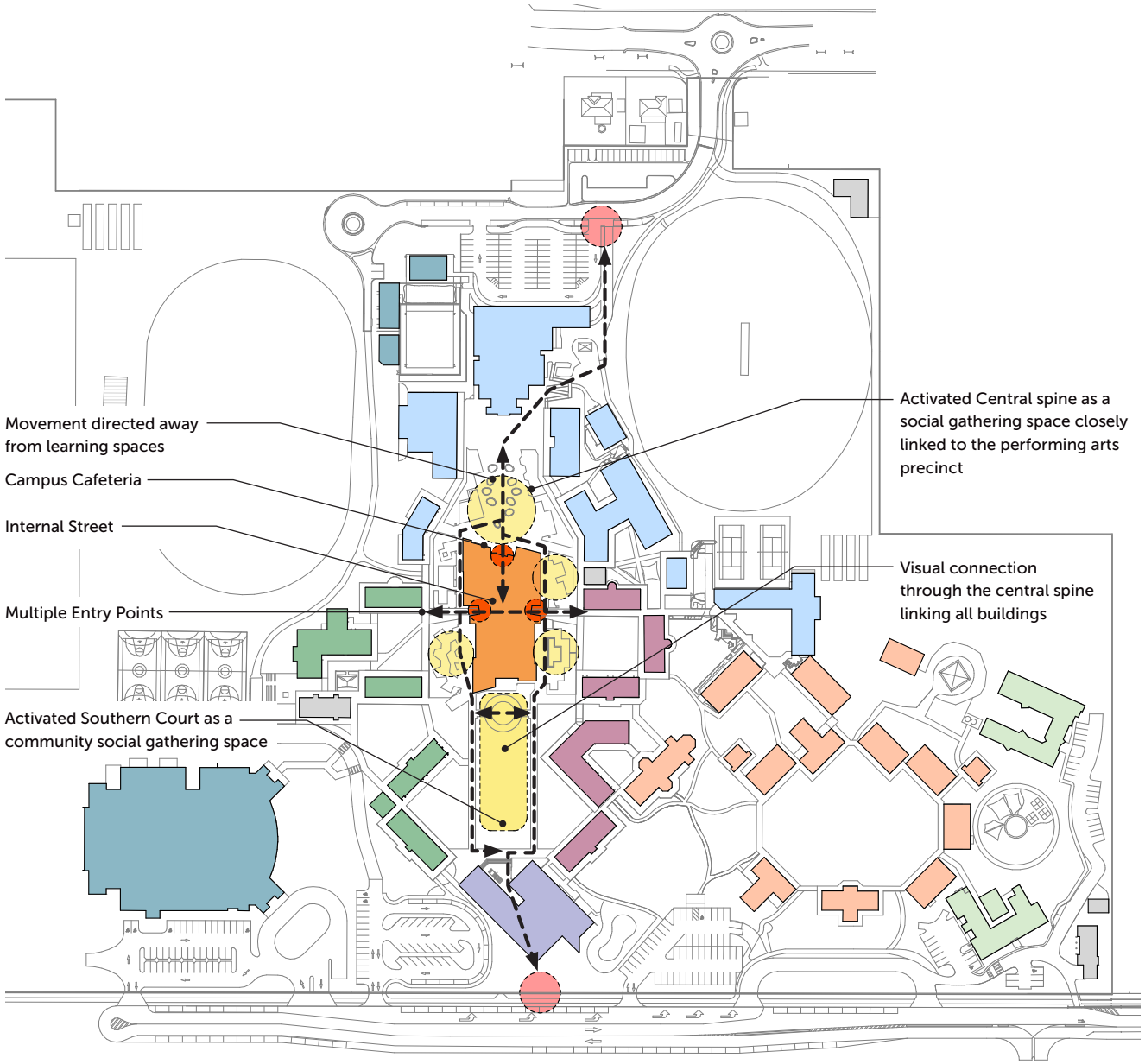
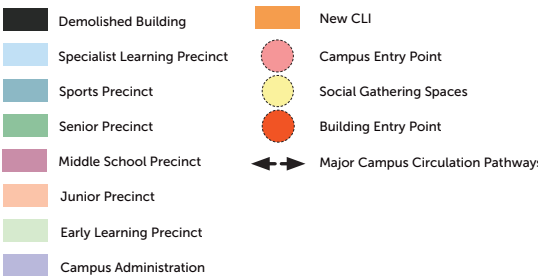


Campus Plan



Previous Campus Plan

The original single storey library impeded movement through the main spine of the campus directing traffic along the narrow verandahs of adjacent learning spaces and pushing social gathering spaces to isolated pockets between buildings. The campus tuckshop was located in an isolated and out of the way pocket of the school, difficult to reach with little adjacent space to socialise



