Active Learning at UTS

> Learning is not a spectator sport. Students do not learn much just sitting in classes listening to teachers, memorizing and spitting out answers. They must talk about what they are learning, write reflectively about it, relate it to past experiences, and apply it to their daily lives. They must make what they learn part of themselves (Chickering & Gamson 1987).

Active learning has been widely recognised as best practice in learning and teaching for many years (Prince 2004; UNCCFE 2009; Millis 2012). The higher education literature clearly argues that active learning is critical. It promotes deep rather than surface approaches to learning and inspires students to take control of their own learning. Active learning is encouraged by the use of collaborative spaces which allow increased interaction and active engagement with, and between, students (HEA 2008).

UTS values practice-oriented and research-inspired learning that is situated in a global context (UTS Model of Learning) and active learning approaches and strategies are critical to our students' experiences. A framework for students' active engagement in all aspects of their 'learning journey' is also part of the **learning.futures** strategy. This cycle of active learning starts with students' own goals and engagement with ideas through open education resources, podcasts, other e-learning resources and books. Then students come on campus to make sense of, and test, their ideas through activities that are designed to help them to consolidate and build on their understanding to create meaning. Getting feedback on their actions from tutors or from peers is critical and enables students to reflect on what they understand and are able to do, and therefore how to continue to develop their knowledge, skills and understanding (Alexander 2013).

This short guide is for staff who are considering subject design, subject review and peer review as part of **learning.futures**. It covers taking an active learning approach to subject design and developing learning experiences and activities that will engage students in their learning on campus.

This guide outlines some different types of active learning, suggests strategies and provides a UTS example, with additional resources listed at the end. Other short guides are available specifically for collaborative learning and flipped learning.

Whole of subject active learning approaches include:

- **Research-oriented learning – Healey & Jenkins (2009) outline three ways for actively involving students in research. Students engage in active discussion and critique of research. Students learn to apply disciplinary research skills or students actively undertake research and inquiry. In research-oriented learning designs, fieldwork can provide students with opportunities to grapple with applying theory to practice.**
- **Problem-based learning – frames students' self-directed activities (usually collaborative) around relevant problems that provide a framework for their exploration and problem solving (Prince 2004).**
- **Inquiry-oriented learning – 'is a student-centred, activity-intensive, approach to learning… aimed at placing students at the core of their own learning; engaging and stimulating both learning outcomes and student self belief' (IOLIS 2012).**
- **Case-based learning – goes beyond providing some case-focused activities in classes to basing a whole subject, or series of subjects, around a complex and evolving case.**
- **Team-based learning – see IML learning.futures Collaborative Learning Guide.**
- **Project-based work – is self-evidently active (HEA 2008).**

What exactly is active learning?

> Active learning means students engaging with the material, participating in the class, as well as collaborating with each other. Don't expect your students simply to listen and memorize; instead, have them help demonstrate a process, analyse an argument, or apply a concept to a real-world situation. (Stanford Teaching Commons).

Active learning focuses us on what students themselves are 'doing' and 'thinking' in class. The essence of active learning is students' actions and engagement in their own learning.

An active learning approach to developing or reviewing a subject means that we provide multiple opportunities for students to actively engage with material and build their knowledge and practice skills throughout a subject. This can include meaningful pre-class preparation activities, online interactions and active review and reflection by students about their learning, along with the design of assessment activities that engage students.

Examples of active learning

> They might do a laboratory experiment or they might make a model in architecture. They might design something, some kind of activity that helps them link the theory and practice…they might go out to industry and undertake a work-based learning project or an internship or a cadetship (Alexander 2013).

Active preparation for learning using resources

Preparing for on-campus learning could include: engaging with podcasts, online material, pre-readings and text books; accessing online tutorials, screencasts, YouTube and Open Education Resources; finding peer-reviewed journals, books and digital resources from libraries; undertaking research or group work; exploring social media and preparing for assignment tasks.

