1 Background

This paper gives examples of some learning activity designs using collaborative technology-enabled spaces. The examples were compiled by the 1PSQ Experience and Pedagogies Working Party. They illustrate how these spaces can contribute to Securing Success objectives 1.2 and 3.2, with technology-enhanced learning activities as a feature of engaging learning design. During 2016, a prototype collaborative, technology-enabled space will be available to trial, evaluate and optimise teaching opportunities in the new facilities.

In 2012, the University began implementing an ambitious plan in which flexibility, curriculum innovation and blended learning were central. Since then we have not only introduced more blended and online learning options, but have also invested in converting campus spaces to cater for more collaborative and active learning. A separate document provides evidence of the benefits. The new building at 1 Parramatta Square (1PSQ) is an opportunity to take our use of technology-enhanced collaborative learning to the next level – as outlined in the draft learning and teaching plan for 2016-2020.

2 The 1PSQ Learning Spaces

Figure 1 shows the prototype layout of learning spaces in 1PSQ. They are designed for small groups to engage in highly interactive work. There is a ‘presentation station’ in the corner, which pivots out if needed to enable a lecturer/tutor or student, to operate a plugged in device or PC without turning away from the class. The room is designed to support lecturer/tutor and student input from any location rather than presentations from one location.

Figure 1: Prototype technology-enabled learning space
The pedagogical intention behind this layout is that the rooms will be used for interactive ‘flipped classroom’ learning activities. Rather than taking information in, as in a traditional lecture, students will bring to class what they have prepared elsewhere – through digital resources, online activities, work experience, site visits, research tasks, etc. The learning activities will be designed for students to share, engage, apply, integrate and develop their knowledge interactively and socially – with peers as much as with the lecturer/tutor. The rooms are for student-centred activity and engaged learning, not passive learning.

3 The Prototype

While the main users of 1PSQ will be from the School of Business, other disciplines will also teach at 1PSQ. Importantly, the new technology-enabled learning spaces are intended as the first stage of a roll out across the University. Because of this, the prototype users will be from multiple disciplines – to innovate, explore and test the usability of the space and the equipment for a wide range of technology-enabled learning activities and to evaluate how the digitally enabled environment contributes to the student learning experience.

The Working Party’s discussions started from consideration of six teaching strategies by which the equipment in the room can be used to facilitate learning activities.

1. Contribute and compare
2. Group work
3. Present and discuss
4. Highlight and share student work
5. Students choose what they see
6. Remote collaboration

Table 1 (on the following 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. However, in discussing real examples, the Working Party thought it likely that several of these methods would typically be used in one activity. Therefore, to provide a more realistic picture of how the prototype might be evaluated both technically and pedagogically, we compiled examples based on learning activities that are either already in use, or that are planned for 2016 (see Appendix). 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, and
- the main pedagogical features of each activity design.

4 Evaluation and Staff Development

Part of the project will include evaluating how well the flexible technology-enabled spaces support collaborative and engaged learning. For learning activities that are already in use, we can compare outcomes with those run in the new spaces versus the current collaborative learning spaces. In all cases we will be able to identify skill gaps and technical or logistic issues. The examples described here show that some Western Sydney University teachers are well prepared. Potential users of 1PSQ may need additional staff development and support (Harpe & Mason, 2014) and the DVCA Portfolio will be addressing this with professional development sessions and resources.
References and links

Draft Learning and Teaching Plan 2016-2020

Video on Professional Design Practice unit: [https://www.youtube.com/watch?v=PqeyevZ4K08](https://www.youtube.com/watch?v=PqeyevZ4K08).
Video on hybrid online and campus Bachelor of Communications Program: [https://www.youtube.com/watch?v=elj4tvch9ow&feature=youtu.be](https://www.youtube.com/watch?v=elj4tvch9ow&feature=youtu.be)
**Table 1: Teaching strategies for collaborative learning supported by technologies**

