

Guest editorials

Return of the indicators: the Research Assessment Exercise 2008

The Higher Education Funding Councils (HEFCs) in the United Kingdom have recently announced the details of the next Research Assessment Exercise (RAE 2008) (HEFCs, 2005). The RAE has been with us for almost twenty years, despite assurances immediately after previous exercises that it would not be repeated. For those unfamiliar with the process, the RAE is a qualitative assessment of research performance in every UK university department undertaken about every five years, to grade the quality of research output and performance by a group of peers according to a predefined set of criteria. Since the 1980s, as universities have become used to the rigours, and some would say farce, of determining the quality of research performance by quantitative indicators and discretionary judgment, individual researchers have had to rethink what research they wish to be judged by, and how to promote and disseminate their work to various audiences.

Universities, with a continuing call upon the public purse, are being assessed like the remainder of the public sector in the United Kingdom: through performance indicators and the degree to which they create added value. The rules of the game have fixated university managers for years, mainly because of the likelihood that those departments judged by the RAE to be excellent performers will usually receive higher funding allocated to universities once the grading process is complete. On the positive side, the RAE has had the effect of focusing university attitudes, by encouraging a more serious attitude towards research within those departments where it barely existed, and by generating strategic support for members of faculty at the outset of their academic careers. Above all, it has created a relatively level playing field upon which to assess research performance, to dispel the myth that the perceived good departments are always those which come top of the table. Under this scenario, any university or department, or any academic of any age or experience, could attain an excellent rating. Of course, life is not that straightforward, as so much else depends on the ability of individuals to carve out time for research, of attaining research esteem within their discipline, and of the degree of support individuals are likely to receive from within their own institutions. And the assessment itself is based on the discretionary judgment of panel members about the research outputs of individuals and whether these may or may not be regarded as world-class or internationally significant (see Ron Johnston's editorial below).

On the more negative side, the RAE has also produced strategic playing and Machiavellian behaviour on the part of some departments to ensure their performance is judged highly. Among the more well-known tactics have been the poaching of internationally regarded academics through offers of substantially larger salaries by universities eager either to retain their position at the top of the league table, or else ambitious to move up to the top of the division. It has also led to some academics being 'substituted' by their own universities from the assessment, if their work would have resulted in a low grading. Little wonder that the RAE has been compared with football in which departments attempt to align their dream teams for the competition (Dorling and Cornford, 1996).

One may argue that a vibrant and academically productive university department would adjust to the rules of the RAE game with ease; the assessment should merely

reflect the existing performance of an energetic, highly productive, and internationally respected group of researchers. But RAE results cannot be left to chance, even within those institutions that appear world-renowned. Increasingly, academics with responsibility for their departments' RAE submissions have become managers of research performances, organising regular review meetings, scrutinising personal research plans, and judging individuals according to the quality of publication acceptances, the amount of blue-chip research income generated, the number of PhD completions, and whether individuals have engaged with industry, government, or the policy community, the so-called 'research users'. In the next RAE exercise, although the emphasis will be on outputs rather than personalities, profiles will be created to enable each individual's four selected published outputs to be assessed alongside the contribution the individual makes to the research esteem and environment of the department. Such a profile assessment will not be straightforward.

With the rules of the next RAE now starting to emerge, university departments are preoccupied with critical questions. There is concern, for example, particularly within planning schools, about the attitude RAE panel members may wish to attach to different types of research output; how should one judge a single-authored research-based book, compared with a jointly authored paper in an international journal? How should a commissioned research report to government (that may have had a demonstrable impact on the policy or practice of the discipline) be judged alongside a theoretical contribution to academe? Such questions are likely to dominate discussions within panel meetings between now and the formal review in 2008 but it also becomes problematic for individuals in their selection of what may be thought of as their 'best four' publications.

