

## Mining institutional data for hidden truths

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### Abstract

*While a great deal of thought and effort is devoted to developing assessment strategies, policies and processes, there is little evidence that the re-assessment of students who fail at the first attempt receives the same level of scrutiny. This Viewpoint paper is stimulated by a research project, discussed at the HEIR (Higher Education Institutional Research) Conference (LJMU, September 2016) that explored the success rates of undergraduates who have had Level 4 re-assessments. One of the purposes of this research was to understand more explicitly how re-assessment policies can contribute to the retention, continuation and success of students, one of the metrics referred to in the higher education White Paper, 'Success as a Knowledge Economy'.*

### Keywords

re-assessment; student progression; transition; student achievement; student outcomes

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*It is dangerous to be right in matters on which the established authorities are wrong.*

— Voltaire, *The Age of Louis XIV*

### Mining institutional data for hidden truths

Nicolaus Copernicus (1473-1543) changed the way that the world was viewed, challenged dominant beliefs and opened opportunities for the development of new ideas. That which appears obvious is only obvious when viewed from the correct perspective. In his *On the Revolutions of the Celestial Spheres* (1543), Copernicus made an ‘incredible’ observation (‘Assumption 3’). This was a consequence of years of detailed research into the movement of planets and the inevitable conclusion “...therefore the sun is at the centre of the universe” was revolutionary; it changed everything. Since the time of Plato, ‘geocentric theories’ placed the Earth at the centre of the universe, a position endorsed by the authority of scripture (therefore representing ‘unquestionable truth’). The conclusions of Copernicus, based upon evidence from studious observation, challenged this ‘truth’. His idea was not just controversial, it was downright dangerous; a challenge to authority, both spiritual and temporal. Inevitably, the triumph of reason over fable was not achieved overnight, demonstrating how ‘entrenched belief’ may provide obstacles to the advancement of enlightened thought and curb the transformational power of research-informed innovation.

Although an ‘enlightened’ setting, there are many such ‘truths’ that permeate the university sector. One such example is that re-assessment is ‘good for students’. A recent study discussed two factors which are believed to result in improved student performance at re-assessment (Proud, 2015):

- Learning from the experience of initial failure and feedback on that performance, and
- More time for study/revision facilitates improved understanding of subject.

It is argued that re-assessment in the UK HE setting also carries specific benefits for a student. Pell et al., (2009) lists four such advantages:

- Most resit students have had additional assessment practice in examination conditions;
- Usually the resit assessment is not undertaken in conjunction with any other assessment, so students can concentrate on this assessment alone;
- Students receive extra intensive tuition between the original and resit assessments; and
- Fear, loss of face with contemporaries and family, financial costs of failure, etc. may drive students to increased effort in comparison with the main assessment.

It is argued that the first three of these factors are likely to combine to make the resit assessment easier or boost the student’s performance, whilst the fourth will provide an additional, though transient, stimulus with respect to the student’s work effort.

It would appear from this approach that there are benefits to be gained from re-assessment beyond recovery from failure. If re-assessment is ‘good for students’ then it should enhance a student’s learning, ensure progression with a higher level of attainment than that afforded to those students who did not have the advantage of re-assessment and boost overall attainment. So goes the theory, but what do the data tell us?

There are many uses to which ‘institutional data’ can be put. Universities amass a wealth of information relating to teaching, learning and the assessment of students, which is just one part of a wider dataset. In all institutions such data are required to be returned to statutory reporting agencies, in many such data are utilised to inform internal reporting against targets but how many universities shape their academic regulations, curriculum or assessment strategies in response to the findings of

institutional research? What lessons can we learn about ourselves, our assumptions and our actions, by excavating these data?

Colleagues across the university sector are realising the untapped potential of institutional data as a rich repository of artefacts. The Northern Universities Consortium (more commonly known as NUCCAT) was founded in 1991. NUCCAT “provides a forum for higher education practitioners with an interest in the design, implementation and regulation of credit-based curriculum and its implications for the student experience and progression, reflecting the changing dynamics of the sector.” Also, the Student Assessment and Classification Working Group (SACWG, formed in 1994) comprises academics and administrators who share an interest in assessment. The interests of NUCCAT and SACWG align. It is the practitioner community that crafts the regulation, whose industry is fashioned by the operational constraints in which they work and whose judgement, often in relation to very specific decisions, may carry a significant impact. Crafting regulation therefore requires care, diligence and a necessary breadth of knowledge, which can be provided by the researcher community. In order to fully understand and correctly interpret outcomes of (quantitative) data analysis, the researcher community must triangulate findings with (qualitative) follow-up activity amongst the practitioner community. There can be no better demonstration of the interface between research and practice as the catalyst for original research that underpins professional practice.

The requirement for re-assessment is determined by:

- the performance of the student at the initial assessment attempt and
- the judgement of markers and
- the defined consequences of failure as enshrined within academic regulation.

