

Changing Learning Spaces for Changing Learning Needs in Higher Education

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Abstract

The University of New South Wales (UNSW) 2025 strategy supports new designs to facilitate better learning experiences for its students. This includes (re)developing many large first-year courses using more open and blended learning methods. This in turn has led to a re-examination of the University's physical learning spaces.

This paper explores local and international case studies of different learning spaces and how new digital technologies and more student-centred learning approaches are leading to demands for new learning environments to suit changing needs in learning and teaching. The paper outlines what UNSW is doing to meet the challenges it faces for new physical learning spaces.

Keywords:

Learning spaces , online-blended teaching, student learning

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Introduction

Universities continue to face major challenges brought about by rapid changes in the job market place and increasing competition from non-university providers. At the same time, universities need to cater to large, diversified student demographics with varied demands and capabilities. They must also contend with ubiquitous ownership of smart mobile technologies and related blended and online courses that provide non-university, flexible “on-the-job” experiences needed for professional jobs in business and industries. Where possible, universities are making changes to address these challenges in their own way and within their own budget and cultural constraints.

University of New South Wales (UNSW) Education Strategy

In the past, UNSW’s reputation in Australia and abroad has been as a research-intensive university. Since the new ten-year strategy document ([UNSW2025](#)) was published in 2017, the institution has adjusted its focus, aiming to be a more balanced research *and* education intensive university. To support this shift in the university strategy, UNSW has set aside an extra \$500 million Australian dollars over a 10-year period to boost its education focus. UNSW, like many other universities world-wide, is expanding their use of blended and online learning approaches, as part of the university’s drive to enhance student learning experiences. As part of this drive, UNSW has invested in a variety of projects including the Inspired Learning Initiative (ILI), which has won over \$55 million over a five-year period to redevelop 660 courses, including 500 large courses, representing approximately 60% of the University 55,000 student cohort, for a

combination of blended and fully online delivery and at the same time, increasing the ability of UNSW to support a digital uplift in online capability required by the UNSW2025 Strategy. These courses are being redesigned for blended and online delivery, integrating the following principal factors:

- curriculum redesign that takes advantage of digital technologies to support transformative teaching and student learning experiences and a shift from a semester to trimester academic calendar in 2019
- the development of new educational design and delivery policies and procedures that streamline and promote transformative learning and the use of an integrated curriculum design framework (<https://teaching.unsw.edu.au/integrated-curriculum-framework>), a course design model (<https://teaching.unsw.edu.au/course-design-model-rase>), and student learning experience (The Scientia Education Experience <https://teaching.unsw.edu.au/scientia-education-experience>);
- redesigning and upgrading classrooms that support more active and interactive learning and creating multiple new student-centred formal and informal spaces to promote student study in groups and independently as required
- better utilisation of the campus through students engaging online and working collaboratively in and outside the classroom

- the use of educational technologies, including augmented and virtual reality and digital assessment systems that can provide more authentic and simulated learning experiences for students.

The UNSW2025 Strategy and, in particular, its vision for improved student learning through the development of the Scientia Education Experience (SEE), are embedded into all new and re-developed programs and courses. Sufficient resources and support will be provided to enable the strategy to be implemented across a ten-year period. The strategy promotes:

- excellence in education and the shift from a research-intensive university to a research *and* education-intensive university
- shared educational design principles
(<https://teaching.unsw.edu.au/educational-design>)
- the Scientia Education Experience (SEE)
(<https://teaching.unsw.edu.au/scientia-education-experience>) and a re-aligned focus on the student
- the creation of education-focused academic positions that aim to champion the education-intensive (as distinct from research, and the research and teaching intensive positions) component of the Strategy, resulting in 400 plus academics promoted from associate lecturer to full professor across all faculties, based on teaching performance rather than research
(<https://teaching.unsw.edu.au/education-careers>)

- an extra funding boost for education of \$500 million over 10 years
- a focus on the re-development of large first year courses and courses with the greatest impact across the University
(<https://teaching.unsw.edu.au/inspired-learning-initiative>)
- a focus on “being digital,” not only to increase efficiencies but to transform teaching as well as student learning experiences
- a focus on “Students as Partners” that positions students as change agents who share responsibility for learning and teaching with university staff.

