



WilsonArchitects

ISSUE

11

DESIGNING THE FUTURE OF
EDUCATION

Post COVID Education Planning



Previous page - Brisbane Grammar School Proposed STEAM building

This proposed new facility is directly reflecting the 21st century idea of networked multi-disciplinary teaching and learning in a building that enables demonstrable instructional practices to become visible, overt and interactive as well as provide independent/group space to productively extend learning.

There are very few schools that are now built from scratch but recent work on master-planning a number of new schools (including two vertical schools) has allowed us to reflect on the possibilities of creating organisational structures that best suit new pedagogies, pastoral systems and technologies that could help in thinking around change in existing schools. Superimposing all the issues arising from COVID19, this rethinking of the school space has never been more important.

Translational Research Institute - The University of Queensland School of Medicine social learning spaces

Tertiary and Secondary schools are seeing an increase in dedicated social learning spaces that are beginning to equal the amount of seats provided in-class. This shift is reflected in the move toward more project based learning, 'flipped classroom' teaching and the value and effectiveness of peer-to-peer learning.



We need to begin to radically **shift** our perception around schools to becoming even more embedded and interconnected into the community.



The Green Square Community Facilities competition - Green Square, Sydney

This multi-level primary school required the ground floor to completely open up to the community at certain times extending the use to a much broader level of participation and space optimisation.

How can we extend support to the broader community after hours? (ie Expand out)

How can we bring local commerce and industry to play a larger part in the education of students? (ie Bring in)

Operating times need to be more flexible for students. We also need to consider the availability for after hours activities to maximise educational, community and cultural opportunities. Covid 19 has also demanded that we review space utilisation, configuration and pedagogy to enable schools to maintain effective learning delivery into another potential pandemic.

Thinking about STEAM as an integrated network of space

According to World Economic Forum, by 2020 there will be less of a demand in the workplace for physical abilities than there will be for, say, cognitive abilities, which includes this thing called 'creativity'. We can also read that many purely technical occupations are expected to show a new demand for creative and interpersonal skills.

To succeed in a 21st century environment we need additional tools that attend to what business and industry are demanding. Future ready employees need to have multiple areas of expertise moving from a paradigm of purely technical skills to higher order cognitive abilities.

Technical Abilities

- Deep understanding of core technical abilities for any learning discipline

Cognitive abilities

- Critical and Creative Thinking
- Communication
- Collaboration & teamwork
- Personal and social skills
- Skills in information and communication technologies
- Ability to deal with ambiguity, adaptability, and cultural awareness

STEAM becomes a cross disciplinary curricula and way of thinking that creates linkages across the humanities, sciences and arts that is a scaffold for analytical and creative ways of thinking.

S - Sciences, Systems, Theory and Practice

T - Technology, Digital mechanisms

E - Engineering, Enterprise, Using invention and problem solving to derive new solutions

A - Arts, Aesthetics, Design, Creativity, Imagination, Visualisation, 'Right-brain' thinking

M - Mathematics, Patterns and Proofs

Co-location creates some significant efficiencies in providing the curricula tools necessary for these disciplines but also symbolically reference their significance and equal importance.