What is interesting is how the RAE has transformed UK academe over the last twenty years, and the work practices of members of staff. The academic now has to accommodate at least nine different roles as: an excellent publisher; a committed and enthusiastic teacher; a public speaker and media-savvy authority in their area; an internationally recognised academic demonstrating international collaborations; a consultant; a researcher in the field; a PhD supervisor; an editor of a journal or book series; an advisor to research users; and an efficient programme or research administrator. And individuals are judged on each of these duties, not only as part of a department's strategic build-up to the RAE, but also because many of these performance indicators determine the likelihood of individual promotion cases. Perhaps, in the spirit of the UK government's agenda, this is resulting in UK researchers becoming international world-leaders, or agenda setters, but it may equally be at the expense of people's sanity and health in an era of continued public sector criticism by politicians and the media. More fundamentally, as with any governmental review of performance, there is always the danger that so much attention is focused on the strategy and performance of individuals, that the quality time required for research, brain-storming, or simply reading becomes increasingly squeezed; there is no performance indicator for knowledge creation!

Today, so much prestige is now attached to the results of the exercise at a time of fiscal concern, that results produce one of two possibilities: a better than expected performance may result in increased resources allocated to the university; a lower than expected result may just be the justification sought by vice chancellors eager to prune back expenditure and wield the axe. There is no room for complacency within such an environment, but that—to be honest—is one positive aspect of the RAE. On the other hand, it takes some time for research work to be properly disseminated and digested, and it is bold to claim that an individual's research work is changing the course of events within a relatively short time period. Perhaps the RAE will only become truly

acceptable when it manages to assess the purpose, use, and impact of research over a longer time frame and can guarantee just rewards. For the moment, the RAE has become a fixed institutional process that owes its existence and continuation to a political determination to legitimise the spending of a diminishing pool of public expenditure.

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Thomas Kuhn and RAE2008

The Higher Education Funding Councils (HEFCs) have recently published the grade descriptors to be used in the 2008 Research Assessment Exercise (RAE) for all UK universities (HEFCs, 2005). There are to be five grades.

There will be three separate grading exercises for each Unit of Assessment (UoA: in most cases a university department or centre) covering “three overarching elements; research outputs, research environment and esteem indicators”. Each item of output (in most cases a journal paper, book, or book chapter) will be separately graded. Grading the research environment will focus on the quality of each UoA’s research groups, whereas that of esteem indicators will probably refer to individual researchers. The three sets of grades will be combined by a weighting process, with outputs providing at least 50% of the total.

The result will not be a single descriptor for each UoA (5*, 5, 4, etc) as in previous RAEs, but rather a grade profile. For example, 10% of a UoA’s outputs may be rated 4*, 30% 3*, and so on. The larger the percentage of high gradings—4* and 3*—the higher the overall standing. It is on the weighted average of these output scores combined with other scores for the research environment and indicators of esteem that league tables will almost certainly be based!

Placing outputs, esteem indicators, and environments into the grade categories involves applying the HEFCs’ descriptors shown in table 1. But what are these ‘world-leading’, ‘internationally excellent’, ‘recognised internationally’, and related categories? According to HEFCs “‘World leading’ quality denotes an absolute standard of quality in each unit of assessment”, but their document then says that “‘World leading’, ‘internationally’ and ‘nationally’ in this context refer to quality standards. They do not refer to the nature or geographical scope of particular subjects, nor to the locus of work, nor to its place of dissemination, for example, in the case of ‘nationally’, to work that is disseminated in the United Kingdom of Great Britain and Northern Ireland.”

Table 1. HEFCs’ grade descriptors for the 2008 Research Assessment Exercise.

Four star	Quality that is world-leading in terms of originality, significance, and rigour.
Three star	Quality that is internationally excellent in terms of originality, significance, and rigour but which nonetheless falls short of the highest standards of excellence.
Two star	Quality that is recognised internationally in terms of originality, significance, and rigour.
One star	Quality that is recognised nationally in terms of originality, significance, and rigour.
Unclassified	Quality that falls below the standard of nationally recognised work. Or work that does not meet the published definition of research for the purposes of this assessment.

