Flipped classroom strategies in the learning studios at Western

Learning studios

At Western Sydney University, technology-enabled learning spaces are built to further support teaching innovation and learning engagement in the classroom. These learning studios are equipped with a wide range of technologies and their room layouts are designed to foster collaborations.

Recommended teaching strategies in studios

- Contribute and compare
- Group work
- Present and discuss
- Highlight and share
- Student-led activity
- Remote collaboration

Table 1 on the next page, outlines how each of these strategies might operate in practice, with an illustrative learning activity example for each, and notes on the likely learning process and preparation required.
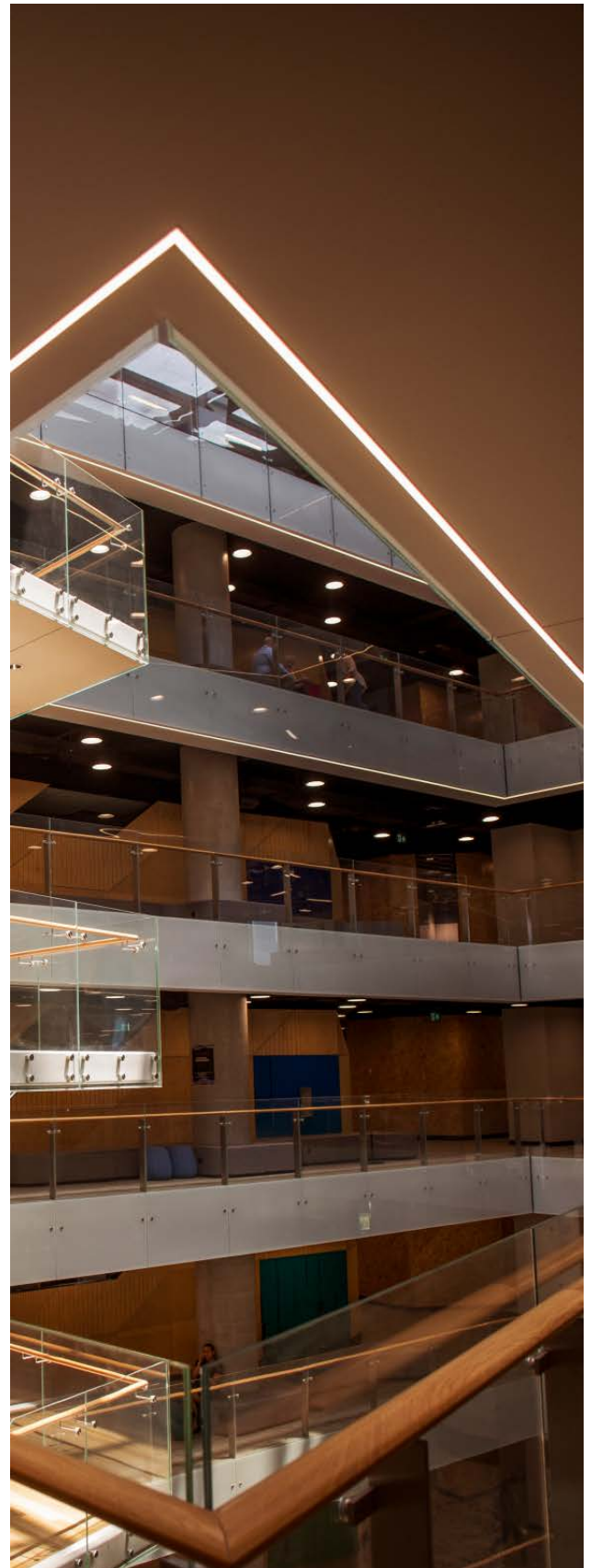
Table 1. Teaching strategies for collaborative learning supported by technologies