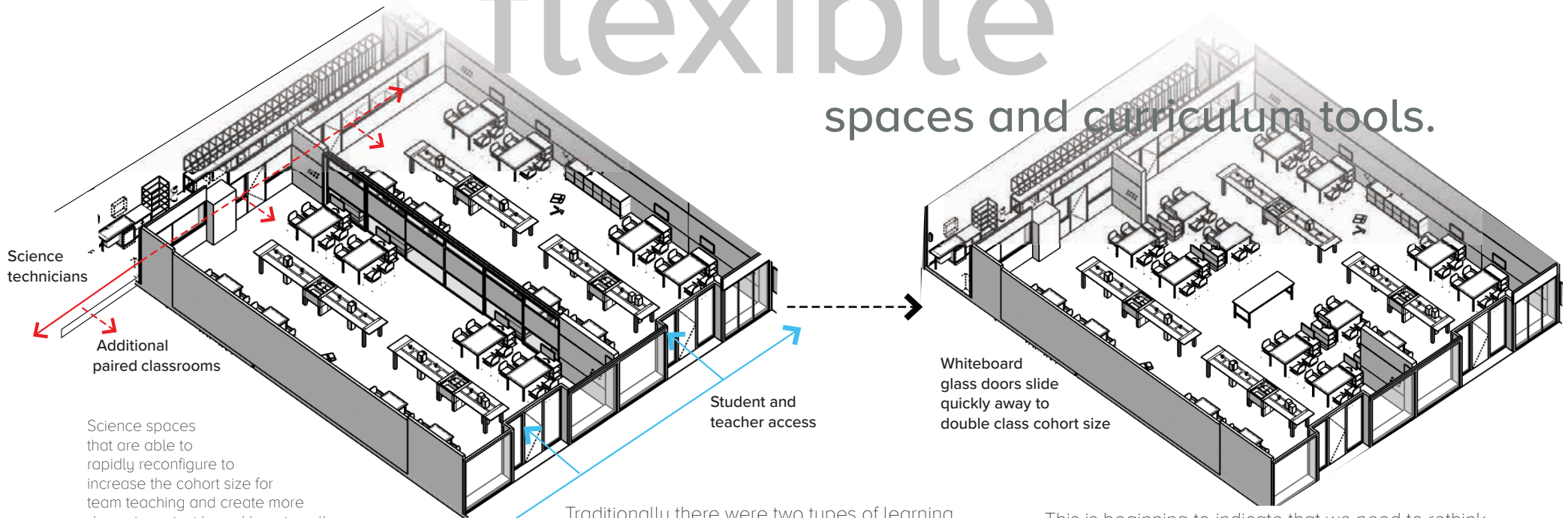
Making these spaces highly visible, demonstrable and connected helps students make the connections that are expected of them and in turn entice further enquiry. But can this idea be leveraged to also make schools more Novel Coronavirus ready?

So, what does the future of school masterplanning look like?

More pedagogically

flexible

spaces and curriculum tools.



Science spaces that are able to rapidly reconfigure to increase the cohort size for team teaching and create more dynamic project based learning all within a highly serviced safe environment is unique. A service corridor behind can quickly and efficiently re-purpose the space with different curriculum tools reducing classroom clutter and increasing flexibility.

Brisbane Grammar School new STEAM classrooms

The new STEAM building for BGS has explored innovative ways to create safe, scalable classrooms that enable team teaching and optimal student engagement.

Traditionally there were two types of learning spaces. Firstly, general learning, which required little in the way of physical curriculum tools and relies solely on theoretical learning. Secondly, specialised, which required highly serviced learning spaces (science, physics, art) which relied on primarily highly serviced spaces. Technology has had a significant impact on the clear distinction between Theory and 'Prac'. Classes can either have practical curriculum tools 'delivered in boxes' to traditional GLA's whilst traditional 'Prac' spaces with the use of technology can spend up to 70% of their time in theory.

This is beginning to indicate that we need to rethink the way we design, provision and timetable spaces around the school campus. It requires spaces to be more pedagogically flexible as well as the need to critically review co-location of the highly serviced spaces to optimally deliver curriculum tools across the school. Different thinking is needed about how we design the highly serviced classrooms and timetable these spaces. Although larger than traditional classrooms there maybe less of these classrooms provided in the future. Safe social distancing can also be effectively managed in these types of spaces.

Bringing the community

to the school

Cafe - Re-examining the role of the tuck shop as a service beyond students. Shifting to more of a cafe model that is located at the edge of the school can also enable parents to meet, share experiences and support each other. Andrew Johnson, Principal at Redlands College, says that the 'Cafe is also effective in creating a neutral/objective location for blended/separated families to meet together to discuss their child's education, with food as an integrating device for conversations to focus on students learning outcomes.' It has also become an 'effective place for potential employers, staff and students seeking school based apprentices and traineeships to meet, as it places the conversation in an industry/commercial context right from the start.' The ability of this service to also be used after hours for other events is also worth considering.

Community Spaces - Having spaces close to the public threshold of the school that can easily be used beyond school timetabling opens up opportunities for community use. These spaces need to be intuitively found from the entry of the school. Pools and Gyms are already being used for these purposes. Why not adult education, Information of things workshops, community interest groups, maker spaces, hospitality courses and innovation centres?



