Learning in Innovative Spaces

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RMIT’s investment in new learning spaces seeks to improve the learning and teaching experience of our staff and students. Among the many challenges we face today as educators are larger classes, the influence of new information and communication technologies on student learning and our teaching practice, and the blurring of boundaries between home, work and study. The new learning spaces in the Swanston Academic Building (SAB) are designed to address these challenges, and support new and emerging learning and teaching contexts.

To enhance the learning experience of our students we need learning spaces that are functional and comfortable. In new and emerging learning and teaching contexts, spaces should be flexible to promote and support diverse learning situations and delivery modes, and designed to provide opportunities for collaboration and social interaction.

This booklet, the second in a series produced by the College of Business Academic Development Group, provides you with an introduction to many of the learning spaces designed for the SAB. The architectural images are accompanied by detailed functional descriptions, and summaries of supported learning modes and levels of interactivity and collaboration. Information about the SAB’s specialist learning spaces will be made available in forthcoming months.

I encourage you to discuss the images and descriptions with your colleagues, and to also consider the pedagogical opportunities provided by the new learning spaces, and the enhancements you might make to improve the overall experience of our students.

Introduction

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Enhanced Lecture Theatres

(360-300 seats)
Enhanced Lecture Theatres

**General description**
Large theatres are designed to support traditional (didactic) teaching. These rooms include tiered floors, traditional tablet-arm chairs and projection onto the front wall with high quality sound reproduction.

**Supported learning modes**

**Didactic / Lecture Presentation**
A design objective is to free instructors from the lectern to engage with the seated audience while having full control of the theatre’s AV system via a wireless presentation device.

**Layout**
A fixed control position or lectern is situated on the front floor at the side of the theatre with equipment fixed inside the lectern.

**Lighting Control**
A number of lighting presets will be available to the user to vary levels and point of focus to allow for various delivery modes. In lecture presentation mode, the focus will be on the presentation location and the main video displays at the front of the theatre. Seating layouts and lighting presets will work together to achieve this focus.

**Video Capture / Videoconference**
Cameras positioned in the theatre will capture the presenter for projection, videoconferencing and/or Lectopia.

**Interactivity and collaboration**
As the size and layout of the large theatres do not typically lend themselves to collaborative learning, technology to support interactivity will be provided. Options to foster and/or enable student interaction and engagement include:
- Audience response/voting
- Vote from smartphone via Wi-Fi or SMS

- Virtual communication with the presenter submit questions live via SMS, email, chat or other means
  - presenter receives messages via dedicated screen or AMX touch panel
  - presenter can choose which questions to display to the class
- Student submission of solutions/presentations from laptop and/or smart devices via Wi-Fi
- ‘Mobile lectern’ based around wireless devices.
Interactive Lecture Theatres

(240, 180, 120 and 90 seats)
Interactive Lecture Theatres

General description
Interactive theatres will support traditional (didactic) teaching as well as interactive and collaborative pedagogies. Floors will be tiered with two rows of chairs on each level. The seats in the first row of each tier will have a fixed bench while the seats at the rear will have a wider table for group discussion. Participants in the first rows of each tier will be able to turn around and work with colleagues at the same level. This is the key architectural feature of interactive lecture theatres.

Supported learning modes
Didactic / Lecture Presentation
In didactic mode the objective of the design is to free instructors from the lectern to engage with the seated audience while having full control of the theatre’s AV system via a remote presentation device.

Collaborative / Group work
The functional differences between the large and interactive theatres will be opportunities for sharing student work by connection of student devices to display and audio systems (with one connection point available for each group of 6-8 students) or by asynchronous methods where students upload materials to a digital ‘drop box’ controlled by the instructor at the lectern or remotely.

Layout
A lectern is situated on the front floor to the side of the theatre with equipment fixed inside the lectern.

Lighting Control
A number of lighting presets will be available to the user to vary the level and point of focus, allowing for various delivery modes. In lecture presentation mode, the focus will be the presentation location and main video displays at the front of the theatre. Seating layouts and lighting presets will work together to achieve this focus.

Control
The primary system control position is at the lectern although portable operations will be investigated during the design process.

Interactivity and collaboration
Interactive Theatres lend themselves to flexible, small group activity as a breakaway task from a traditional didactic delivery. One or more connection points for student devices will be presented per table for display on the main monitor. Display of student devices will be controlled by the instructor either at the lectern or remotely.

