This paper argues the importance of developing students' metacognitive abilities and provides examples of how this can be undertaken using formative assessment. It is written in journal rather than academic style and is followed by a range of reader comments. Links to a series of videos designed to improve students’ study behaviours and to Mazur’s ‘ConcepTests’ – problems that can be used to challenge students to engage with lecture material – are also included in the ‘brief’.

Free subscriptions to The Chronicle can be requested on this page if you are interested in regular updates on Higher Education news and issues.


To link to this article: http://chronicle.com/article/MetacognitionStudent/130327/?sid=at&utm_source=at&utm_medium=en#top

Metacognition is the term used by cognitive psychologists “to describe our ability to assess our own skills, knowledge, or learning”.

Lang begins by attributing poor or cringe worthy performance in television talent shows to contestants’ ‘lousy’ metacognition (other than those whose poor performance is deliberately calculated to gain attention). He argues that an inability to judge levels of skill or knowledge characterises a number of students – especially those whose performance is weak. This can result in inaccurate and usually inflated confidence in their academic prowess.

Overconfidence in their metacognitive abilities causes students to go about their study ineffectively and to prematurely shorten the time they spend studying in the belief that they have mastered course material that they barely know.

The paper then introduces a resource developed by Stephen Chew, professor and chair of the psychology department at Samford University, whose work focuses specifically on the implications of cognitive research for learning and instruction. Chew’s series of videos (all five can be located at http://www.samford.edu/how-to-study/) are designed for students but will also be of interest to teachers wishing to develop students’ metacognitive skills and to encourage better study decisions.

Chew proposes formative assessment in the form of brief, low-stakes activities during teaching sessions as a way of boosting metacognition. His examples designed to give both students and teachers feedback about levels of understanding include the following sequence:

- students are presented with a multiple-choice question similar to ones that will be on the exam so that they are prepared to undertake them at a later date
students select their answers individually, and respond to a class poll (either using technology such as personal response system or ‘clickers’ or by ‘low-tech’ means such as raising hands or standing to indicate the option they have selected)

• they then discuss their answer with other students, after which they respond to the poll again

• answers are then discussed as a class which gives the teacher an idea of how well students understand the material and identifies problem areas still to be addressed.

The multiple choice questions used are based on Eric Mazur’s ConcepTests (more information can be found at http://serc.carleton.edu/introgeo/interactive/conctest.html) which can be used for formative purposes with quite large classes in traditional lecture theatres. Instead of lectures becoming the only form of teaching, it is possible to use approaches such as a 40-minute lecture, followed by a 10-minute formative-assessment activity. ConcepTests items elicit better feedback on student understanding than general invitations to ask questions at the end of a lecture as students frequently fail to respond to such invitations in the mistaken belief that they understood the lecture.

An even simpler strategy (from Thomas K. Angelo and K. Patricia Cross’ Classroom Assessment Techniques) is the ‘minute paper’ which requires students to note and submit answers to questions such as "What was the most important concept you learned in class today?" and "What concept did you find the most difficult or confusing?". A scan of these quickly identifies student misunderstandings or where they have missed the point of the lecture which allows the teacher to address highlighted areas at the beginning of the following lecture or tutorial.

A list of Chew’s recommended reading in this area is available at http://www.jamesmlang.com.

James M. Lang is an associate professor of English at Assumption College and author of "On Course: A Week-by-Week Guide to Your First Semester of College Teaching" (Harvard University Press, 2008). He writes about teaching in higher education. He welcomes reader mail directed to his attention at careers@chronicle.com.

This series of briefs on assessment topics has been prepared by the UQ Teaching and Educational Development Institute (TEDI) for UQ teaching academics. “UQ ASSESSMENT BRIEFS” of journal articles, book chapters, reviews, websites, reports etc are distributed to Faculty and School Teaching and Learning Chairs in a form designed to encourage wider distribution.

Please send feedback, requests or suggestions for future “UQ ASSESSMENT BRIEFS” to:

Dr Clair Hughes (clair.hughes@uq.edu.au)
Senior Lecturer in Higher Education
Teaching and Educational Development Institute (TEDI)
The University of Queensland, St Lucia Qld 4072
Telephone +61 7 336 52456
Facsimile +61 7 3365 1966