**STATION A: Active learning in design**

Engaging students through active learning

“Bonwell and Eison defined strategies that promote active learning as “instructional activities involving students in **doing things** and **thinking about what they are doing**” (Bonwell and Eison, 1991).” <https://cft.vanderbilt.edu/active-learning/>

Active learning through being active (Doing things)

* We learn from each other and by sharing our knowledge and skills. By creating spaces where our students can share their skills and knowledge, we create spaces where they can be active in generating new ideas and understandings.
  + How do we create spaces and activities that engage students and let them generate new ideas?

Active learning through social construction (Doing things with each other)

* Social construction posits that we create new knowledge and understanding through interaction with others, and building on our shared understanding of a concept, process or thing. By interacting with others around a concept, we gain different perspectives on that idea and help each other to understand our shared perspectives.
  + How can we foster social construction in our classrooms?

Active learning through intrinsic motivation (Thinking about what they doing)

* One element of active learning is that students are engaged in their learning because they understand where their activities are taking them. In other words, they are able to see why they are doing a particular activity, and how that activity relates to their learning at various levels.
  + How can we help students to understand how their learning is connected – from in-class activities, to the readings and content, to the assessments, to the unit outcomes, and course outcomes?

Resources:

* Community of Inquiry: <https://coi.athabascau.ca/coi-model/>
* The Flipped Curriculum: <http://flipcurric.edu.au/about-143/overview-of-the-six-keys>
* Active Learning: <https://cft.vanderbilt.edu/active-learning/>
* Collaborative learning: <http://web.stanford.edu/dept/CTL/Newsletter/cooperative.pdf>
* Bonwell, C. C., and Eison, J.A. (1991). *Active learning: creating excitement in the classroom*. ASH#-ERIC Higher Education Report No. 1, Washington, D.C.: The George Washington University, School of Education and Human Development.

**STATION B: Active learning in action**

**Active learning strategy at a glance**

**Collaborative learning**

Consider the following list of elements when developing a team activity:

* Does the activity consist of more than just question and answer?
* Is it content-focused?
* Does it require learners to respond to each other and build on each other's thoughts?
* Does it require team members to demonstrate critical thinking?
* Is the team required to produce a synthesised response or end product?
* Are team members held individually accountable for their contributions to the discussion or project?

Collaborative learning is an important component of active learning and can take place in face-to-face or online settings.

The Community of Inquiry framework explains how students can collaborate in purposeful critical discourse and reflection to construct personal meaning and confirm mutual understanding. An educational community of inquiry has key aspects of social presence, cognitive presence and teaching presence.

**Case based learning**

Case studies are have long been used in business schools, law schools, medical schools and the social sciences, but they can be used in any discipline when instructors want students to explore how what they have learned applies to real world situations.

Using case studies in teaching can provide opportunities for deep learning, as they:

* allow the application of theoretical concepts to be demonstrated, thus bridging the gap between theory and practice,
* encourage active learning,
* provides opportunities for the development of key skills such as communication, group working and problem solving.
* increase students' enjoyment of the topic and hence their desire to learn.

**Enquiry Based Learning**

*What challenges do you currently face in your teaching? Is there a particular ability that you have always wanted your students to develop more fully? (Khan and O’Rourke, 2005)*

Enquiry based learning describes approaches to learning that are based on a process of enquiry, study and research in which students:

* take on more responsibility for identifying precisely what they need to learn and finding resources which will allow them to the gaps in their knowledge
* can begin in first year and progressively develop their research skills as self-directed learners
* learn to identify and find answers to the questions that they need to ask and the resources that they need to draw upon in solving any given complex (often real world problems).

**Phenomenon based learning**

Phenomenon-based learning does not include a strict set of rules, but rather comprises a combination of beliefs and best practices, supported by ongoing research. In this approach, a classroom observes a real-life scenario or phenomenon — such as a current event or situation present in the student’s world — and analyses it through an interdisciplinary approach. An essential part of the process is that it is a student-led investigation, with students playing a primary role in identifying the gaps in their knowledge that they want to fill.

**Problem-based learning**

*‘The evidence suggests that PBL is an instructional approach that offers the potential to help students develop flexible understanding and lifelong learning skills.’*

Problem-based learning (also known as 'PBL') uses authentic, loosely structured problems for students to solve. Students receive guidance, but not answers, from facilitators and assessment is based on student performance.

The term 'PBL' is used for different active learning pedagogies—problem-based learning and project based learning. Both strategies can be included as enquiry-based learning but differ in their application: problem based learning focuses on the problem and the process while project based learning focuses on the product.

**Project Based Learning**

*Project-based learning ... gives students the opportunity to gain a deep understanding of concepts and potentially allows them to solve the society’s problems.*

Project based learning (also known as PBL) involves deep learning, as it focusses on real world problems and challenges and relies on problem solving, decision making and investigative skills.

Among the activities that contribute to the success of project based learning are:

* effective goal setting
* teaching student project management skills
* effective project consultation and monitoring
* effective feedback. (Garrison, 1999)

Project based learning begins with the end product or presentation in mind that requires learning specific knowledge and concepts, thus creating a context and reason to learn and understand the information and concepts.

Characteristics of project based learning include:

* Organised around an open-ended question or challenge.
* Creates a need to know essential content and skills.
* Requires inquiry to learn and/or create something new.
* Requires critical thinking, problem solving, collaboration and various forms of communication.
* Allows some degree of student voice and choice.
* Incorporates feedback and revision.
* Results in a publicly presented product or performance.

**Active learning teaching technique at a glance**

* Active Learning: 101 Strategies to Teach Any Subject

<http://www.usf.edu/atle/documents/handout-interactive-techniques.pdf>

* Barkley, E.F., Cross, K.P., & Major, C.H. (2005). *Collaborative Learning Techniques: A Handbook for College Faculty*. San Francisco: Jossey-Bass.

**The role of technology**

The growing accessibility and sophistication of educational technologies opens up increasing possibilities for students to explore, share and create content. Technology can support flipped classrooms through the following affordances:

* **Capture content** for students to access at their own convenience and to suit their pace of learning (e.g. lecture material, readings, interactive multimedia),
* **Curate content** for students to gather their own resources.
* **Present learning materials** in a variety of formats to suit different learner styles and multimodal learning (e.g. text, videos, audio, multimedia),
* **Provide opportunities** for discourse and interaction in and out of class (e.g. polling tools, discussion tools, content creation tools),
* **Convey timely information**, updates and reminders for students (e.g micro-blogging, announcement tools),
* **Provide immediate and anonymous feedback** for teachers and students (e.g. quizzes, polls) to signal revision points,
* **Capture data** about students to analyse their progress and identify ‘at risk’ students (e.g. analytics).

Resources:

* <http://www.uq.edu.au/teach/flipped-classroom/active-learning.html>
* <https://www.noodle.com/articles/phenomenon-based-learning-what-is-pbl>