New Campus Plan

The CLI project is more than a new building, its design and integration with the Campus has activated the central spine of the school as the campus heart



CIRCA 1990



CIRCA 2019

Precinct Plan

CLI HUB

Variety of seating spaces allow students to meet and socialise



The East-West Connector allows students to move through the CLI by way of the Internal Street



The ponds and fountains form a bridge link to the building and offer visual relief from internal spaces



The CLI forms the back drop to the Southern Formal Court



- 1 CLI
- 2 Southern Formal Court
- 3 Water Features
- 4 Landscape Court / Terraces
- 5 Outdoor Eating Areas
- 6 Tree Grove
- 7 Covered Walkways
- 8 Stage

The Northern Court connects the CLI to the Performing Arts Centre



Plaza is a vibrant hub at lunchtime where bands can play and media events can be projected onto the large screens. Our Cultural Leadership Committee regularly hosts festival days in the CLI Plaza in conjunction with the Café. In addition, each Friday, students and staff are entertained by our bands, choirs and musicians.



Integrating landscape with the building edge allows students a variety of spaces to socialise.



Students sit and engage at the edge of the building

Ground Floor Plan



Makerspace and Design Lounge
 Maker Space and Design Lounge provides unrestricted room for both our Junior and Secondary students. At the core of the maker movement is the understanding that 'learning happens best when learners construct their Understanding through a process of constructing things to share with others' (Donaldson, 2014). The key to the success of our makerspace is the shift away from ready-made knowledge to an environment that promotes exploration, creativity, innovation, and collaboration with hands-on materials and real-world problems. The College's strategic focus has been on infusing STEM priorities across the whole school and not just as a 'token' one-of unit within a year level.

Incubators
 Located on quiet floor of the building, Level 2, the three idea pods provide a space for small to individual group learning. Groups can spread across the 3 pods or retreat to a singular pod depending on the learning activity at hand. The pods are fitted out with both fixed and mobile seating to allow varying modes of learning, discussion and presentation to take place. The benchtops provide a working surface and house the AV boxes that connect student devices to large digital screens. Whiteboards provide another medium for resolution and discussion of problems.



Junior Library Collection
 The Junior Library area is extremely adaptable and is dedicated to our younger students. The College has a strong focus on developing students' literacy skills and building a reading culture, so our students undertake scheduled classes in the space each week. Lessons are based around themed events, introducing students to new books and genres, supporting classroom projects and units of work, and developing information literacy skills.

Virtual Reality and Media Lounge
 Virtual and mixed reality has become more cost effective and accessible. This means that we are able to create tactile learning experiences that enable a hands-on approach to learning in many subject areas and year levels that was previously inconceivable. It is these next level learning experiences that bring fidelity to the learning process in a way that a computer screen or book cannot. It is predicted that this technology will change the way education will think about learning experiences, now and in the future.

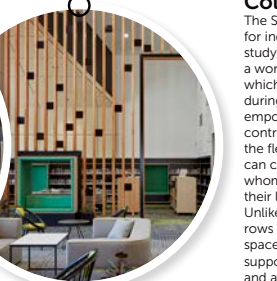


Cafe
 The Café with the relaxed feel of an alfresco street café has become an active hub throughout and beyond the school day. From early morning parent drop off to late afternoon pick-up, the café has become a place for students, staff and the broader community to meet, talk or simply study.



- 1 Design Lounge
- 2 Maker Space
- 3 Cafe
- 4 Canteen
- 5 Kitchen
- 6 Archive
- 7 Book Hire
- 8 Print Pod
- 9 Store
- 10 Internal Street
- 11 Bags
- 12 Office
- 13 Work Area
- 14 Junior Library Collection
- 15 Senior Library Collection
- 16 Recording Studio
- 17 Film Studio
- 18 VR Room
- 19 Media Lounge
- 20 Incubators
- 21 Self-Checkout Pod
- 22 Reading/Collaborative Lounge
- 23 Reception
- 24 Outdoor Reading Room

Interactive Floor
 Our interactive floor is the largest in Australia and provides a thoroughfare through the CLI. With limited preloaded content, our students and teachers have become the regular digital creators of content for the floor. This includes media assets to use as a hook for discussions, PD, marketing of events and as a tool for teaching and learning activities.



Senior Library Collection
 The Senior Library is very convenient for independent research and quiet study, with the added convenience of a workroom for storage of resources, which can be wheeled out for use during lesson time. This space empowers our students' choice and control over their environment. With the flexible arrangement, students can choose where they work and with whom. It also allows them to change their location and positions as needed. Unlike a traditional classroom with rows of forward-facing seating, this space is modular and arranged to support collaboration, self-directed and active learning.

