

Poster title: Fostering metacognition in higher education. Exploring how do we do it well?
 Wei-Lin Poh (w.poh@hw.ac.uk), Heriot Watt University Malaysia

“Am I doing this correctly?”, “I’m struggling because I don’t know what I don’t know or what I know”, “Did I do well in your class?” Do these student comments sound familiar? These are common questions I received from students that sometimes make students feel overwhelmed with university studies. This inspired this project to help students to be independent learners. One way to achieve this is to scaffold students to develop metacognition and self-regulation skills. According to literature, *Metacognition* is thinking about thinking (Flavell, 1976) or knowing one’s own knowledge and knowing how to strategize resources to navigate one’s own learning (regulation; Schraw and Moshman,1995). Self-regulated learning consists of *cognition* (thinking and problem solving), *metacognition* (planning, monitoring and evaluating own learning) and *motivation* (beliefs and self-efficacy in completing a task) Schraw et al. (2006; See Figure 2 in poster).

Our current practice in a psychology course (C99SG) to support students’ learning during remote online learning (a result of COVID-19, which we all wish to forget soon) is to design guidance and self-questions, on hindsight shared similarities with metacognition. In this project, we compared our practice and literature and explore ways to embed metacognition in higher education. From our literature review, Tanner (2012) best suited our comparison as it focused on higher education. Self-questions showed consistency and coherence, consists of planning (ability to strategize, predict or allocate appropriate resources to completing a task), monitoring (an awareness to own’s performance on a task, being able to periodically check or test oneself on an area of knowledge) and evaluating (ability to appraise the efficiency in one’s learning, identifying problems or issues in reaching a goal or conclusion). Below is a comprehensive table comparing class activities between current course and Tanner (2012) model.

Activity	Tanner (2012)	Current course
Class session	<i>Planning:</i> What are the goals of the class session going to be? <i>Monitoring:</i> What insights am I having as I experience this class session? What confusion? <i>Evaluation:</i> What was today’s class session about?	<i>Before lecture:</i> Blow up a balloon, reflect how this relates to personality <i>After lecture:</i> What do these terms mean to you?
Assignment/ homework	<i>Planning:</i> What is instructor’s goal in having me do this task? <i>Monitoring:</i> What strategies am I using that are working well or not working well to help me learn? <i>Evaluation:</i> To what extent did I successfully accomplish the goals of the task?	The nature of the questions consists of: E.g., Does the poster have a clear narrative? (<i>planning/monitoring</i>); Have I included all the relevant measures in the method? (<i>evaluative</i>)
Quiz/exam	<i>Planning:</i> How much time do I plan on studying? <i>Monitoring:</i> Which of my confusions have I clarified? <i>Evaluation:</i> What questions did I not answered correctly	The guide provides a summary of topics and information resources to supplement their understanding. There were no questions to prompt students to think about the course of exam
Overall course	<i>Planning:</i> What do I most want to learn in this course? <i>Monitoring:</i> In what ways is this teaching supportive in my learning? <i>Evaluation:</i> What advice would I give my friend about how to learn most from this course?	NA

Comparing practice with literature helped us identify points for improvement including providing consistency and structure to developing metacognition helps to keep students engaged. Creating a class culture for using metacognitive skills. Giving some space for reflection on their thinking, compare their understanding with the instructor’s and identify gaps of the own understanding of the topic. Explicit discussion on meta-cognition strategies in classroom helps students develop a language to talk about their own cognition and learning (Pintrich, 2002) and to attribute their successes to their own effort. As instructors, as we reflect and design the best programme and structure to scaffold students’ skills development, we should include students in this effort. This gives them a chance to develop an ownership of the own learning. Answering these metacognitive questions, allows students to understand course material, additionally, as a mirror for them to better understand their own learning styles and goals.