Demands for New Learning Spaces at Universities

Many universities across the world have been expanding and re-positioning their foci towards addressing multiple and ongoing challenges. As coursework programs expand their use of blended and online delivery, universities have questioned what physical learning environments might best suit their needs. Technological developments and the ubiquitous ownership of smart devices provide new opportunities as well as challenges for universities. Different universities have unique needs for new learning spaces. Below, we outline two pertinent examples from universities in Hong Kong.

The Chinese University of Hong Kong (CUHK).

- Between 2009-2012, the university went through major expansion to accommodate a 30% increase in student numbers, a major revision of the overall curriculum, and an adjustment of the length of the average degree

from three to four years. The university developed a new overall campus master plan, providing opportunities for multiple new buildings on campus and the creation of new learning spaces, informed by an international focus on creating student-centred learning environments, such as learning commons. CUHK is located on three main hills and on each hill the plan included the development of commons-style facilities for learning. At the main central level, where the majority of core services and facilities are located, it was decided to develop a learning commons attached to the central library.

The problem the architects faced was that there was no space at the ground University Piazza level or on any level of the existing library buildings. The new learning commons was therefore planned to be built underground, below the University Piazza and adjacent to the library building. However, since this facility was also intended for student use on a 24/7 basis, the senior education advisor within the university made a strong case for access to natural light.

The architects therefore had a very restricted area in which to position the learning commons. After various options were considered, the architect's solution was to create the learning commons below ground and dig up a large formal pond opposite the library on the Piazza, then give the pond a glass bottom, refill the pond with water and at the same time, create a glass ceiling in the learning commons (aptly named the Learning Garden) below the pond. During the day, dappled light shines through the fish populated

water-lily pond above. The Learning Gardens was opened in November 2012 and has since proved very popular with students

(<http://www.lib.cuhk.edu.hk/en/libraries/ul/lg>).

This innovative design won the Hong Kong Institute of Architects Special Architectural Annual Award in 2013 for its spatial re-organisation and use of creative natural light. The link below includes further information and photographs of the project

(https://www.cpr.cuhk.edu.hk/en/press_detail.php?id=1829).

At the same time, the University reviewed its classrooms, especially the technology provided and the types of seating and desks included. A new standard for all classroom technology facilities was created, as well as different classroom furniture configuration maps, located on the walls of all classrooms. The maps encouraged room users to adjust the room layout to best suit different needs of learning activities carried out in the classes. The standard technologies and facilities in these classrooms resulted in shorter preparation times for presentation set-ups and thus provided more time to review and re-arrange the rooms to suit the types of learning activities carried out in different classes.

The University of Hong Kong (HKU).

A similar situation and expansion outlined above with CUHK occurred with HKU. The Hong Kong government gave the University additional land adjacent to the main campus. HKU used this opportunity to re-configure its

main campus through a new campus master plan, regrouping discipline faculties and creating a new 6000 square metre learning commons (<http://www.les.hku.hk/teaching-learning/learning-space/chi-wah-learning-commons>).

The Chi Wah Learning Commons, open 24/7, has a broad range of services and facilities and multiple and varied rooms designed to support different learning styles and approaches. The link above provides information, photos, and a virtual tour of the facility. The Commons is surrounded by classrooms and lecture theaters and is designed to be a meeting place for students before and after lectures and tutorials. The Commons has staff as well as student helpers to guide students in using the facilities and to support them in setting up and using technology applications for academic projects, etc.

Another part of the master campus plan regrouped discipline faculties into common areas as well as offering each faculty an extra 30% of space. The Faculty of Education used this opportunity to re-group and re-locate its cognate divisions (English Language Education, Learning Development and Diversity, Policy, Administration and Social Education, Speech and Hearing Sciences, Maths and Science Education, and IT and Technology Studies), giving each Division its own floor(s) for staff offices, commons rooms and shared cognate research student spaces. In addition, the Faculty of Education's library was re-conceptualised, with all library books relocated in the main university library, only maintaining the classroom resource

Since the completion of this new shared space in mid-2013, the facilities have been used for small internal and external education-focused events, as well as enabling the Faculty to run different activities simultaneously that only require parts of the floor, keeping the remaining sections open for all other Faculty users.

New and Retrofitted Learning Spaces at UNSW in Line with the New Strategy

Each University develops its own unique foci and processes for creating learning spaces that best suit their needs and their budgets. At UNSW, the University established a set of broad education principles in 2015, based on a series of large-scale data, gathered from staff (academic, professional, technical and administrative), students, and student groups, as well as from hosted half- and full-day events that brought together representatives from all stakeholder groups as well as University learning space consultants from commercial companies and experts from other educational institutions.