First Floor Plan

Flexible Learning Areas
FLAs provide a large open and flexible space to encourage team teaching. This approach allows more opportunities for small group work, one-to-one learning, and modeling during lessons. The co-planning process encourages teachers to bounce ideas of each other in order to deliver a more personalised lesson to cater for the range of learners. In addition, the space allows for activities that are not possible in a fixed furnished classroom and for larger cohort activities.



The Bridge Lounge
This area allows breakout spaces from the adjacent flexible learning areas.



Quiet Study Lounge
During the consultation process, students requested a quiet study area for students in the older grades to use before and after school and during the breaks. A dedicated space was built on the first floor that is housed with bean bags, couches, tables and chairs. This space has proven very popular with our older students wishing to undertake independent study. Custom furniture allow students to work individually or in small groups.



Main Stairs
The main stairs are a vertical spine that connect the two levels across the building by providing a focal element which seamlessly connects and organises a network of spaces while promoting the flow for learning and continual movement. Mid landings become a holding point for interaction and engagement.



Lounge
The Lounges are active learning spaces that allow varying modes of learning to take place, from group and collaborative tasks to individual reading and relaxing, there is a space for everyone. They provide breakout spaces to the adjacent Flexible Learning Areas and Quiet Study as a well as an Apple-Style IT help area.

- 1 Plant Deck
- 2 Store
- 3 Void
- 4 Flexible Learning Area
- 5 Bridge Lounge
- 6 Plant Deck
- 7 Lift
- 8 Service
- 9 Quiet Study Lounge
- 10 Data Room
- 11 IT Reception
- 12 IT Work Area
- 13 Office
- 14 Lounge
- 15 Drone Room

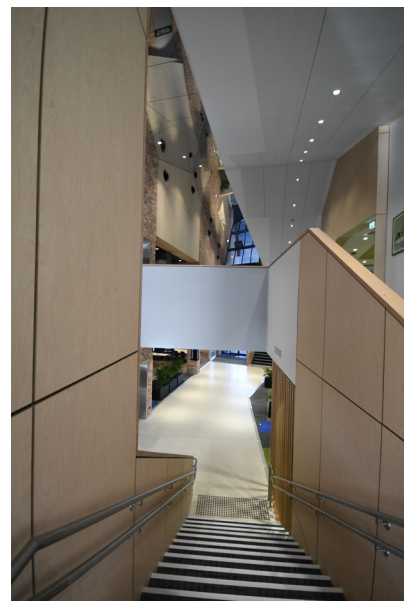
Internal Street

The new Centre for Learning and Innovation provides Ormiston College with a cutting-edge 21st century facility in which students and community connect, collaborate, innovate and learn.

Within the building, students engage with innovative technology and flexible environments and a range of services to support their class and individual learning, and the development of 21st century skills. This engagement occurs during school time and after hours.

[Watch the video here.](#)

“ Set across the largest interactive floorspace in Australia, the design of the building allows students have access to programmable drones, Australia’s first holographic wearable computer, 3D printers, writeable glass, and a green screen studio to make science, technology, engineering and mathematics (STEM) projects come to life ”



Results of the Process and Project.

" We have been regularly capturing quantitative data showing the extensive use of all spaces to support the development of our deep learning capabilities and, as a result, classroom practice has been deprivatised, the learning is visible, and pedagogy has changed to future-focussed inquiry-based learning "

Post-Occupancy Evaluation

The analysis from the post-occupancy evaluation suggested that the occupation and pedagogical use of the Centre For Learning and Innovation exceeded the expectations in the domains of learning, reading culture, teaching and community engagement.

Since occupation in January 2019 the regular capturing of qualitative data has occurred by a combination of visual observations and recordings by staff and through student feedback proformas and forums.

The POE highlights how the design and array of different spatial layouts promote the right balance of structure and flexibility that has influenced substantial occupation by students and teachers throughout and beyond the 'traditional' school day.

Spatial and subject analysis graphs highlight how the design allows for multiple purposes concurrently.

These bespoke and responsive learning spaces have increased all teachers' use of the library, especially in subject areas that were not taught in the previous library.

As a result, students are now able to readily undertake a range of activities and communities of learning that extend from an

individual through to mixed class and age, within the constraints of existing timetables, subjects and assessment regimes.

The CLI has supported teacher, student and community learning opportunities previously not possible or difficult to accommodate at Ormiston College:

For teachers:

- professional conferences;
- professional development;
- peer collaboration.

