## IMPACT OF STUDENT APPROACHES TO LEARNING ON BOTH THEIR EXPERIENCE AND THEIR PERFORMANCE IN PROBLEM SOLVING WORKSHOP CLASSES: A PILOT STUDY

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## ABSTRACT

The generic aim of good teaching is to engage students and encourage them to adopt a deep approach to their learning (Biggs 1999). Whether a student employs a deep approach is however dependent upon the dynamic relationship between student factors (perceptions, attitudes, preferred approach to learning etc.) and the teaching context (content being taught, teaching and assessment methods etc.); both student and teacher are responsible for the learning outcomes (Biggs 1993a; Biggs 1993b). The learning focussed activities that students undertake form a critical element of this dynamic partnership and it has been argued that the mean measure of student approaches in a class (as measured using the R-SPQ-2F instrument) gives an indication of the quality of teaching in that class (Biggs, Kember & Leung 2001). The aim of this pilot study was to determine whether a particular teaching strategy (a block of traditional lectures followed by a block of problem solving workshops with a summative assessment task distributed at the conclusion of the series of workshops) encouraged a deep approach to student learning and correlated with performance on the summative task. In order to investigate this, students completed the R-SPQ-2F instrument and a number of Likert type questions pertaining to attitude and confidence after the block of lectures had been delivered but before the block of workshop sessions commenced. After the workshops, students completed a second set of Likert type questions relating to their attitude, confidence and engagement with the content encountered in the problem solving workshops. The outcomes from the R-SPQ-2F instrument were scored according to established methods (Biggs, Kember & Leung 2001; Hamm & Robertson, 2010) and matched to Likert responses (pre- and post-workshop) and performance on the summative assessment task (post-workshop). These results will be evaluated to determine whether this teaching strategy did encourage deep learning and whether the learning approaches of students correlated with their academic performance.

## REFERENCES

Biggs, J.B. (1993a). What do inventories of students' learning processes really measure? A theoretical review and clarification. *British Journal of Educational Psychology, 63*, 1–17.

Biggs, J. (1993b). From theory to practice: A cognitive systems approach. *Higher Education Research and Development, 12,* 73–86.

Biggs, J.B. (1999). Teaching for quality learning at university. Buckingham: Open University Press.

Biggs, J.B, Kember, D. & Leung, D.Y.P (2001). The revised two-factor Study Process Questionnaire: R-SPQ-2F. British Journal of Educational Psychology, 71, 133–149

Hamm, S. & Robertson, I. (2010). Preference for deep-surface learning: A vocational education case study suing a multimedia assessment activity. *Australian Journal of Educational Technology*, 26(7), 951-965.

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