<table>
<thead>
<tr>
<th>Method</th>
<th>Activity example</th>
<th>Purpose and process</th>
<th>Teacher role</th>
</tr>
</thead>
<tbody>
<tr>
<td>1: Contribute and compare&lt;br&gt;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.</td>
<td>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.</td>
<td>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.</td>
<td>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.</td>
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<tr>
<td>2: Group Work &amp; Problem Solving&lt;br&gt;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.</td>
<td>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.</td>
<td>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.</td>
<td>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.</td>
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<tr>
<td>3: Present and Discuss&lt;br&gt;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)</td>
<td>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).</td>
<td>Students gain access to expertise and/or professional or site contexts outside the classroom, which might otherwise be inaccessible.</td>
<td>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.</td>
</tr>
<tr>
<td>4: Highlight &amp; Share student work&lt;br&gt;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.</td>
<td>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.</td>
<td>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.</td>
<td>Work out logistics of process for sharing – e.g. each pod takes turns, or pre-select the most useful examples for discussing principles.</td>
</tr>
<tr>
<td>5: Students choose what they see&lt;br&gt;Each group pod screen can be switched between seeing any of the room inputs including shared content, current whiteboard or visualiser display.</td>
<td>Use in the role play when groups are negotiating with each other. The tutor might also disrupt or even confirm thinking/learning, 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.</td>
<td>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.</td>
<td>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.</td>
</tr>
<tr>
<td>6: Remote collaboration&lt;br&gt;Remote rooms and/or students can participate remotely, view shared content, whiteboards etc.</td>
<td>Could link students on different campuses, or link a small number of online students with campus student groups in any type of activity.</td>
<td>Might work well with students on placement, or part-time students in professional contexts.</td>
<td>Similar to presentation from external input – remote input may need testing in advance.</td>
</tr>
</tbody>
</table>
Appendix: Examples

**Example 1: 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 as well as collaborative learning, and peer feedback.

**Example 2: Flipped Classroom in Managing in the Global Environment**

**Context:** A ‘flipped classroom’ model has been implemented in this Level 2 unit in the Management major of the Bachelor of Business. This has involved transitioning from a traditional 2 hour lecture/1 hour small tutorial model to weekly 2 hour large group tutorials (40-50 students) in collaborative learning spaces. The unit has, as a focus, the cultural diversity learning outcome/graduate attribute with a specific emphasis on Indigenous Australian culture. Online content has replaced face-to-face lectures that include textual, graphical and video resources and links to relevant online content /OERs. A lecture ‘vodcast’ frames work to be completed and introduces key concepts for each topic.

**Activity example:** Tutorial activities throughout the semester are based on collaborative work in culturally diverse teams, which are formed under guidance of the tutor who assists in establishing group norms and goals. The initial sequence of tutorials involves a variety of team-based activities designed to build effective team relations and skills, as well as provide opportunities for students to share their own cultural knowledge and experiences. The online content for each topic explicitly prepares students to participate in tutorial activities, which, in turn, progressively build the skills and knowledge required to complete the first individual assessment task. A number of online resources and in-class activities are provided to guide students in researching Indigenous Australian culture. This is then used along with each student’s own culture as the basis of the first assignment – a cultural comparison. Research on Indigenous Australian culture is completed collaboratively in teams and shared with the class. Prior to submission of the assignment, team members also complete a peer review of each other’s draft papers in class using the marking rubric to provide feedback. This feedback can then be used to improve and refine the work prior to submission for assessment. The second phase of the unit focuses on the same teams developing and delivering a presentation to the class on a specific scenario relevant to management practice in a global context. An audience response system, GoSoapBox, has recently been introduced to facilitate revision quizzes.
at the start of selected tutorials and also engage the class in commenting and posing questions to presenting groups on the content of their presentations. Peer moderation is used within groups to ensure accountability for the individual’s contribution to the development and delivery of the team presentation. At the end of the semester, students also write a personal reflective online journal entry on their experience of, and what they have learnt from, working in a culturally diverse team. The next step in the evolution of this unit is to adopt more strictly the team-based learning method and further embed available educational technology to facilitate collaborative learning in the 1PSQ learning spaces.

**Pedagogical features:** Flipped classroom, student-centred learning, active learning, collaborative learning, team-based learning, constructive alignment, peer review, technology-enabled learning

**Example 3: 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 enable them 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 but NOT Wikipedia, and 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 it. 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 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 use a range 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 4: Strategic communication in Sport - crisis communication**

**Context:** this is an undergraduate unit within the Sport Management program. It has traditionally been delivered via lectures and tutorials but this delivery has recently been supplemented with online content based on a series of iBooks and engaged activities with industry partners. The unit aims to provide students with the skills that are necessary for the successful development and execution of a sports organisation’s communication strategy.