For students:

- academic competitions;
- university presentations;
- entrepreneurial engagement with business.

For Community

- makerspace and technology workshops;
- parenting forums;
- social events and networking functions.

Many of these activities have occurred during the normal school day with minimal interruption to the classes and operational requirements of the facility, which is a testament to its design.

Student Feedback

Did the use of the General Learning Areas and Incubators help with your learning?

- Year 12 Chemistry student: "Yes, as it allowed us to collaborate in the incubators without distracting others."
- Year 11 Legal Studies student: "Yes, as we were able to effectively share our ideas in small groups and make lots of progress in our tasks without the distraction of other groups and their ideas."
- Year 7 English student: "Yes, it helped us work together as a group in the incubators and brainstorm on the whiteboard."

Did the space help with your independent study? If so, please explain why.

- "Yes, as it was quiet and neatly arranged, making it easy to concentrate and work efficiently without distractions."
- "Yes, as it was very quiet and suitable for the specific task we were doing. There was a lot of space for people to work, and it is air conditioned as well, which makes studying pretty enjoyable."
- "Very well! The space was comfortable and quiet, free from distraction."
- "Yes, because the space is well-used and there are places where I am able to talk and places where I am able to study quietly without any sounds."
- "Yes, as it was quiet and neatly arranged, making it easy to concentrate and work efficiently without distractions."

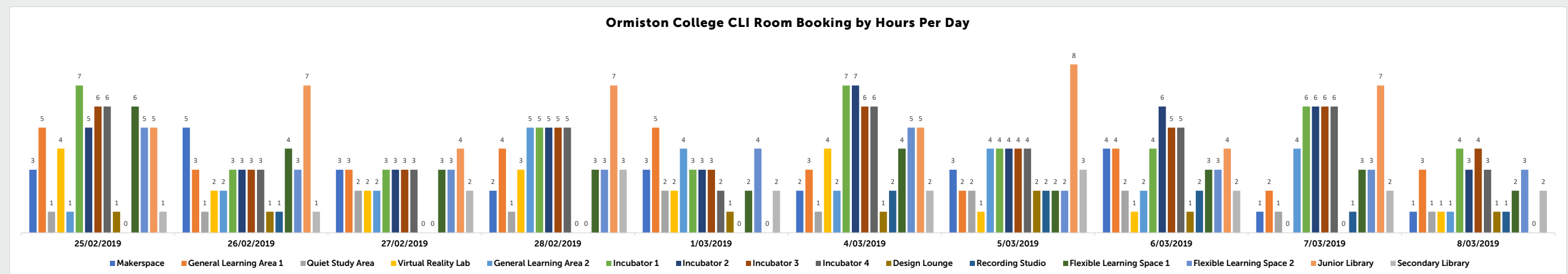
- "Yes, because it enabled me to be productive."
- "Yes. It was a good space to use for study on laptops and to get easy feedback from teachers in one on one or alternatively class scenarios."

How did VR experience help with brainstorming senses words to use in your writing?

- "Because there were actual movements that helped make it feel more real."
- "It made the brainstorming easier since we actually experienced it and had more knowledge for us to write about."
- "It got the feel of the place and felt real. You could also hear the background noises and it seemed pretty realistic for VR."

Did the virtual experience help with writing your sizzling start? Please justify your answer.

- "Yes, because we could see, feel and imagine being there easier which gave us a little push to add some more descriptive language."
- "Yes, because it was like I was actually there, so it helped with my descriptive words."
- "Yes, it did because I explained everything really clearly as the tracks made noises and would slow down like normal rides."



The innovative spaces in the Centre for Learning and Innovation were designed specifically to support the explicit development of student's 21st century skills.

Whilst these skills can sometimes be difficult to measure, qualitatively we have seen a fast improvement in outcomes such as:

- More and more students demonstrating a range of 21st Century skills in the CLI spaces
- 100% of teachers are now using a consistent teaching and learning template
- Teachers are much better equipped and supported to try new and innovative ways in which to deliver the curriculum
- Teachers are engaging with the CLI and are excitedly showcasing, mentoring and presenting within the spaces
- Teachers are moving outside of their comfort zones and learning how to use a range of new technologies
- Library borrowing rates have increased 100% with students really engaged in our Culture of Reading at the College
- The College has strategically been working towards better positioning parents by offering sessions around the use and integration of technology in learning

As well as the above observations, Ormiston College captured quantitative data showing the extensive use of all spaces (see graph above) to support the development of our deep learning capabilities and, as a result, classroom practice has been deprivatised, the learning is visible, and pedagogy has changed to future focused inquiry-based learning.