In 2013 SACWG published the findings of a study into the differences between institutional academic regulations in which it was stated (Falahee et al., 2013):

*Institutional assessment regulations are crafted and subject to continuous review and amendment. Changes will often have a direct impact on the number and proportion of students who are deemed successful and able to progress to the next year of study. Crafting assessment regulations involves taking account of many different interests, whilst ensuring that the outcomes are consistently fair. For those involved in developing regulatory frameworks the goal is to attain an optimal balance between often competing principles and interests. An important dimension of this is the extent to which individual Higher Education Institutions (HEIs) permit regulatory matters to be devolved – that is determined at the departmental or course level, and the scope for an examination board to exercise discretion with regard to outcomes for individual students. This means that pass and progression rates are not a simple reflection of student academic ability, and that a student with exactly the same set of assessment outcomes or grades may well have quite different opportunities for progression in different HEIs, or in some cases between different departments within the same HEI.*

Previous SACWG research has explored the issues associated with the assessment and marking of student work (Yorke et al., 2002). Germane to this research is an investigation of the academic regulations that govern student progression within UK universities. Should, for example, a university’s academic regulations tolerate an element of failure within the context of good performance at a level, then the consequences of initial failure for that student in that setting may not involve re-assessment. If re-assessment is ‘good for students’, then are these other interventions (frequently termed ‘compensation’ or ‘condonement’) inherently disadvantageous? If so, should such practices be abandoned?

NUCCAT and SACWG have therefore collaborated on a project to determine, by means of research, the extent to which different mechanisms used by universities to facilitate student progression are effective. This is not merely an abstract research topic, but also a means of initiating a debate about the extent to which universities have a moral obligation to create conditions in which the opportunities for the achievement of student potential are maximised. It should be a central tenet of any (re-)assessment policy that all students are treated equitably and fairly. The research project sought to consider some of the principles on which policies might be developed and the extent to which it is possible to ensure regulations are explicit, in order that they can be applied consistently without local interpretation or discretion. This may not be a popular view in a sector in which ‘academic judgement’ remains *ultra vires*, but it accords with principles of transparency, consistency and fairness.

The research project sought to investigate the question “To what extent do re-assessment, compensation and trailing support student success?” Participants were invited to submit a dataset in relation to full-time students enrolling upon Level 5 of undergraduate (three year) honours degrees following progression from Level 4, divided into the following categories:

- students who passed all Level 4 modules at the first attempt (‘first timers’);
- students who passed all Level 4 modules after a re-assessment attempt (‘re-assessed’);
- students for whom credit was awarded to facilitate progression (‘compensated’);
- students who were permitted to progress without attaining 120 credits (‘trailing’)

...with their associated honours outcomes 18 months hence.

Nine universities responded to a call for contributions and the accumulated dataset comprised almost 20,000 student records.

Although there were some differences in the institutional profiles of results, the patterns of performance across the universities are (perhaps surprisingly) broadly similar. Thus, differences in, for example, curriculum mix, whether only optional modules can be compensated, if intra-module compensation is permitted, and student support systems seem overall to have little impact on the students’ outcomes. The findings include:

- First timers are most likely to achieve a ‘good honours’ degree ‘in-time’ and most likely to complete ‘in-time’;
- Timely completion and degree outcome are broadly similar for re-assessed and compensated students, noting that: (1) compensated students are (albeit slightly) more likely to complete in-time than re-assessed students; (2) re-assessed students are more likely to complete with a ‘good honours’ degree than compensated students; and
- Trailing students are most likely not to be timely completers and least likely to achieve a ‘good honours’ degree.

There are some very specific questions that arise from the data:

- Given the received wisdom that re-assessment is good for students, how can we account for the disparity between outcomes for first timers and re-assessed students and the broadly similar outcomes for re-assessed and compensated students?
- Given the similar timely completion rates for re-assessed and compensated students, does the increased likelihood of re-assessed students obtaining a ‘good honours’ degree’ (32 per cent versus 27 per cent for compensated) warrant the costs and effort of re-assessment?
- Given the relatively poor timely completion rates and classification profile for trailing students, what arguments can be advanced for this form of re-assessment?

- Does the educational rationale for re-assessment versus compensation/condonement stand up?
- How can different institutional approaches to progression and re-assessment be justified?

In the light of HEFCE's revised operating model for quality assessment and the emphasis within the proposed Teaching Excellence Framework on outcome metrics for different groups of students, which place strengthening of the security of degree standards and their broad comparability as key sector-wide issues, research of this nature is vital. It is in the interests of both students and HE providers to formulate academic regulations in the knowledge of evidence informed practice, including the range of practices operated across the sector and modelling of the impact of changes on student outcome measures. The outcomes of the NUCCAT and SACWG research project indicate that alternatives to re-assessment, such as those employed by 90 per cent of UK universities (Altay et al., 2012) facilitate better completion in-time than re-assessment. This not only critiques the belief that re-assessment is inherently 'good for students', but challenges those universities that insist on re-assessment as the sole method of recovery from failure to consider whether the interests of their students are best served by such an approach.

Copernicus taught us much about our place in the universe, but also about the difficulties of challenging prevailing orthodoxy. He delayed the publication of *On the Revolutions of the Celestial Spheres* until after his death, in fear of personal consequences. It would be regrettable if the illumination afforded by ongoing research failed to penetrate the shadowy recesses of 'received wisdom'.

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