**Activity example:** before this class, students will be provided with an iBook providing details on how to communicate with the media, including in times of crises (created by the unit coordinator and
published on iTunes). The tutor and class will, first, recap the key points regarding crisis communication. The students will subsequently take part in a role play where they take on the role of media officers for a sporting club. Using Zoom an industry partner will virtually join the class and will present a (fictional) crisis faced by their sporting club. The partner will be able to answer any questions that the media officers (students) have and will then task the students with developing a response plan for the crisis. Working around the group tables students will have an hour to develop their recommended response to the problem. During this time the tutor will facilitate each group, offering guidance and advice when needed and groups will be able to brainstorm using computers and their own laptops and tablets. At the end of the hour the industry partner will re-join the class (again via Zoom) and students will present their response plans, using the video conferencing capabilities of the room. Feedback will be provided by the partner on the suitability of each plan and they will nominate the best plan. Students will also be able to use in-class voting to identify their favourite response plan. To complete the learning process the session will conclude with a reflective discussion of the activity, with the tutor and students able to share elements of their brainstorming and planning using the room’s inbuilt camera system and wireless screen sharing capabilities (Solstice).

**Pedagogical features:** Flipped classroom, Simulation, Active learning, Role-play, Authentic activity design

**Example 5: 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. (See YouTube video.)

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

**Pedagogical features:** flipped classroom, fieldwork, community engagement, professional skills.

**Example 6: 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 cultures 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, 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 listing 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 7: 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 implemented in the main campus-based autumn and spring semester mode. Students attend 4 x 2 hour tutorials during the semester only, which gives them time between tutorials for preparation and working on the tutorial outputs. This time 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 in class, and then time to engage pre- and post-class.

**Activity:** 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 engage in group work to compare their workbook responses, work on associated problems and issues and contribute responses to the class. Individually, they use this work to compile a learning journal that 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. Groups can access different web resources / videos and other stimulus materials to come up with varying 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 8: Bachelor of Communication hybrid course**

**Context:** This program is offered in a mode in which campus and fully online students can study together, with the same digital resources, activities and assessments. Instead of one hour lectures, there are usually 3 or 4 lecture pods – produced to a consistently high quality with support from the School of Humanities & Communication Arts blended learning team. Off-campus students have a weekly virtual tutorial, covering the same material as the on-campus students. The mode of teaching and interaction in the virtual tutorial achieves social, cognitive and learning presence in different ways to the face-to-face mode. Off-campus student’s use Zoom for weekly virtual tutorials and also may be invited to log on using Zoom to link into some of the face-to-face classroom sessions, as detailed in the unit learning guide. (See YouTube video about the course.)

**Activity example:** One of the sessions open for online participation is in a first year unit on advertising. In preparation, students will have viewed two lecture pods on selection of advertising media. They have also been asked to find at least one example of their own that illustrates concepts outlined in the lecture pods and to post it in response to questions on vUWS. The tutor is able to look at these before the class and select some for discussion (present and discuss). The tutor might choose an example contributed by one of the fully online students. Those students who are not physically present would have the option of attending this classroom session via Zoom (by prior arrangement) – to comment or ask questions as part of a whole-class discussion moderated by the tutor (remote collaboration).

**Pedagogical features:** student-centred active learning, progressive learning as students become increasingly independent, linking theory and practice.
Example 9: Investment planning interview

**Context:** This is a postgraduate unit in Investment Planning, mostly taken by part-time students. Students work on a real life case study throughout the semester. Assessment is via a written assignment – a statement of advice with recommendations to meet the client’s goals and objectives, and also by a recorded interview role play based on the written work, in which the student advises someone playing the client role. A few students are studying fully online from remote locations, but the majority is able to attend one or two classroom sessions in Sydney. One of the classroom sessions is to prepare the recorded interview component of the assessment.

**Activity example:** A week before the class, students will have prepared and submitted a written statement of advice, which the tutor will have reviewed. In class, students role play in groups of three (*group work*) and a small number of remote students can also take part (*remote collaboration*). Each student acts as the financial adviser for their own case study, showing prepared information on screen as needed, with a second student playing the role of the client. The adviser is expected to explain to the client the reasons for the advice being given and justify the advice. In addition, the adviser must be prepared to answer, on the spot, any questions the client asks. These questions are given without notice so as to mimic the real life scenario that an adviser would face with a client. The third student observes and records the interview (video or audio only, using a phone, tablet or laptop). The group of three then goes through the recording to review (using a checklist or rubric) how key requirements were met during the interview. There is time allowed for a repeat recording, and each student then uploads their best recorded interview for marking and feedback from the tutor.

**Pedagogical features:** case study, role-play, experiential learning, peer learning, authentic learning.

Example 10: 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 about their plans to the rest of the class, at some point during the workshop (*present and discuss*). Each team will make a 3-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.