**In 2018 Ormiston College
was named as one of only
six Worldwide Microsoft
Showcase Schools in Australia.**

It is their reputation for outstanding results and innovative programs that has seen the College's enrollment levels exceed expectations.

Two independent expert demographic studies describe the Ormiston College catchment area as having an aging population, with limited school age children, a range of schooling options and very limited numbers of families with the socio-economic means to attend non-government schools.

Ormiston College has maintained enrollments, commenced genuine waiting lists in a number of year levels P-12 and is currently more than 200 students over what experts assert is our optimal enrollment in the current market.

A weekly web-based newsletter is sent to all personnel showcasing the learning and events in the CLI.

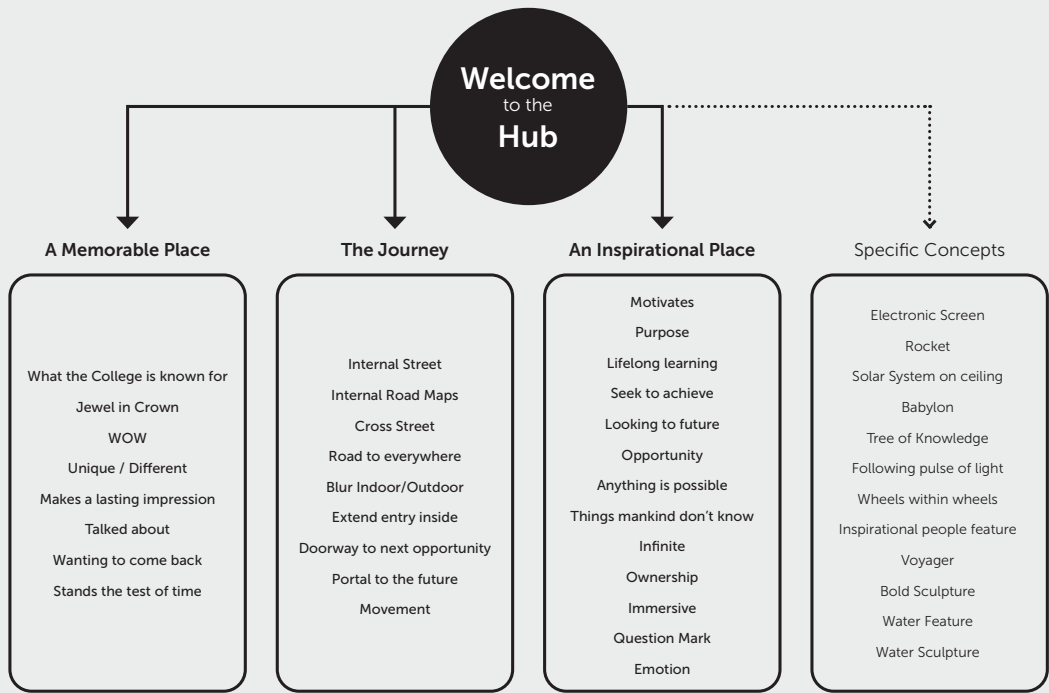
The weekly updates have had a positive effect on teachers and students accessing the spaces. The regular sharing and showcase of activities provide teachers with possible ideas, new and emerging technologies and best practice strategies to use in their own subject area or year level. Viewership data indicates that approximately 80% of personnel interact with the update each week.



Educational Visioning Documents.

It started with an idea in 2015 to fit out six specialised spaces within the existing library.

This would be the catalyst for change to create a vision to deliver Ormiston College the Centre for Learning and Innovation and activate a technology infused learning hub within the heart of the School.



Extracts from Visioning Document

ORMISTON COLLEGE The New Centre for Learning and Innovation

A revolutionary learning environment supporting the needs of the 21st century learner

Vision 200+ PEOPLE ONTO CAMPUSES AFTER HOURS SECURITY - AFTER HOURS USE FOR PARENTS

The new Centre for Learning and Innovation will provide Ormiston College with a cutting edge 21st century facility in which our students and community will connect, collaborate, innovate and learn.

Within the building, students will engage with high tech and flexible environments, and a range of services to support their class and individual learning, during school time and afterhours. Large group areas, small group break out zones, a state of the art makerspace laboratory, a STEM laboratory, robotics room, reading areas and private study zones will all become an integral part of an OC education of the future.

The CLI incorporates a brand new café precinct, which will help ensure that this central building on the OC campus quickly fulfils its intended role as a vibrant social and learning hub.

Background

Over the past 30 years, the world has transitioned into the digital information age. The rate of technology improvement and creation of knowledge has increased exponentially over this time, with the human race the major benefactor. We now live in a society, that is the most prosperous, healthiest and longest living than in anytime in human history.