The use of software constituting a digital ‘drop box’, on-line message board, or other asynchronous means of sharing real-time information will be considered as a substitute for wired connections or as a complimentary method in providing opportunities for collaboration.
Lectorial Theatres

(120, 90, 60 and 45 seats)
Lectorial Theatres

**General description**
Lectorial spaces emphasise instructor-led collaborative learning with traditional didactic delivery playing a supporting role. As Lectorial spaces will support team teaching, the AV systems will provide multiple control interfaces and wireless presentation devices (e.g. remotes, microphones) to allow more than one instructor to participate. Students sit at tables in groups of 6, each with a connection point for laptops or other devices. A number of secondary screens are accessible to the group, with the output from any desk routable to any or all screens by the instructor.

**Supported learning modes**

**Didactic / Lecture Presentation**
Due to the flexible nature of the seating in Lectorial spaces, a traditional fixed lectern will not be provided. Traditional lecture-style delivery can still be carried out from a control location at the front of the room, where a portable podium (or similar) may be used.

**Collaborative / Group work**
In collaborative mode, group work will be supported by sharing of electronic student work both with the main presentation display and with secondary displays. Provision for sharing of student work with the rest of the room will be facilitated either by direct connection of student devices to display and audio systems (with connection points available for each desk) or by an asynchronous method whereby students upload materials to a digital ‘drop box’ controlled by the instructor either at the lectern or remotely.

**Layout**
An instructor’s station is situated on the front floor of the room with source equipment in close proximity.

**Video Display**
Video projection will be sized and specified for the presentation of data with good performance characteristics for motion video. Secondary displays will be provided on the side and/or rear walls of the larger theatres.

In didactic mode, these displays will act as cue monitors for the presenter. In collaborative mode, these displays will support large group (i.e. 2-4 tables) learning, and will be routable from any source.

**Interactivity and collaboration**
Lectorial spaces support a higher proportion of collaborative work at a number of levels:
- Groups of tables - sharing a larger wall monitor
- Whole room - displaying any table to the front screen or all screens
- Didactic delivery will also be supported in these spaces.

Some of the strategies employed in larger rooms for fostering interactivity may also be enabled in Lectorial spaces but the design of the space and furniture encourages a more collaborative environment.
Interactive Tutorial

(60, 45 and 30 seats)
Interactive Tutorial

General description
Interactive tutorial rooms will support team teaching, case study style group work and project based learning, as well as allow for traditional (didactic) teaching. The rooms will be flat floor, with loose chairs and desks. There will be provisions for students to connect to projection systems or for work to be uploaded for group viewing.

Supported learning modes

Didactic / Lecture Presentation
In didactic mode, the design will free instructors from the lectern to engage with the seated audience while still having full control of the room’s AV system via a remote presentation device.

Collaborative / Group work
In collaborative mode, group work will be supported by sharing of student work with the main presentation display. Provision for sharing of student work with the rest of the tutorial room will be facilitated either by direct connection of student devices at connection points or by an asynchronous method, where students upload materials to a digital ‘drop box’ controlled by the instructor either at the lectern or remotely.

Layout
A instructor’s station is situated at the front with source equipment in close proximity. The instructor will have wireless control of Powerpoint presentations to permit movement. Options for greater wireless control – including full AV system control – will be investigated during the design process.

Lighting Control
A number of lighting presets will be available to vary the level and point of focus to allow for different lecture delivery modes.
- In didactic mode, the focus will be the presentation location and main video display at the front of the theatre.
- During collaborative work sessions, the house lights will be raised such that individuals can interact freely

Interactivity and collaboration
Interactive tutorial rooms will emphasise group activity in preference to traditional didactic delivery. One connection point will be provided for student devices at each table allowing display on the main monitor. Display of student devices will be controlled by the instructor.

Some of the strategies employed in larger rooms for fostering interactivity may also be enabled in interactive tutorial spaces but the design of the space and the furniture encourages a more collaborative environment.
Project Based

(60, 45 and 30 seats)

General description

Project based spaces will focus on instructor-led project work with less emphasis on traditional didactic delivery. The ability for students to work in small groups will also be supported. Students sit at tables in groups of 6. Through laptop connections at each desk, student work may be presented on an adjacent wall mounted flat panel display, or group flat panel display mounted on the desk.

The use of wall or desk mounted monitors will be determined on individual room layouts to optimise sightlines for groups of students seated at tables. The output from any desk is routable to any or all screens by the instructor.
Project Based

Supported learning modes
Project rooms will generally be arranged with the instructor’s station close to the middle of the room. While the emphasis is not on didactic presentation it can be supported where necessary.

