Engaging with Assessments Improve Student Satisfaction and Performance

Muhammad Naveed
School of Computing and Engineering, University of West London

Introduction

Pedagogy expresses the contingent relationship between teaching and learning and teaching does not stand-alone. Pedagogical interventions provide teaching and learning strategies that are used to engage students in learning in order to improve their skills, knowledge and conceptual understanding. Pedagogical interventions should have a clear purpose of meeting well-defined needs to address a well-evidenced problem (James & Pollard, 2011). Examples of pedagogical interventions ranged from small changes in the way a module is delivered to larger interventions that become adopted as policy. Research suggests that students learning gain and achievement in higher education are enhanced when instructors actively engage students in learning rather than simply relying on lecturing (Buckley, 2013).

HESA figures reveal that engineering and technology students are the second most likely drop out of university. The low levels of student engagement is an issue that needs to be addressed given that engagement is a reliable predictor of higher grades and lower dropout rates (Fredricks, Blumenfeld, and Paris 2004). A pedagogical intervention "engaging with assessments" was thus designed for the Geology module in Civil and Environmental Engineering course and its impact was assessed on student engagement, satisfaction, and performance. We struck a balance between didactic teaching and student-centered activities. Student-centered activities were;

1. *For 10 weeks after every lecture, a 5-minute quiz was introduced and assessed.*
2. *Hands-on laboratory experiments were organized for 3 weeks and students were assessed based on both their active participation and completion.*

Methodology

This study is centered on a 10-credit level 5 undergraduate Geology module (number of students ≈ 40) delivered at the University of West London, UK. The module was delivered as a 1.5-hour session (consisting of lectures and lab practicals) weekly for 14 weeks. The Blackboard was used as a repository for module information (including lecture slides, handouts, reading lists, assessments and as a communication tool).

In 2017–2018, 100% of the module was assessed using one coursework; in 2018–2019, this was changed to;

1. Ten 5-minute quizzes of the worth of 10% module marks.
2. Active participation/completion of 3 lab experiments of the worth of 10% module marks (week 4, 7 and 10).
3. Preparation of lab report of the worth of 30% module marks.
4. In-class test of the worth of 50% module marks (week 14).

Student engagement was assessed based on SAM attendance data and UWL Module Evaluation Questionnaires (MEQ). The student learning experience was again assessed based on MEQ. Student performance was assessed based on marks achieved out of 100.

Results and Discussions

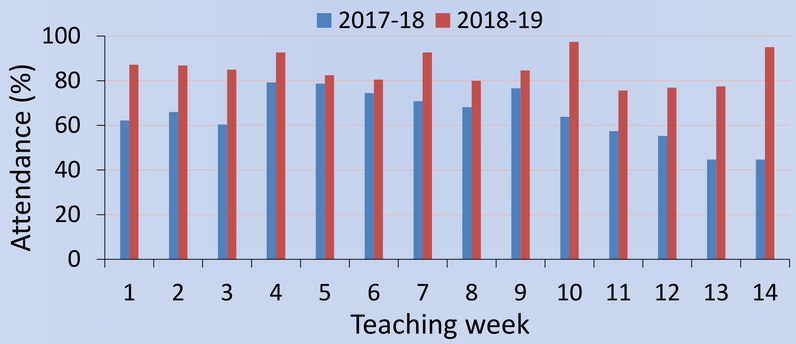

Figure 1: Student attendance over 14 weeks. Lab experiments were carried out on week 4, 7 and 10. The in-class test was conducted on week 14. For other weeks 5-minute quizzes were introduced.

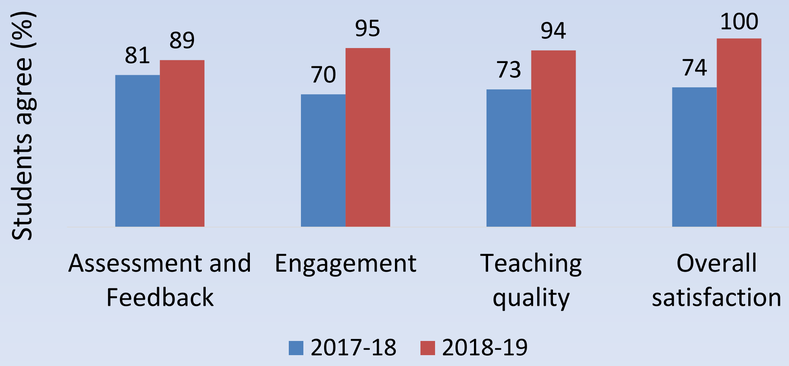

Figure 2: Student Module Evaluation Questionnaires (MEQ) output.

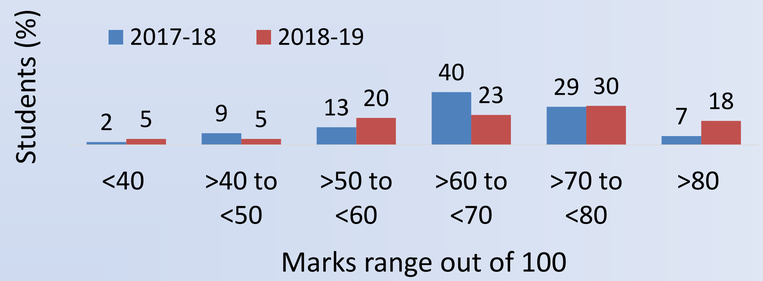

Figure 3: Student performance (marks obtained out of 100).

The pedagogical intervention significantly improved student attendance (Fig. 1) and student engagement (Fig. 2) over the module. The highest attendance was observed in weeks 4, 7,10 and 14 where lab experiments were carried out and the in-class test was conducted. This reflects that many students are assessment-driven and introduction of low-stakes continuous weekly summative assessments improve student attendance as well as their engagement to the module (Holmes, 2018).

This improved student attendance and engagement increased the overall satisfaction of the students with the module from 74 to 100% (Fig. 2). Similar findings were also reported by other authors. For example, Horn, Jansen, and Yu (2011), among others, found that there is a positive and statistically significant relationship between lecture attendance and academic performance. Similarly, Carini (2006) found that student engagement linked positively with the desired learning outcomes. Although students were more rigorously assessed in 2018-19, their performance was comparable to the students of 2017-18 cohort (Fig. 3).

The pedagogical interventions significantly improved student attendance, engagement and overall learning experience in this study. However, the successful interventions depend on the personnel involved, their passion and the quality of expertise as also evident in this study where teaching quality was also improved from 73 to 94% (Fig. 2).

References

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