How Might We:

Implement active learning approaches into our teaching?

Contents

Overview

What the framework aims to achieve

This guide explains what active learning is and how you can apply its principles to your teaching.

What is active learning?

Active learning considers the process of learning. It emphasises what students **do** to learn and how they **think** about what they do.

It is often contrasted against passive approaches to learning, which model the learning process as simply a transmission of knowledge. In active learning, learners are **active participants in the learning process**, not recipients awaiting information.

What does active learning look like?

Examples of active learning include students asking and answering questions during a lecture, collaborative projects with groups of students, reflections on work placements, written assessments and analysis, and laboratory experimentation.

If you are thinking about the **experience**, you want your students to learn through, you are taking an active learning approach.

Background

Active learning is not a new term and studies have been generating evidence that active learning approaches help students learn more effectively than transmission approaches since the late 1970's. The theoretical basis for active learning has roots in constructivist learning and social constructivism.

Find out more in about these terms in the **Pedagogy and learning theories Sway**.

Beyond the theory, studies have shown active learning provides valuable opportunities for all students to learn more deeply and develop relevant skills and expertise, as well as fostering interactions with peers (Freeman et al., 2014; Prince et al., 2004; Eddy & Hogan, 2014; Haak et al., 2011; Theobald et al., 2020).

Student voice

Done well, active learning is highly engaging, and it can enhance both inclusion and sense of belonging through promoting participation of all students. There is a wealth of empirical evidence over the last 30 years that it increases attainment and reduces non-continuation compared to didactic methods, and does so across disciplines (Freeman et al., 2014, Prince 2004,). This applies both when it is used as an alternative to didactic lectures and also as an enhancement within them.

There is also evidence that active learning can be highly inclusive and enhance sense of belonging, because it promotes participation of all students and interaction, and there is evidence that it can reduce awarding gaps whilst also enhancing outcomes for the majority (Lorenzo et al.,2006, Haak et al., 2011).

Benefits to employability where learning activities supported by feedback model projects or support the development of skills required in the workplace.

Here is a video that describes **what active learning means to our students**.

How might we...

Practitioner-based tips

How can you implement active learning approaches in your teaching? Chances are you already are or have at least experienced some active learning approaches. Below are a selection of examples ranging from quick to implement to ones tate require longer term design and planning of a module.

Quick to implement in lectures and classes

- **Polls and quizzes:** polls or quizzes can quickly gauge how students are feeling about a topic or test their understanding. They can also be used for students to share their views or experiences for further discussion, such as their current knowledge on a topic or opinion on an issue.

- **Pair and share:** give students a discussion prompt or problem to work on in pairs to then share back with the rest of the class – this could be a problem-solving exercise, a brief critical analysis, or creative piece.

- **Group discussion:** stage your session into phases with different discussion topics that apply what you have already covered, you can pose questions to students that extend the ideas covered in the session so far ('If so... then what...', 'How would this work...', 'What about...') Independent learning activities

- **Search and research:** provide guidance for students to research a topic or problem for further analysis in class – asking students to share examples from their own context can be an ideal way of helping to create a sense of belonging, for instance, sharing the impact of

climate change on their home country or a business problem in an industry relevant to their career

- **Portfolio:** support students to produce a record of their ongoing learning, include highlight or capstone activities that demonstrate key employability skills in your discipline – PebblePad is an ideal tool for this.

Collaborative learning activities

- **Problem-based learning:** provide students with a key issue or problem related to the subject matter, such as a brief to develop a computer programme or research assignment to understand peoples' experiences. Assign students to collaborate on solving this problem, stage this activity over the course of several weeks with regular opportunities to provide feedback

- **Role-play activities:** assign students different roles in a simulated learning activity, such as a COP debate on climate change or differing roles to develop a business strategy. Ask students to present and share their findings with their peers.

Connecting these activities to the wider learning journey

A learning journey is a key concept in learning experience design. A journey is what binds these different activities together into a cohesive whole.

Think how these different activities could build on one another – and ideally build towards assessed work – outputs from one activity can then form the basis of another. For instance, students could apply what they have learnt through core readings to complete a case study analysis of a topic of their choosing. They could then collaborate with other students to discuss their findings to develop and improve their analysis. Finally, they could then apply these skills to a fresh topic to discover key differences of approach and continue to extend their learning. How could these outputs be recorded in a portfolio?

This is the very beginnings of an active learning design.

More information

Many institutions and organisation have tackled the question 'what is active learning?' producing a rich array of resources and linkages with scholarship and research. Here is a selection:

What is Active Learning? Queen's University

Getting started with Active Learning, Cambridge University Press

Active Learning, Centre for Educational Innovation, University of Minnesota

Active Learning, Leicester Learning Institute, University of Leicester

Active Learning, Vanderbilt University

Active Learning, University College London

References

Ambrose, S.A., Bridges, M.W., DiPietro, M., Lovett, M.C., Norman, M.K., and Mayer, R.E. 2010. How learning works: seven research-based principles for smart teaching. San Francisco: Jossey-Bass

Austin, Diane and Mescia, Nadine D. 2004. Strategies to Incorporate Active Learning into Online Teaching. March, 4.

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.

Freeman, S., Eddy, S.L., McDonough, M., Smith, M.K., Okoroafor, N., Jordt, H., and Wenderoth, M.P. 2014. Active learning increases student performance in science, engineering, and mathematics. Proceedings of the National Academy of Sciences USA. 111(23), pp.8410-8415.

Haak, D.C., Hille Ris Lambers, J., Pitre, E., and Freeman, S. 2011. Increased structure and active learning reduce the achievement gap in introductory biology. Science. 332(6034), pp.1213–1216.

Prince, M. (2004). Does active learning work? A review of the research. Journal of Engineering Education. 93(3), pp.223-231.

Theobald, E. J., Hill, M. J., Tran, E., Agrawal, S., Arroyo, E. N., Behling, S., ... & Freeman, S. (2020). Active learning narrows achievement gaps for underrepresented students in undergraduate science, technology, engineering, and math. Proceedings of the National Academy of Sciences, 117(12), 6476-6483.