Strategy	Activity example	Purpose & process	Teacher role
1: Contribute and compare Tutor moderates input from groups around the room, directing input from one group or student to all screens using SOLSTICE software. Several inputs can be displayed side by side on the large room screens and also sent back to all pod screens.	In preparation for the class, students are asked to apply an analysis technique to their own work (or other) context and bring one digital item (e.g. a diagram or video) summarising the results, to share. Pods are asked to show of where it worked well or didn't work and say why.	Suitable for work-integrated or contextualised learning activity at all levels. Learning outcomes would be about being able to apply a model, concept or method only when appropriate for the context.	Select suitable concept/method from ULOs and develop some examples of digital items to check feasibility, demonstrate the activity (online) and have as a back-up for rounding up.
2: Group Work & Problem Solving Students work separately in groups at tables and share their content wirelessly onto a screen at each table. The main room screen shows instructions and supplementary content. Computers on wheels (COWs) can also act as PC.	Case study/ role play task where each group develops criteria for a product development scenario from one perspective. E.g. marketing, production, finance, HR. Groups first work separately then share and negotiate a mutually acceptable solution.	Experiential learning about co-dependence and negotiation between organisational functions and priorities. Learning from group debriefing with teacher and individual reflective report that could be assessed.	Role play scenario, role briefings and role allocations could all be done online, so that class time is all spent on interaction. Essential to allow time for full debriefing at the end.
3: Present and Discuss Tutor presents or shares content wirelessly from a mobile device anywhere in room to all screens in room, or can plug a device in at the presentation station, or can use the PC there. Students may also see output on their own device (TBC)	Recorded interview or Zoom link to external presenter/expert, who could even show real site/context. Students then interact and discuss (with remote person listening and contributing).	Students gain access to expertise and/or professional or site contexts outside the classroom, which might otherwise be inaccessible.	Line up external input. May need technical help at the remote site. Check out feasibility of using Zoom etc. Recorded interview might be safer option if support available. Could re-use.
4: Highlight & Share student work Tutor allows students to share their work to all pods and in-room screens. Tutor directs student work from one group or student to all screens.	Could use this at the end of the example activity for contribute and compare, where the tutor and/or students select some of the items to compare and contrast to summarise the discussion/learning.	Useful for consolidating and sharing learning across the class – so students are learning to learn from each other, facilitated by reciprocal learning relationship with the teacher.	Work out logistics of process for sharing – e.g. each pod takes turns, or pre-select the most useful examples for discussing principles.
5: Students choose what they see Each group pod screen can be switched between seeing any of the room inputs including shared content, current whiteboard or visualiser display.	Use in the role play when groups are negotiating with each other. The tutor might also disrupt or even confirm thinking/understanding, by feeding in some additional guidance, contrary examples, additional information or scenario events during the activity. Students can also find and share resources and information online.	Students are self-organising within the boundaries of the role play scenario and guidelines set by the teacher. They are learning how to think and work as a team to find, use and share information … information and communication skills.	Clear instructions for the process of interaction between groups/roles. Plan for timing of the classroom interactions and move students on between phases as needed. Otherwise, hands off.
6: Remote collaboration Remote rooms and/or students can participate remotely, view shared content, whiteboards etc.	Could link students on different campuses, or link a small number of online students with campus student groups in any type of activity.	Might work well with students on placement, or part-time students in professional contexts.	Similar to presentation from external input – remote input may need testing in advance.

Below are examples on learning activities from different disciplinary areas.

For each example activity we have described:

- the study unit context and overall design
- an example of how an activity would use the facilities in the new learning space, showing when, how and why each of the methods is being used
- the main pedagogical features of each activity design.

Example: Surface water hydrology project

Context
This is a project-based undergraduate level 4 unit, where students attend an initial 4 hour workshop session and then four full-day workshops in small groups evenly spaced throughout the semester. The assessment includes pre-class work and in-class work, as well as a project report and oral presentations. The project involves students working in teams to develop a flood mitigation plan for a land development project on a (real) site. By the end of the initial workshop the students will have formed into teams (4 members per team) and each team will have selected a development site.