Active on-campus in-class learning

High-quality interactive learning experiences that make use of the content that students have already engaged with. This could include: primarily collaborative learning activities; inquiry-based learning; research labs and studios; supplemented by some lectures or guest presentations.

Active online and off-campus learning

The best online learning and off-campus experiences may include: UTSOnline engagement in 'transition to study weeks', participation in UTSOnline activities before classes; preparing assignments; studying for exams; as well as undertaking 'real life' experiences such as work placements, community projects and competitions. (Adapted from UTS Website 2015, New Approaches)

Active learning can also be designed into lectures, for example, by using electronic tools like clickers to gather and discuss individual question responses (HEA 2008).

Active learning approaches can be thought of as being on a continuum that runs from large-scale, comprehensive approaches to all aspects of learning (see the side bar on this page) to smaller activities that can be incorporated in many different classes, such as in the strategies and resources sections at end of this guide.

Strategies for active learning in classes

Active learning in small class settings changes across disciplines. In the Sciences it tends to be based on problem solving, whereas in Arts-based disciplines it often revolves around group discussion. Involving students by creating a good group atmosphere and ground rules at the beginning of a session, as well as discussing your expectations about preparation and participation with students are important for helping to encourage students to participate more effectively. Simple but effective 'Classroom Assessment Techniques' (Cross & Angelo 1988) can help students to engage with materials and discussions as well as provide valuable feedback (UNCCFE 2009).

Understanding Complex Concepts Through Peer-Generated Resources

SOPHIE RILEY, FACULTY OF LAW

Sophie Riley invites Law students to demystify legal concepts by creating online learning materials for themselves and their peers.

The Faculty of Law has a long-established practice of requiring students to do specific preparation for classes and familiarise themselves with legal concepts before they come to class. Going on to develop their own online materials actively involves students in their joint learning process. Online resources are a format students can relate to and this type of activity also gives them the opportunity to explain principles and concepts for the benefit of their peers – something they will often be required to do in practice.

Sophie's students create electronic materials themselves and have the responsibility for sourcing, understanding and analysing information for learning materials. This student-led learning approach allows students to hone their communication skills for diverse audiences and situations; and to consolidate their own understanding of concepts.

Writing up explanatory material for their peers deepens students' understanding and leaves more time for higher quality in-class discussion. This task asks each student to produce learning activities and materials by:

- analysing the legal reasoning and facts for a case study
- developing a related short video clip/other learning resources.

As students complete their materials, they send them electronically to Sophie for review and upload onto UTSOnline. Accumulated over time, these materials produced 'by students for students' create an online library of resources.

A recent extension of this activity has been for students to collaboratively review and collate case summary resources into a casebook for publication (electronic and print). This means Sophie's students will also have 'the opportunity for their work to be in the public domain' (Riley in Brediceanu 2015). So as well as engaging in a practice-oriented project they will soon have published evidence of their student-generated learning.

(Adapted from: UTS **learning.futures** Case Studies 2013 & Brediceanu 2015)

There are also many structured ways to design activities for actively involving students in all types of classes. Strategies to consider include the following:

- individual work – reading a case study, working on a problem, reflection, writing
- one minute paper – asks students to write for 2–3 minutes in response to a question
- case studies – usually industry or practice based
- short quizzes – for example 3–5 multiple-choice questions or 1–2 short answers
- brainstorming – a process of seeking ideas and input on a topic
- poster sessions – students briefly talk to their poster, read each other's, then discuss
- debates – class groups debating different views on a topic
- simulations, role-plays or games
- using UTSOnline for student-to-student interaction, role-playing or case studies.

There are many other strategies and activities in the Resources and References.

References

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ADDITIONAL RESOURCES

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FURTHER INFORMATION: http://www.uts.edu.au/research-and-teaching/teaching-and-learning/learningfutures/

IML welcomes feedback, suggestions and contributions to the IML **learning.futures** Series.