INDUSTRIAL AGE → DIGITAL AGE (LOOK AT A4LE CONFERENCE NOTES)

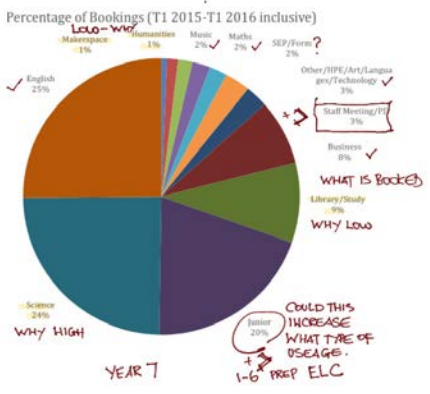
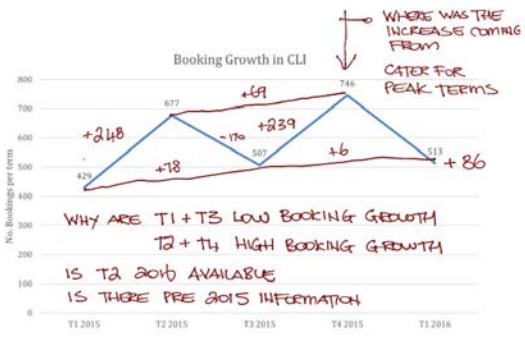
In modern times, 'Digital Disruption' has led to the reallocation of labour and skillsets within the workforce. Gone are the days where knowledge and specialised skills sets are required for one's career. Modern companies are recruiting people who possess life skills (agility, flexibility, and adaptability), workforce skills (collaboration, leadership initiative, and responsibility), applied skills (accessing and analysing information, effective communication, and determining alternative solutions to problems), personal skills (curiosity, imagination, critical and creative thinking, and problem solving), interpersonal skills (cooperation and teamwork), and non-cognitive skills (managing feelings), with information and communication and technology underpinning a number of these skills.

Schools, universities and governments across Australia and the world are responding to these new workforce requirements by redesigning curriculum, pedagogy, teaching frameworks and learning environments to meet the need of 21st century learners.

Ormiston College is a leader and world player in its methods of teaching and learning, as witnessed by outstanding OP and NAPLAN results over the past decade, and the recent awards in innovation and recognition by Microsoft as a showcase school. Ormiston College now needs to update its learning spaces, to support teaching and learning, strategic direction and to compete with similar schools in the greater Brisbane area.

In 2014-2015 summer holidays, Ormiston College renovated its library and reopened to the College community under the new moniker 'The Centre for Learning and Innovation'. This proof of concept featured 6 specialised spaces each filled with flexible furniture and cutting-edge technology. In 2015, the College saw a steady growth in the bookings of this space, dominated by English, Science and the Junior School.

STEELCASE - VERO



Limitations

Whilst the building in its current capacity has been an excellent proof of concept. There are some limitations that make the space awkward to work in, and limits the potential use.

- Not enough breakout areas** - There are only two breakout areas where students can collaborate in small groups. Teachers who are using these spaces with their class often compete to book these spaces and the areas are scarce.
- Conical ceiling structure radiates noise** - This makes the space quite noisy, especially when the building is fully booked out. This is in contradiction to how a teaching space should work.
- Limited floor space and odd shaped floor plan** - This is a problem for a number of reasons including:
 - Difficult to add additional kit to sectioned off classroom areas that are already at capacity
 - Makerspace lacks water and sewage for wet areas
 - Presenting to a large audience is difficult as there are no elevated stage areas
 - Large central area lacks the ability to locate technology centrally due to lack of power/data
 - Rear annex area is not fully water tight
 - Front entry area is wasted due to location of emergency equipment and windowed offices and circulation desk
 - ICT Helpdesk imposes onto one of the teaching spaces, adding unwanted noise and disruption
 - Staff offices are arranged such that the kitchen and staff amenities are not easily accessible by all staff
 - Floor space for senior library and junior library areas is limited
 - Archive room is full, and will continue to grow as the College ages

Combining these current limitations with wider College needs, including a central tuckshop area, a larger area for textbook hire and a College wide solution for the permanent retention of College documents and items of Archival interest draws one to the conclusion that a new building is the best solution moving forward.

Educational Specifications.

To facilitate a design that enabled the creation of curated learning spaces a bespoke Educational Specification was developed, driven by pragmatic, idealistic and hedonistic principles embedded throughout all phases of the project delivery.

From the schedule of required spaces with areas, occupancy, relationship, functional and technical requirements to the free flowing and thought-provoking workshops where phrases of what if and there is no wrong idea were used to create and document a visionary depiction of each space.

