Title of the contribution: Do different assessment routes (linear vs. modular) prepare students, in the same way, for further study?

Author: Carmen L. Vidal Rodeiro

Extended Summary (979 words ~ max 1000 words)

Background

Over the past few years modular assessment has been gaining popularity in England, particularly in large scale assessments such as the General Certificates of Secondary Education (GCSEs), which are taken by the majority of 14-16 year-olds. Instead of being assessed at the end of a two-year course by following a linear syllabus, GCSE modular courses allow the assessment to take place in specified sessions in both the first and second years of the course. When multiple assessment paths exist for the same subject, it is left to individual schools to decide whether the assessment should be modular or whether candidates should enter for a linear examination.

However, it has recently been suggested that these modular assessments led to changes in learning opportunities and in the interaction between learning and assessment. In particular, modular assessment has been criticised for leading to fragmentation of learning and to a lack of coherence in the learning experience, endangering what is called synoptic understanding (Hayward and McNicholl, 2007), as students have little time for reflection, skill development and consolidation of learning. Furthermore, modular assessment might not provide opportunities for deep learning and it might, instead, encourage a climate of cramming (Priestley, 2003). In addition, the increased assessment load can lead children to spend more time revising for the next exam, rather than simply benefiting from learning (Hodgson and Spours, 2001). Finally, there is the view that the possibility of re-sitting modules may be lowering examination standards (De Wall, 2009), and that 'teaching to the test' time is heightened at the expense of deeper learning or enrichment activities (Poon Scott, 2010; Thomson, 1988).

In the context of the English Post-14 education framework there has also been a lack of public and teacher confidence in other aspects of modularisation. In particular, teachers at schools and at colleges are concerned that modular courses are not a good foundation for advanced study (*e.g.* A-levels, qualifications taken by students at age 18) and there is the concern that students will learn a particular part of the course and then forget it. On the same lines, researchers, teachers and policy makers showed concerns about modularisation at GCSE leading to a significant dropout in the first year of advance studies.

Some of the above issues might have led the current Secretary of State for Education to say that:

> *"We want to get rid of modularisation of GCSE. Instead of GCSEs being split into bite-sized elements we think it's*

important that at the end of the GCSE course the student should be examined on everything they have learnt at one time. We'll have fewer exams but a concentration on a more rigorous approach at age 16." (BBC News, 2010)

Aim of the study

This study set out to investigate whether different assessment routes (linear vs. modular) prepared students equally for further study. The focus was on the impact of the GCSE assessment route on the uptake and performance in three A-level subjects: English, mathematics and ICT.

These subjects were chosen because they covered different curriculum areas and because their entries were reasonably high.

Data and methods

GCSE results, both at syllabus level and at module level, were obtained from one English awarding body. A-level uptake and performance figures were obtained from the National Pupil Database, which is compiled by the Department for Education and contains individual-level information and attainment records for all students in schools within England.

Descriptive statistics were used to investigate A-level uptake and performance patterns for both GCSE assessment routes and multilevel logistic regression analyses were carried out to explain the differences in uptake and attainment at A-level between linear and modular GCSE routes once the ability of the students was taken into account.

Results

The analyses carried out in this research present some evidence that uptake and performance in A-level subjects differed depending on the assessment route (modular vs. linear) of the subject at GCSE.

Students following a linear assessment route in GCSE mathematics were more likely to continue to study mathematics at A-level than those who followed a modular route. Conversely, linear students in ICT were less likely to progress to A-level in a related subject. There were no differences between linear and modular students in the uptake of English at A-level.

Once attainment at GCSE was taken into account, the assessment route at GCSE only affected performance in A-level mathematics, with students following a linear route in GCSE mathematics performing better at A-level than those following a modular one.

It should be noted that, even when statistically significant, the differences at A-level between GCSE modular and linear candidates were small. Furthermore, no GCSE assessment route offered consistently the best outcomes (*i.e.* higher uptake, better performance).

The outcomes of this research provide evidence to inform key issues in an area of assessment which is currently under the spotlight as debate continues about the balance of advantages and disadvantages of these two different types of assessment.

References

BBC News. (2010). *Education secretary wants move away from modular GCSEs*. BBC News, November 22. Available at http://www.bbc.co.uk/news/education-11809797.

De Wall, A. (2009*). Straight As? A-level teachers' views on today's A-levels*. London: Civitas.

Hayward, G. and McNicholl, J. (2007). Modular mayhem? A case study of the development of the A-level science curriculum in England. *Assessment in Education*, 14(3), 335-351.

Hodgson, A. and Spours, K. (2001). *Evaluating stage 1 of the Hargreaves review of Curriculum 2000: an analysis of teachers' and students' views and the future of the reform process*. London: Institute of Education.

Poon Scott, E. (2010). *Resits in high-stakes examinations: the unusual case of A-levels*. Paper presented at the 36th International Association for Educational Assessment (IAEA) Annual Conference, August 2010. Available at http://www.iaea2010.com/fullpaper/413.pdf.

Priestley, M. (2003). Curriculum 2000: a broader view of A-levels? *Cambridge Journal of Education*, 33(2), 237-255.

Thomson, D.G. (1988). *The modular curriculum - A critical investigation*. MPhil Thesis, unpublished manuscript. Cambridge: Department of Education, University of Cambridge.

Short abstract (297 words ~ max 300 words)

The modularisation of GCSEs (qualifications taken by students aged 14-16 in England) has caused considerable controversy since its introduction. There are a number of different perspectives relating to the modular vs. linear assessment debate. Firstly, there are those who believe that modular assessment could lead to lack of coherence and fragmentation of learning as students have little time for reflection, skill development and knowledge consolidation. Secondly, modular assessment might not provide opportunities for deep learning and might, instead, encourage a climate of cramming. Thirdly, the increased assessment load might encourage students to spend more time revising for the modular exams, rather than simply benefiting from the learning experience. Fourthly, there is the view that re-sitting modules may be lowering examination standards, including 'teaching to the test' time heightened at the expense of deeper learning.

Based on the above issues, teachers expressed concerns about modular students being less well equipped for the transition from GCSE to further study (*e.g.* A-levels, qualifications taken by 18 year-olds) than their linear counterparts. This study set out to investigate whether modular courses are good preparation for further study. The focus was on the impact of the GCSE assessment route on the uptake and performance in three A-levels: English, mathematics and ICT.

The research showed that students following a linear assessment route at GCSE were more likely to continue to study mathematics at A-level than those who followed a modular route. Conversely, linear students were less likely to progress to A-level in ICT. There were no differences between linear and modular students in the uptake of English at A-level.

Once attainment at GCSE was taken into account, the assessment route only affected performance in mathematics, with students following a linear route at GCSE performing better at A-level than those following a modular one.

How does your contribution relate to the conference theme? (179 words ~ max 300 words)

In England, modular assessment has gained in popularity over the past few years, particularly in large scale assessments such as GCSEs. However, it has also caused considerable controversy since it was introduced.

There are a number of different perspectives relating to the linear vs. modular assessment debate. These perspectives focus on the nature of the learning as well as the structure of the assessment models. The links between formative aspects of assessment and modularity have been central to discussions about the benefits of modular courses with feedback helping students to achieve their potential. However, other perspectives support the view that modular assessment leads to fragmentation of learning, students entering examinations when not ready, more teaching to the test and over assessment.

This study provides evidence which could inform key points on educational policy and public debates on different assessment types and their effects on learning and progression. In particular, it evaluates the impact of modular assessment on further study and whether this type of assessment has led to candidates achieving higher/lower grades compared to those candidates completing linear assessments.