Activity example
Before the first of their full-day workshops, students will watch 3 short videos (total around 25 minutes duration), complete an online quiz and record their work to date in an e-portfolio (this portfolio build up will continue throughout the semester). The workshop will start with the facilitator leading a review of the pre-class tasks *(contribute and compare)*. Then the students will work in their teams to research online data for their project *(group work)* – the facilitator will use 'teachable moments' to interject competencies required to solve the project. Each team will make a 10-minute presentation to the rest of the class at some point during the workshop about their plans *(present and discuss)*. Each team will make a 30-minute per team presentation during the final workshop session *(highlight and share student work)*.

Pedagogical features
project-based learning, flipped classroom, teamwork skills, e-portfolios for individual observation and reflection.

Example: Primary English Language & Literacy

Context
This is a postgraduate unit in primary teaching focusing on the teaching of spoken, written and multimodal text. For 50% of the assessment students are asked to design a sequence of lessons. Tutorial classes give students the opportunities to develop strategies for teaching children how to respond to and compose multimodal texts. Through the tutorial experience, students are able to link theory with practice and have a foretaste of how new literacies and emerging culture of learning can be incorporated within the formal learning environment.

Activity example

Students come to the tutorial to experience how relevant theories can be translated to viable classroom teaching strategies for teaching primary school children language and literacy. Typically, the students will vary widely in their degree of readiness. Some of them may be more self-directed and have gone through additional online resources that are designed to support their self-directed learning. To start off, the tutor shares a digital media platform to be used as a backchannel tool to interlink teaching with assessment (e.g. Padlet or TodaysMeet) and asks students seated in groups to discuss and then post group answers to some open-ended questions that require them to interpret and deconstruct a given multimodal text of a specific genre. The questions are designed to elicit ideas and show where students may need more information or practice. The results are shown on all screens (*contribute and compare)* to facilitate multiple perspectives which are key in collaborative learning.

The students are then asked to work in their groups to identify how they are going to apply the ideas discussed in the first exercise to the design of a lesson. In doing so, they take control of their own research (*group work)*. Each group can share what they find with other groups, by making it available for others to look at (*students control what they see).* Finally, each group is asked to contribute a short post on the backchannel summarising their plans, and any remaining questions they have. The tutor then uses this to select some examples to share, organise peer feedback across the groups and end with a class discussion while modelling the thinking process to the students (*highlight and share student work*).

Pedagogical features

engagement of prior knowledge and experience; social construction of knowledge through group discussion; collaborative learning, peer feedback and scaffolding from teacher.

Example: Professional Design Practice

Context

This is a third year unit to prepare students with the communication and self-promotion skills they will need for work as professional designers. It is delivered online and on campus in 'flipped classroom' mode, with online lecture pods and worksheets to structure the students' preparation for each weekly workshop session on campus.

Activity example

For one of the weekly activities, the students are asked to find a professional design studio they admire and arrange a visit to interview the designers there. They use this to build a presentation about issues they've identified in design practice, which they bring the workshop class to share (*contribute and compare; present and discuss*).

Pedagogical features

flipped classroom, fieldwork, community engagement, professional skills.

Example: Communication in Health e-Portfolio

Context

This is a first year unit in the Bachelor of Health Science and its 10 related allied health disciplines. For 50% of the assessment students are asked to prepare an e-Portfolio of learning to allow students to better engage with the content of the unit, analyse academic evidence specific to their future allied health profession and reflect on how they will develop their communication skills to better address the needs of clients, patients or community.

Activity example

Using a free WordPress website the students are asked to create on online portfolio (e-Portfolio) of learning to help them to better understand and engage with the relevance of the unit. The e-Portfolio is made up of an Introduction, 12 concepts and a conclusion. During tutorials students are given time each week to work on one of the 12 concepts and discuss

1) why the concept is important to their specific discipline,
2) what it will specifically help them do better and
3) what outcomes will eventuate for patients/clients as a result of their engagement with this concept.