Collaborative/Group work
Students working at each desk may send the output from their laptop or other device to a the wall/or desk-mounted screen for group collaboration. Provision for sharing of student work with the rest of the room will be facilitated either by direct connection of student devices to the main display and audio systems (via laptop connection points provided at each desk) or by an asynchronous method, whereby students upload materials to a digital ‘drop box’ controlled by the instructor either at the lectern or remotely.

Self-directed / individual work
Individual and project teaching will utilise AV systems in a way similar to the collaborative mode with student devices connected at desks. Students could focus on their own laptop screen with the option to view other group members’ displays on the adjacent flat panel or the main display. Students may also engage in collaborative sharing of information via a digital ‘drop box’ or similar tool.

Layout
A control position/lectern is situated in close proximity to source equipment.

Lighting Control
A number of lighting presets will be available to vary the level and point of focus.
- In didactic mode, the focus will be the presentation location and main video displays at the ‘front’ of the room.
- During collaborative and project sessions, the house lights will be raised such that individuals can interact freely with each other.

Video Display
Video projection will be sized and specified for the presentation of data with good performance characteristics for motion video. Each table will have an associated group flat panel display, either desk or wall mounted, so as to not limit sightlines to the main projection screen or any wall monitors. In collaborative mode, these monitors will support group learning by allowing students to view signals from any other student device connected at their table or from the main presentation screen. The instructor will have the ability to route any one source to any or all displays.

Interactivity and collaboration
Project based spaces provide many opportunities for collaborative work.
- At tables - Individual monitor for each student that share signals from any connected device
- Groups of tables - sharing signals as directed by instructor
- Whole room- displaying any table to the front screen or all screens
- Didactic delivery will also be supported in these spaces.

One connection point will be provided per desk, with a simple control interface to allow user selection of any input to each desk’s group flat panel display. The use of software constituting a digital ‘drop box’, on-line message board, or other asynchronous means of sharing real-time information will be considered as a complimentary method of providing opportunities for collaboration. Some of the strategies employed in larger rooms for fostering interactivity may also be enabled in Lectorial spaces but the design of the space and the furniture encourages a more collaborative environment.
Discursive Theatre
(60 seats)

**General description**
The discursive theatre is a curved and tiered teaching space with benches between each row. It is designed to support interactive teaching with an essential design aim of freeing the instructor from the lectern to provide a debate-style environment.

**Supported learning modes**
**Lecture Presentation**
The discursive theatre is in the ‘Harvard’ style which supports a Socratic approach, which fosters a high level of interaction through discussion. Students are seated at benches in a ‘U’ shape with the instructor able to lead discussions from the well of the room. An essential component of the design will be to free instructors from the lectern to engage in discussion with the seated audience while having full control of the AV system via a wireless presentation device.

**Layout**
Student benches will be laid out in a ‘U’ shape and allow the instructor to venture into the well of the room for closer interaction with students. A lectern and equipment will be provided.
**General description**
Conversational spaces encourage learning in small groups, enabling an easy transfer between discussion and brainstorming. The rooms will be flat floor with loose chairs and desks. An interactive whiteboard will be provided.

**Layout**
A wall mounted interactive whiteboard will be located towards the front of the room. As space is designed to encourage group discussion and brainstorming sessions. No fixed presentation location will be provided. A small cupboard will be provided with the interactive whiteboard to house a dedicated PC.
General description
The RMIT SAB cinema is a dual-purpose facility operating both as a small lecture theatre and as a fully featured cinema capable of high-quality reproduction of both film and digital cinema works.
SAB cinema audio visual systems will include the following components:
• Fixed-height, multi-aspect cinema projection surface
• Motorised, variable masking for projection screen
• Dual film projection: 1x 16 projector, 1x 35mm projector
• High-definition large venue electronic projector
• High quality 5.1 Dolby Digital surround sound reproduction
• AMX control system with touch panel interface
• Dedicated projection room with show operator’s position and auxiliary audio visual connections
• Lectern position at front of stage.

Supported learning modes
Didactic / Lecture Presentation
The 180 seat cinema will provide the same level of functionality as the large lecture theatres (360 and 300 seat), supporting traditional (didactic) teaching but freeing the instructor from the lectern. The front of the cinema will include the following equipment:
• 2 x laptop connections
• Auxiliary AV connection
• Blu-Ray player
• VHS player
• Multimedia PC
• Keyboard and mouse
• Control system interface (LCD touch panel)
• Wireless microphones

Lighting Control
The theatre’s audio visual control system processor will interface with the lighting control system to provide control of the theatre’s lighting via the touch panel.
Further Reading


Brook, D 2009, Designing learning spaces for 21st century learners, Archdiocese of Sydney Catholic Education Office.


East/West cross section of the Swanston Academic Building