Redlands College Cafe

The new cafe sits at the edge of the school servicing students to one side and parents and their children to the other side within a secluded garden. (note young children's table setting)

Moving toward a student hub

centred around peer-to-peer
study curriculum resources &
diverse range of support.



St Andrews College Learning Hub

Having a place on campus where students can find services, support as well as project based learning spaces that can seamlessly extend into peer-to-peer learning spaces has created a dynamic and popular student centred learning place which is busy before and after school.

With access to web based content and the ‘flipped’ classroom, the need for print material in Schools has reduced whilst demand for spaces for students to extend learning with their peers or independent study has dramatically increased. In the University sector there is already a move toward seat counts to around 50% in-class to 50% in library or social learning spaces around campuses.

For secondary schools this shift can be seen in the morphing of libraries into vibrant student hubs where students can find a diverse range of study types with support in information skills, IT technical, and access to academics. This is also a place for student learning to be demonstrable and on show. Technology has enabled the traditional sciences to be supported in general learning spaces out of mobile ‘boxed curriculum’ tools focussing on theory thereby requiring less high tech expensive laboratories. By co-locating many of the more highly specialist/serviced classrooms visible in the student hub they can more easily serviced, shared and seen by the whole of the school community.

Indoor and outdoor health+wellness

There is virtue in considering all available spaces in a school contributing not only to the support of the educational learning environment but also the sustainable, emotional wellbeing and physical health of the students.

The outdoor learning and teaching environments are equally seen as programmable space. In addition these external spaces can offer diverse benefits with access to natural light, ventilation, breezes and natural planting. Looking toward post-pandemic times a natural outdoor setting for learning environments offers tangible benefits for school communities including:

- positive student emotional responses to being outside in natural settings
- less reliance on controlled internal environments where energy is consumed for lighting and airconditioning spaces
- biophilic advantages the landscape and planting bring to mental health and emotional wellness



St Andrews College

The covered area adjoining the Learning Hub, which includes, library, general flexible learning spaces, and student learning support has created a new heartbeat for the school. This highly flexible space is used for student gatherings, events, displays and brings the Junior and Senior schools together in a singular 'whole of school' memorable place on the campus.

What have we learnt from COVID19

Finding space where social distancing can be found on campus is the challenge within the existing paradigm of school spatial distribution and use. During COVID Schools were forced to close and shift to unsupervised learning at home which created huge challenges for students and staff. However, the COVID event created an environment that radically tested a completely different pedagogical delivery system which otherwise would never have been explored otherwise and there were outcomes revealed from this enforced experiment.

- Introverted learners were really able to thrive working at their own pace at home.
- Teachers could see students begin to develop more skills in independent and resourceful learning that would not have otherwise been revealed in traditional class environments
- However, supervision of students was a significant challenge particularly those who were less motivated.

Early feedback from teachers indicates that there were some real positive outcomes ie. that there is a space for more supervised independent on-line learning at school that can augment the traditional timetabled class setting.

So how can schools be more Novel Coronis robust in the future? The good news is that contemporary 21st education designed schools have a significant advantage if they can easily adjust classroom size, accommodate flexible pedagogies and have embedded scalable technologies to make it work.

“Our surveys showed consistently that the majority of students valued highly the opportunities for collaboration and interactivity that home-based learning afforded.

The online classroom offers opportunities to develop our students’ capacities for self-regulated learning.

Teachers reported the absolute importance of making thinking visible to students. Although this was a significant new challenge for the teachers, the additional class planning required enabled successful student outcomes”

