Powerful Design: Active learning for deep understanding

Active learning goes beyond recall to deeply engaging and interacting with knowledge. It involves students undertaking activities, and thinking about what they are doing, how they are doing it, and the outcomes of their actions and thoughts. It also involves students interacting deeply with ideas through examining, questioning, interpreting, reformulating, and making connections (Biggs & Tang, 2007; Crawford, Saul, & Mathews, 2005; Vardi, 2013).

Why

Active learning is particularly powerful when students express their thoughts. This expression can be verbal (e.g., presentations, discussion), written (e.g., notes, dot points), visual (e.g., pictures, diagrams, photos), and/or auditory (e.g., music). Expressing one’s thought processes and understandings makes learning visible to others (Hattie, 2009). This visibility allows teachers and peers to impact even further on the learning by questioning, prompting, disagreeing, correcting, and adding to the intellectual exchange. When active learning is designed in a purposeful, well organised manner, it can improve depth of understanding, learning, achievement, and success.

How

Plan each lesson, whether a tutorial, laboratory session, Blackboard Collaborate session, or study guide lesson, in four phases: Activate, build and extend, consolidate, and determine future needs (modified from Crawford et al., 2005). Each phase contains one or more activities with a clear purpose. Remember to incorporate the need to express student thinking in each activity.

Phase 1: Activate

Design an activity that quickly and effectively activates what the students already know, identifies their current level of understanding, focuses their attention, and provides a context for the next phase of the lesson.

Examples of activities that can do this include:

- multiple-choice problems based on the pre-readings and/or the lecture that students view together in class, vote on the answer, rationalise their choice to their peer, and then vote on again
- short revision questions for small groups to discuss and produce a mind map or list of key points for the class to consider
- brainstorming real-life examples to exemplify concepts from readings, lecture, or past lesson
- small-group discussions in which students list the key ideas, causes, or relevancies arising from a case study exercise.

Design the activity for this phase to be completed in 15 minutes or less.

Phase 2: Build and extend

Use this phase to design activities that extend and deepen student understandings using higher order thinking skills such as analysing, evaluating, rationalising, and problem solving. Aim for these activities to form the main part of your lesson.

Examples of activities that can do this include:

- simulation activities with an explanation of the outcomes, the implications for practice, and that link to or make comparisons with the readings
- role-play activities with an analysis of the role play and implications
- case-study analysis in a small group with the identification of pros and cons, strengths and weaknesses, implications for practice, and comparisons with best practice from the literature
• small-group problem-solving exercise with rationalisation of solutions
• experiments with reporting of results and implications.

Phase 3: Consolidate
Plan activities for this shorter phase that draws together the key ideas from the lesson and share the student responses and opinions to these. Design an activity that can be completed in five to ten minutes.

Examples of activities that can do this include:
• students providing short and sharp reflections to summarise main ideas and then discuss with a peer
• brainstorming the lessons learnt from the previous activity or session.

Phase 4: Determine future needs
Plan a brief activity for this short and final two to three minute phase of your lesson. Ensure the activity links to the assessment structure and the next lesson, and provides information to teaching staff on the students’ future learning needs.

Examples of activities that can do this include:
• post-it notes or discussion board posts of what the student has found confusing or difficult that are completed at the end of the lesson or on leaving the class
• students each writing three short quiz questions from the lesson for the teacher to use in the next lesson
• students writing a question or comment for the teacher on the lesson to hand in at the end of class.

In summary
You can create activities for each of these four phases for all modes of delivery: Face-to-face, online lessons, and written materials and guides. By planning a clear and purposeful sequence of learning activities from one phase to the next, you will have designed a powerful method of teaching in your unit that will enable growth and depth of your students’ skills and understandings.

Find out more