These principles were also informed by UNSW needs defined and shaped in the UNSW2025 Strategy document and included:

- A demand for active learning precincts with classrooms and other juxtaposed spaces that support blended, “flipped” and collaborative learning, so reducing pressure on existing large lecture and classroom provision. These new active learning precincts were required to support inquiry-based and participatory approaches to teaching and learning.

- A demand for increasing the amount of student-led study spaces, offering a wide range of places for students to study individually and in groups across the campus.
- A demand for the creation and testing of experimental spaces that support innovative learning and teaching developments, in order to inform ongoing improvements and resource-efficiencies.

Apart from constructing new spaces and retro-fitting existing areas that support active student engagement, the University has created multiple places, within and outside rooms, along corridors and outside spaces with:

- flexible, modular, and moveable furniture
- different types and sizes of writable surfaces
- lighting that enables students to view varied AV screens within rooms
- technology that allows students and teachers to exchange information
- multiple new power outlets for students to plug in their devices
- laptop battery charging stations located in each Faculty building and on each floor
- technology that supports the gamification of learning and stimulated environments
- live streaming, and video calls that can be global
- increased monitoring and learning analytics dashboards that can identify what is used and when and for how long

- new and retrofitted spaces that make the best use of natural light and vibrant colours, with rooms that have more flexible and controlled temperatures
- relaxation spaces with sleeping pods, beanbags, smart device charging stations, a diverse range of adjacent food outlets and coffee stands, and many more water stations for refilling bottles
- a better transition between the online and physical environments and synchronicity between the physical and virtual spaces to enable students to benefit best from these learning environments.

To promote blended and especially active learning in the classroom, the new and retrofitted spaces include:

- Classrooms that can be configured to accommodate small to large numbers—for example 10-200 students—so that spaces can be used in different ways at different times.
- Flexible or modular furniture that can be combined in different ways depending on the learning activity. In some cases, students may need to work individually, or in groups of 3-4. They may also need to move around the classroom.
- A space where the teacher can teach from anywhere (not only standing at the front) to decrease the barriers between teachers and students, promote the egalitarian classroom and improve intimacy, atmosphere, and connection. Thus students, rather than teachers, become the primary audience for each other's work.

- An open space where students can collaborate to help facilitate discussion-based learning. Open space, located outside of the classroom so students can work in small break-out groups.

To promote more interaction and collaboration that also offer flexibility and sound reduced acoustics, a growing number of classrooms have:

- Reconfigured and designed furniture that privileges small group interaction
- A space that brings students together to create a sense of belonging, a network of learners, and a sense of connection.
- Acoustics that allow teachers and students to clearly hear each other across the room, but with furniture that can be configured so as to isolate small group discussions from other groups
- Entrances, located at the back or side of the classroom to reduce disruption when a student enters or leaves

Outside of scheduled classes

As part of active learning, students are required to undertake study and preparation for all classes. To meet this need, students require spaces to study autonomously and in small groups to prepare for class in a way that is, where possible, seamless.

Students have indicated that they mostly study on campus before and after class.

They have indicated that they would like to be able to find a space to work that is close to their classes. Accordingly, spaces have been made available with appropriate furniture and fittings juxtaposed next to classes throughout the campus.

Students also stated they need a better sense of security at night and when spaces are open late at night, prefer those that are close to public transport. Students also stated the need for better lighting in car parks and on the perimeter surrounding the University at night.

Students consistently report that their main need is a quiet space when studying on their own. This requirement is being met by creating multiple locations on all floors and corridors in and around buildings for individual study. Where noise is more common, for example along busy corridors, the design of the furniture includes higher backed chairs that absorb extraneous sounds.

Conclusion

Over the last three years, a large number of new and retrofitted spaces have been created to meet the needs earlier expressed in the educational principles. However, more work is being carried out. The university has placed \$45 million over a 10-year period to deliver the student-led learning environments required. In addition, ongoing feedback and evaluation mechanisms have been established to review the learning spaces made available, as well as identify new requirements for new spaces. This feedback is collected via formal surveys and evaluations, as well as graffiti-style boards and just-in-time touch-pad screens that ask students to agree/disagree with feedback on the value of the learning spaces they have used. Annual large stakeholder workshops will continue to be held to gather qualitative feedback from staff and students and to gain proactive designs from all stakeholders

in co-creating future learning spaces and validating the ways forward for more active learning spaces.

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