These vague descriptors have been handed to the sixty-seven subpanels (grouped into fifteen main panels to ensure consistency across cognate disciplines) which have to characterise the grade descriptors in the context of their own disciplines. They must publish draft documents for consultation this summer—having only just started work—and final versions by the end of 2005. What might guide them? In his classic *The Structure of Scientific Revolutions* Thomas Kuhn (1962) introduced the concept of a paradigm, a community of researchers sharing an approach to a discipline or subdiscipline: they agree both on what is known and on methods for tackling the unknown. Paradigms are occasionally overthrown in scientific revolutions whereby critics of the established order replace it by an alternative (superior) approach.

In later work Kuhn identified a hierarchy of paradigms. At the smallest scale are *exemplars*—indicators of best practice within a field. At the mesoscale are *disciplinary matrices*—common approaches to knowledge acquisition within which exemplars are set. And at the macroscale are *world views*—epistemological and ontological notions regarding the nature of knowledge and its acquisition. The larger the scale, the less frequent the revolutions.

According to Kuhn, most researchers—at least in the sciences (Kuhn never claimed to cover all disciplines) and some parts of the social sciences—operate as *normal scientists*, undertaking work within an established paradigm, at the exemplar scale. They are slowly accumulating knowledge within accepted frameworks, using well-established procedures.

If most research—in many disciplines at least—is normal science, where does it fall on HEFCs' scale? Presumably not 4*, because it is hard to be 'world-leading' when you are merely making small advances by standing on the shoulders of the giants who have gone before you? This category must be reserved for the revolutionary outputs and individuals. How many of these are there in any RAE six-year period in any discipline? At the world-view scale, there will be very few indeed (if any), with not many more for disciplinary matrices. There may be more at the exemplar scale, but how many papers generate significant changes in scientific practices? I doubt it is anything like 10%. So on a strict, Kuhnian reading of HEFCs' descriptors, 4* gradings of outputs and esteem indicators should be extremely rare.

And so the best that most researchers can hope for is a 3*. What will distinguish that from a 2*? HEFCs make the panels' tasks very difficult. Which pieces of normal science are "internationally excellent in terms of originality, significance and rigour" rather than "recognised internationally in terms of ..."? The distinction is very hard to discern, and it will be fascinating to see what the panels and subpanels come up with.

The HEFCs have created a very difficult task for those who have agreed to do the evaluations for the next RAE. Its grade descriptors suggest that very few 4* and 3* will be allocated. How many papers are 'world-leading' and stimulate significant changes in the nature of 'normal science'? How many individuals are so esteemed that they can be deemed 'world leaders'—or just "fall short of the highest standards of excellence"? How many research environments (groups) have the potential to produce world-leading or internationally excellent work in a short period?

If the answers to those questions are very few—and it is hard to see that they could be otherwise—panels will not be awarding many 4*, and many departments may get none. But will that prove acceptable? No. First, it will make it difficult for HEFCs and their political masters to claim that much UK research is world-class. And, second, the panels will be seen as 'doing-down' their own disciplines [as Shelton (2005) has recently suggested for geography at the last RAE]. Two political own goals!

As the panels and subpanels struggle with their task, those waiting on their deliberations can only sympathise. The panels have been given a two-edged sword. HEFCs wants them to say that much wonderful research is being done in the United Kingdom, but given them terms of reference that are totally at variance with reality—unless, as they seem to be saying, the terms 'world-leading', 'international', 'excellent', 'originality', 'significance', and 'rigour' all mean less than we think they do. If that is the case, then lots of the equivalents of first-class degrees will be allocated. But if the terms mean what I think they mean, Iii and, especially, Iiii will be the norm.

In sum, if the political imperatives dominate the panels'/subpanels' procedures and decisionmaking—and I believe that they will—then a large proportion of UK research environments, academics and scholarly outputs will be judged as representing 'extraordinary science/scientists'. I can't believe that this is consistent with Kuhn's model



of how progress is achieved in science. Very few of us are extraordinary in our scientific practices and achievements—even some of the time, let alone all of the time. Most of us are ‘normal scientists’ slowly accumulating, disseminating, and applying knowledge. HEFCs’ RAE 2008 is going to make out that we are what we aren’t!

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