



Review for Session Topic: Raising students' meta-cognition (self- assessment) abilities

Commentary on:

Gardner-Medwin & Curtin "Certainty-Based Marking (CBM) for reflective learning and proper knowledge assessment

by

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As I tackle the seasonal pile of scripts to mark I am particularly receptive to papers on automated assessment systems. This one describes an interesting form of assessment which, while new to me, has a substantial pedigree of 10 years of use at more than one institution. Certainty Based Marking is an elaboration of true/false questions, but can also be used with multiple choice questions where students indicate the level of confidence they have in their choice of answer. The objective is to overcome the element of luck (cutting both ways) perceived by students and to promote self assessment and reflection in students revising material and preparing for exams. As well as picking an answer from various alternatives offered students must also rate their confidence in their choice by giving a confidence score, e.g. where a student is highly confident they give their choice a score of 3. If they are correct they are gain 3 marks but if wrong 6 marks are deducted. If the student has a low confidence then 1 mark is gained if the answer chosen is correct but none lost if wrong. A confidence level of 2 gains 2 marks if correct and loses 2 marks if not.

The paper reports favourable responses from students and that students find the method of testing transparent and easy. The CBM system is used at UCL for both formative and summative assessment initially for testing in maths, in order to help students identify their weak areas and to take more care, but mostly the system is used for formative tests and pre-exam revision. The CBM is web supported and can be carried out on the student's computer, there are help links also provided. At UCL the CBM is used for a substantial part of the year end testing and they report a very wide access made from outside the UCL.

The paper gives arguments to support objective questioning in general from the authors' experience, i.e. that they need not be limited to testing factual information, they may be more useful than essays or problems, that T/F questions are often best practice and that "don't know" options are not good.

There is a further section where more issues are discussed. While the system is bound to create interest in some students and provoke a greater involvement in the revision process there are some questions that might be useful to explore.

How is a pass mark set? True, the paper here has demonstrated an equivalence based upon a scaling between CBM and conventional testing this appears to be bourn out by experience but this appears to be based upon the % correct above chance and that this is based upon the confidence of the student. A lucky confident student may score well in a CBM test compared with an un-confident but knowledgeable student who would do better in a conventional test.

Might CBM contribute to stress levels among students? When used for summative assessment does the CBM appear more stressful for students? Most people will be familiar with dilemmas arising from well crafted multiple choice questions where the 2 last alternatives



are very close. With CBM there is the potential for a double jeopardy, not only might you fail to gain marks you might lose more unless you are timid in your confidence levels.

How can CBM assess reasoning if students are only reflecting on their reasoning instead of developing it? Many disciplines require the reasoning to be demonstrated in the assessment process, formative and summative. CBM encourages reflection and self awareness in students but high scores, and indeed low scores, may arise because the reasoning is faulty but the correct response is still selected, i.e. being right for the wrong reasons.

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