UNIVERSITY OF PLYMOUTH

7 Steps to:
Active Learning in online environments

Overview

It is well-established that learning is at its best when it is designed around activities that engage students in a series of learning processes (Biggs and Tang, 2007; Hunt and Chalmers). This active learning approach is supported by two core stands of research: the first relates to neuro-processing mechanisms (Guy and Byrne, 2013); and the second to the notion of learning as a socially constructed activity (Burr, 2003).

As Guy and Byrne (2013:14) explain, learning is concerned with the formation of associations between concepts and the long-term storage of these ideas. To push knowledge into long-term memory learners must engage the processing power of the short-term, working memory to make connections between facts, creating neural networks and a semantic framework of ideas. This is achieved most effectively when critical thought, abstract reasoning, metacognition and frequent recall are employed (ibid). Passive acquisition such as reading and listening or watching vodcasts must therefore be coupled with tasks which stimulate the processing power of the working memory to support effective learning.

Pedagogic research also makes a case for active learning, founded on the notion that knowledge is socially constructed through the process of negotiating meanings with others (Burr, 2003). This negotiation may be with a more knowledgeable other (MKO) such as a course tutor or academic (Vygotsky, 1978), or with peers. Academics are encouraged to design a curriculum that makes learning a social activity whereby students test, develop and frame their understanding by engaging in dialogue and peer learning (Boud, 2001).

1. Kick start supportive and engaging learning communities

Active learning does not happen by itself, particularly in the online environment. You need to create social presence, teacher presence and cognitive presence (Rourke, 1999). Facilitate ice-breaker activities so that students begin to form relationships and feel comfortable with the idea of learning together (McCabe, 2016). Start with topic focused, low-stakes tasks. The low-stakes give students the confidence to participate and the disciplinary focus offers an easy way into your subject. Example 1 *'You live in a coastal village. There are two green energy proposals, one for off-shore wind turbines, the other for solar panels. Both will impact on the village. Come to a consensus and explain which you will approve and why'*. Example 2 *'Draw and annotate a diagram of the necessary contributors to game design.'* Example 3 *'In preparation for this course you attended a festival of your choice. Tell us two key things you learned from the experience. Discuss in groups and feedback.'*

2. Design meaningful activities and e-tivities

Draw on the principles of constructive alignment (Biggs and Tang, 2007) ensuring that the Learning Outcomes (LOs) drive the design of the e-tivities (Salmon, 2013), and that these activities help the student to progress towards the assessment of the module. Make the links between the tasks and the LOs transparent and encourage the students to be strategic and maximise the potential of each task to meet their own learning goals. Do not waste time designing resources that are not directly relevant.

Learning Outcomes
What learners should know and be able to do
→ ←
Activities & e-tivities
How learners will learn
→ ←
Assessment
How learning will be measured

3. Scaffold activities/e-tivities with clear guidance

'Less is more' particularly in the online environment where people typically scan rather than deep read (Liu, 2005). Design a straightforward structure for the course – if this is replicated across a whole programme it becomes easier to navigate (Swan, 2001). Provide easy, clear instructions up front on an uncluttered screen. Guide students to the more detailed resources within one or two clicks. Set dates by which each activity must be completed. This helps to 'chunk' the course (Gobet, 2001), set goals and enable the students to progress and prepare so that they can participate fully in the synchronous activities.

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4. Use a core repertoire of online learning tools

There are many learning tools available, some supported by your institution and others that are not. The 'tech-savvy' academic may be tempted to try them all. However Kirschner and Bruyckere (2017) remind us that the 'digital native' – a young generation of tech'-savy people who are able to navigate their way around new technologies and software unaided – is a myth! Evidence demonstrates that most individuals learn a limited number of technologies, relevant to their daily needs or desires, often with support from peers. This suggests that limiting the number of e-learning tools we use may, counterintuitively, increase levels of engagement and student satisfaction (Swan, 2001). Check out the training available online and via your institution to help you enhance your skills in the development of e-learning resources for your programme.

5. Bite-size and release options

'Chunking' is one of the key mechanisms of human cognition. This process of breaking big topics into bite-size pieces helps our short-term working memory deal with information and develop neural networks to frame our learning (Gobet, 2001). The advice therefore is to make bite-size resources (Gray 2015), where vodcasts, videos and podcasts are limited 6-12 minutes and coupled with questions or note-making to promote active learning. Many courses may publish their full set of resources up front so that students can work on it asynchronously at their own pace. Alternatively, you can set up task release and completion dates to encourage the habit of learning, facilitate regular involvement, and emphasise the priority of participation (Gray, 2015). Give an indicator of the time each task/activity is expected to take. This enables the student to apportion their time and set their own mini-achievement goals.

6. Set expectations from the start

Remember tone is doubly important in the online environment where many non-verbal cues are lost (Haythornthwaite, 2006). Subtly reduce authoritative instructions e.g. 'all sessions will start promptly. Don't be late.' by employing an invitational tone, 'try logging in a couple of minutes early to ensure your tech is working and we'll start on time.' Demonstrate expectations through your facilitation. For example, if you begin with a well-managed short task in which you interact with groups and they feedback to the class, students will quickly understand that the course is interactive and they are expected to contribute and engage in cooperative, peer learning.

7. Give feedback and structure tutor engagement

For active learning to be a success it must include interaction between the course tutors and the students (Song, 2004). Be strategic about your level of input in the online environment and manage student expectations. Try to reach as many students as possible and focus the pathways of communication for each module, thus ensuring that you have a social presence (GSC, no date) that is visible to the whole student cohort. For example: use discussion boards and check in on a regular but time-limited basis; develop FAQs sections for general queries and responses; offer general feedback and assessment tips via a vodcast. These approaches ensure that all students have access to the same level of information thus making these interactions equitable and accessible (Salmon, 2013). This approach will also reduce email traffic and ensure that one-to-one communication is used primarily for individual pastoral support.