To answer these questions students must provide at least 1 piece of academic evidence (e.g., books, journal articles, conference papers NOT Wikipedia, NOT websites) and clearly indicate how the reading helped them understand the concept in relation to their specific discipline. For each concept they must also indicate one thing they will do as a result of this information and how they will demonstrate this. The e-Portfolio is restricted to 1500 words across 12 concepts as well as the Introduction and Conclusion. As there are not many words available students should instead use pictures of themselves (with other students, family and friends) and provide a brief explanation and/or videos of themselves speaking (each a maximum of 2-3 minutes long) and/or other media (*students control what they see*). It is suggested that students us a variety of media to demonstrate a variety of communication skills and to avoid using too much text. At the beginning of their next tutorial students will have the opportunity to present (*students control what they see)* their previous week's work to a group of 4 to 5 students (*group work)* and receive feedback on the depth and breadth of their e-Portfolio entry. Doing so allows all students to better understand areas in which their own, and others', work is unclear or where it displays limited creativity or reflection (*contribute and compare; present and discuss)*.

Pedagogical features

student-centred active learning, progressive learning as students become increasingly independent, linking theory and practice.

Example: School of Social Science & Psychology flipped classrooms

Context
This is a model that the School of Social Sciences & Psychology is using in a number of units running in the main campus-based autumn and spring semester mode. Students attend 4 x 2 hour tutorials during the semester, which gives them space for preparation for tutorials and working on the tutorial outputs. This space is important for learning, since it is what they do before, during and after tutorials that enhances learning. The two hour tutorials give them time for concentrated in-depth work.

Activity example
Students are encouraged (by allocation of some marks) to prepare for the tutorial by completing learning activities in a workbook (a choice of pdf form, word or print and write). During the tutorial the students do group work to compare their workbook responses, work on associated problems and issues and contribute these to the class. Individually, they use this work to compile a learning journal, which is cumulative and forms the basis of a major written assessment.

The new learning spaces support greater collaboration within and between groups. Students can display their individual work and create both joint and individual outputs. Different groups can access different web resources / videos and other stimulus materials to come up with different responses to the problems at hand.

Pedagogical features
Flipped classroom with structured and assessed preparation activity and also allowing for in-depth classroom activity, with the tutor as facilitator. The focus is on student learning rather than teaching. The design scaffolds development of learning skills by promoting integration of structured classroom and independent study activities.

Example: School of Law, Criminal Procedure & Evidence, flipped classroom

Context
A number of units in the School of Law are presented in a flipped classroom mode. This is an example of one format used in the teaching of a Level 4 core unit required for professional accreditation. Students attend one two-hour seminar/tutorial per week having previously worked through guided home study provided in online format. The online component consists of guided readings, video presentations (short video casts), online videos designed to stimulate questions and discussion (usually a YouTube video involving a courtroom drama), and a pre-class assessable quiz to allow students to get feedback on their understanding prior to coming to class. Class time is spent on clarification, correcting mistakes from quizzes, deeper analysis of the material and application of learning.

Activity
One class activity is always devoted to application of learning. Students are presented with a new problem based on a real-life professional context. In groups, they must apply their

knowledge to solve that problem, which could involve presenting a legal argument or advising a client *(group work and problem solving)*. They then present their work for critical discussion and peer review.

The new learning spaces provide greater facility in individual groups presenting their work for class feedback and discussion *(highlight and share student work)*. Group answers can be compared side-by-side to allow for critical analysis *(contribute and compare)*. Importantly, the online resources such as legislation and cases that are relied upon in answering the problem can be displayed alongside the worked answer to facilitate discussion. Students learn the process of application of law and learn by participating in peer feedback.

Pedagogical features

Flipped classroom with structured and assessed preparation activity and also allowing for in-depth classroom activity, with the tutor as facilitator. The focus is on student learning rather than teaching. Collaborative learning, peer feedback.

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