ORMISTON COLLEGE - CENTRE FOR LEARNING AND INNOVATION BRIEF DESTILL											
<div><div></div> BRIEFED FUNCTIONAL AREAS</div> <div><div></div> DESIGN FUNCTIONAL AREAS</div> <div><div></div> ADDITIONAL FUNCTIONAL AREAS</div> <div><div></div> NO BRIEFED AREAS</div> <div><div></div> BRIEF DEVIATIONS</div>						APPROX. BLDG. AREAS			FECA		
						L1			1575		
						L2			1200		
						SERVICES			430		
						APPROX. BLDG. DIMENSIONS			75m x 35m		
SPACE NUMBER	SPACE NAME	SPACE COUNT	AREA	AREA TOTAL	OCCUPANCY	OCC. TOTAL	BLDG LEVEL	DESIGN SPACE COUNT	DESIGN AREA	BRIEF DEVIATION	DESIGN STRATEGIES
1	Large Conference	1	160	160	160	160	2	1	390	Above briefed area however required to achieve the functions and number of occupants contained within the brief	Flat Tiered Floor/ 150-160 (Cohort)/ External User/ Out of Hours/ Public Hire/ Possible Revenue Return/ Min Theatre - movie nights. Space designed to accommodate break out zones within the space + access externally to additional breakout spaces - multimodal learning capability. Space includes control room and storage for AV equipment
2	Collaborative Incubators + Meeting Rooms	6	15	90	8	48	1	2	32	Rooms have been dispersed across both levels for added flexibility	Spread over two floors for flexibility and use by large conference and library. There is the potential for after hours use with access to support spaces being the cafeteria, amenities and external areas. Incubator spaces are enhanced by the inclusion of a variety of small interactive spaces defined by nooks and furniture.
3	Flexible Learning Space + Staff Training	2	64	128	30	60	2	3	180	Additional room added based on early growth and booking graphs contained within the brief	Dividing Walls/ Access to Kitchenette/ Extended Hours of Operation/ Multi modal learning with a variety of furniture types and heights. Can be used by Teachers for meetings purposes.
4	Maker Space	1	100	100	60	60	1	1	130	Additional area allocated as this space has the greatest potential for growth as learning moves more towards a constructivist model	Located juxtaposing Science learning areas and placed on visual display so activities can be observed. Space is capable of being setup to accommodate varying age levels of maker creativity and includes storage within space - tidy instructive to the messy intuitive.
5	Design Lab	1	50	50	0	1	1	50		Located off Foyer and on visual display so activities can be observed. Includes a show piece exhibit space of a 3D Printer producing student work.	
6	Print Lab	1	25	25	0	1	1	25		Shared use by other labs and treated as a central print area with the possibility of printers located in other labs as well.	
7	Storage Lab	1	25	25	0	1	1	22		Shared use by other labs and treated as a bulk storage. Element of storage allocation distributed into other lab spaces for close access.	
8	Sound+Video Recording	1	64	64	6	6	1	1	63	Integrated with Food Hub with possibility to include School Radio. Located so activities can be on display.	
9	Library	1	300	300	200	200	2	1	450		Library accommodates spaces for all year levels. Provides a transition for seniors into university style campus. Circulation and travel corridors integrated into the space to create additional learning spaces + nooks + variety of collaborative area types. The area allowed can accommodate student support pods on the floor for Library Staff/ ICT/ Careers/ Guidance and Diverse Learning enrichment
10	Foyer	1	230	230	0	1	1	230		No briefed area and has been sized according to building function and brief requirements	Central location closely aligned with pre-existing school movement patterns. Showcase area linking and connecting all building functions. Extensive wall space for display of student work and digital overlay.
11	Cafeteria	1	50	50	0	1	1	50		No briefed area and has been sized according to building function and brief requirements	Located to be juxtaposing Lingo Lin with a variety of internal and external spaces. Consider a McDonalds style food delivery model - self serve. A vibrant activate social hub of the school with potential out of hours use to support extracurricular activities, sporting and performance events.
12	Kitchen	1	150	150	0	1	1	150		No briefed area and has been sized according to building function and brief requirements	Commercial style kitchen to improve food quality across the campus. Space potentially setup to deliver high end Hospitality learning and training for students - TAPE style model. Kitchen includes space for cold and dry storage areas. Can be used to cater for large functions.
13	ICT	1	145	145	0	1	1	40		The service model for ICT has been dispersed across a behind the counter and on floor service	Library and ICT help services are based on the Apple model with on floor service and behind the scenes tech. support. Students can undertake self help assistance prior to obtaining assistance from Library and IT. Support can take place in a lounge type environment and for more difficult diagnostics activities can occur behind the main service counter. A number of approachable pods can be provided on the floor whereby staff can reside and become visual and approachable. These type of spaces/ pods can be extended to student support functions of careers and guidance.
14	Library Services	1	77	77	0	1	1	35		The service model for Library Staff has been dispersed across a behind the counter and on floor service	
15	E-Learning	1	20	20	2	2	1	1	20		
16	Staff Kitchen/ Lounge	1	15	15	2	2	1	2	30		A separate Staff Kitchen has been provided on Level 2 servicing the FLA and Lecture Theatre. A Staff Kitchen can also be integrated into the social hub of the cafeteria
17	Text Book Hire	1	54	54	2	2	1	1	35	Function area to be reviewed	
18	Archive Area	1	60	60	2	2	1	1	35	Function Area to be reviewed	Fire rated room with 24/7 environmentally controlled. Potential for public access and display ie museum/ gallery
19	Storage	1	20	20	2	1	1	1		Included in Lecture Theatre Area	Integrated into the lecture theatre and main foyer area.
20	Student Bags	1	15	15	1	1	1	1	15		Separate Room for storage of bags before entering the Library. Investigate surveillance (CCTV) requirements
21	Student Amenities	1	24	24	1	1	1	40		Located close to the social hub. Further investigation of after hours use by public.	
22	Student Accessible	1	6	6	1	1	1	8		Located close to the social hub. Further investigation of after hours use by public.	
23	Seniors Lounge						1	1	75		Non briefed area but essential to providing a space for seniors as part of a whole of school social hub. This will provide seniors with their own space but are approachable in a mentoring role model to other students.
24	Coffee Shop + Self Help Kitchenette						1	1	15		A space that can be operated and overseen by seniors. This has the potential to be a revenue raiser and after hours use.
25	Staff Amenities						2	1	12		Amenities located to service lecture theatre and adjacent staff kitchen and lounge.
26	Staff Accessible						2	1	6		Amenities located to service lecture theatre and adjacent staff kitchen and lounge.
27	Cleaners Room						2	1	4		Building cleaners room
TOTAL FUNCTIONAL AREA		28	1669	1808	468	544			2472		
17% CIRCULATION									200		
18% SERVICES									488		
1% STRUCTURE									31		
FULLY ENCLOSED COVERED AREA				2510					3171		
EXTERNAL SPACES											
28	Connector Streets						1		450		
29	Cafeteria Eating + Social Breakout Areas						1		230		
31	Piazza + Performance Areas						1		150		
32	Balcony (Bridge Lounge)						2		55		
UNENCLOSED COVERED AREA									1185		

