

## **Online Assessment and Study Habits: Does it add up to better performance in quantitative modules?**

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### **Outline of Research**

There exists a tension between the numerical skills that employers want graduates to possess and the skills that graduates can demonstrate. Employers report that recent graduates lack sufficient numeracy and problem solving skills (UK Commission for Employability and Skills, 2009) despite the increased inclusion of quantitative tuition in HE courses (Advisory Committee on Mathematics Education, 2011).

It is recognised that students who follow a social science based programme find quantitative methods challenging (Murtonen, 2003; Mackenzie, 2006) and progression rates on first year quantitative modules within Kingston Business School support this argument. There are many studies which suggest that improving student engagement in the classroom leads to better academic performance, there are positive benefits of formative assessment on student learning achievement (Angus & Watson, 2009; Dobson, 2008) and that in general students are receptive to the use of online assessment methods (Dermo, 2009). The aim of this pilot study is to examine the potential impact of student engagement upon performance as evidenced by participation in a range of online formative and summative assessments.

A large-scale study by Angus and Watson (2009) determined that it is exposure to, rather than performance in, frequent online formative/low-grade summative assessment has a significant positive impact on end-of-module examination score. However, there are few which look at what extent the strength of previous or acquired study habits enhances this classroom engagement.

Study habits and attributes have been identified as an important non-cognitive variable that can predict students' academic performance although the exact relationship between them and academic performance is not as yet well understood or proven (Crede, 2008). Verplanken (2003) argued that it is not simply the frequency of behaviour that demonstrates habit but also the internalisation of that behaviour by the learners that is important.

However, there are reported issues with online formative and low-weighted summative assessment methods that stronger study habits may help address; including declining participation and performance as students work through the assessment programme (Henly, 2003), and the lower predisposition to participate in online assessments of academically weaker students (Henly, 2003; Angus & Watson, 2009).

## **Objectives**

1. To verify whether engagement, as evidenced by participation, rather than performance, in online formative and low-weighted summative assessment impacts upon module exam performance
2. To examine whether study habits are important in supporting this engagement.

## **Methodology**

This study utilises data about students' performance on a core first year Quantitative Methods module. Performance is measured by formative and summative assessment results and information about engagement, preferred learning style and existing study habits is gathered using a self-reporting questionnaire (Verplanken, 2003). Statistical tests are used as an initial measure to evaluate the strength of association between engagement, study habits, learning style and performance.

## **Outcomes**

Preliminary analysis suggests that exposure to the online formative assessment methods has a positive impact upon participation in online summative assessment methods. Furthermore, there is tentative evidence to suggest that participation in online summative assessment methods impacts upon exam performance. The impact of study habits is as yet to be determined.

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