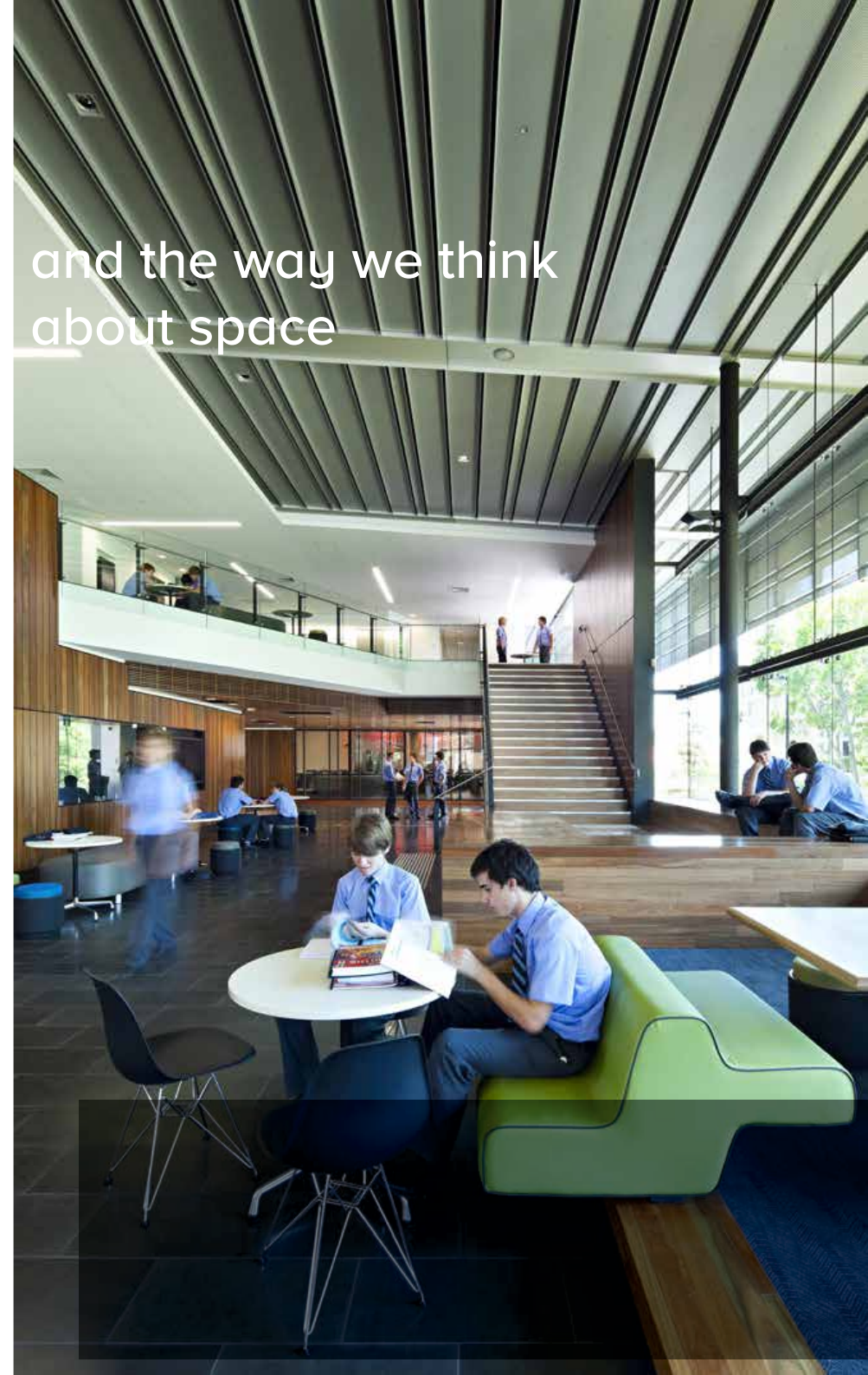
Steve Uscinski

Deputy Headmaster Teaching and Learning, Brisbane Grammar School

BGS Lilley Centre

The social learning spaces were designed to be able to take whole class groups. This can enable the school to flex their spaces in the future to create a COVID Safe Plan where students learning can occur in socially distanced supervised on-line classes across the diverse and broad pool of space within the school.

and the way we think about space





Wilson Architects has been in continuous architectural practice for over 135 years. We are a design and research-led practice at the forefront of educational architecture for the new generations, focussing on teaching, learning and research environments.

TAFE Pimlico

TAFE have built a new learning space in Pimlico Townsville. Wilson Architects spent a considerable amount of time developing their brief and design to upgrade TAFE teaching and learning spaces to make them more engaging for their students and to encourage a community of learners who can develop new skills together.

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