ALL YEAR LEVELS
INDUSTRIAL DESIGN.

$$100+50+50 = 200 \\ = 60p$$

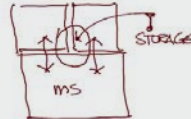
Maker Space and Design Lab

Space that provides a variety of work surfaces and storage areas for projects in the development stage. The space provides access to specialised tools and technology such as a laser cutter and 3D printers. The space could be opened up to the wider community. Technology that could be in the space includes, Laser Cutter, 3D Printers, Various tools including tools to cut, drill, join etc. A cluster of high level AutoCAD certified computers that allow for 3D modelling and design of items and a large format printer for printing scale blueprints that can be double for art works, and a large table. The computers would have rich photo, music and video editing software as well to allow students to create content that they cannot on their laptops. There would also be rich modelling software from Maths on these computers, allowing for various models to be generated using MATLAB.

VIDEO EDITING + SOUND STUDIOS

STEM LAB
ROBOTS ROOM

The area would be divided into four areas. The maker space, approximately 100m2, a design lab approximately 50m2, and storage and 3D print lab that includes ventilation and security that would consume another 50m2. The 3D print lab and storage would be sectioned off from the other spaces so they are quiet while large 3D print jobs take their time to print. Whilst ABS plastic is considered fair safe to use within the classroom, ventilation is still important due to the smell that ABS plastic generates when it is 3D printed. Spaces would occupy up to 60 people.



TIIDY
INSTRUCTIVE

MESSY
INTUITIVE



Extracts from Brief and Specification Document



“ It is one thing to develop superior spaces that enable educators to prepare students for the 21st Century.

We reached a whole new level when the architectural team facilitated our staff to allow space to support learning approaches.

Through the team’s superior professional development, our staff grew into the mission and acquired the necessary mindset and skills to use the building environments as designed.

There is total alignment between the intent of the building design and instructional delivery to support teaching and learning ”

Centre for Learning and Innovation

Ormiston College

A4LE 2020 LE SOLUTIONS AWARD