

Review of the Research Assessment Exercise A Memorandum from the Institution of Electrical Engineers

The IEE believes it is well placed through its membership, which includes academics involved in research activities in Higher Education Institutions, to provide input to the review of research assessment.

The IEE is of the opinion that institutions and the funding councils should not see the Research Assessment Exercise (RAE) as an additional bureaucratic burden. Robust quality assurance processes should already be in place if institutions are serious about improving the quality of their provision, the results of which should provide the input to the RAE.

The IEE considers self-assessment to play a key role in the quality assurance process. The assessment of teaching and research activities should run concurrently and all funding council funded staff should be included in the exercise. This approach would offer a number of immediate advantages. All staff would feel valued for their contribution to the work of the department and it would not be possible to 'hide' staff by not submitting them. More importantly, it would mean that a department would have to keep its research and teaching activities running in parallel and to the required level. Moreover, by obliging departments to run annual self-assessments of all their staff, departments would be encouraged to ensure that research quality is maintained rather than fluctuating during the current five year RAE cycle, and in particular while the department is preparing for the teaching assessment.

Group 1: Expert review

7.

- a. *Should the assessments be prospective, retrospective or a combination of the two?*

THE IEE recommend that the assessment is a combination of the two.

- b. *What objective data should assessors consider?*

In addition to the data currently collected, the EPSRC model, which in the past has been shown to be useful, is one that could also provide valuable data for the assessors to consider. When an EPSRC project is completed, a written report on the project is viewed by peers and graded against the original aims and objectives. **The IEE recommend that if a similar process to this were common and standardised across all research councils, the data collected would provide a useful input to the Research Assessment Exercise (RAE).** (*Recommendation 1*)

In terms of data collected concerning the number of papers published, **the IEE recommend that the system for the ranking of journals needs to be transparent and the community needs to know what the ranking is.** (*Recommendation 2*) Under the current system, each staff member can submit up to four items of published output for the RAE. However, in some cases, researchers have not been told which particular journals are included in the select list and how this list is ranked. Publication of the list would enable researchers to make informed decisions about where they should have their work published.

The process by which journals are assessed and become recognised by the Unit of Assessment (UoA) also needs to be made transparent. **The IEE recommend that any journal that is deemed as acceptable by one UoA should automatically become acceptable to all UoAs.** (*Recommendation 3*) This would allow equality of opportunity for cross-disciplinary research, which may be published in journals that are not included on the select lists for the individual disciplines covered.

- c. *At what level should assessments be made – individuals, groups, departments, research institutes, or higher education institutions?*

The IEE recommend that assessment must be made at an individual level for all HEFCE funded eligible staff, even if this means that non-research active staff are included in the process.

(*Recommendation 4*) Under the current system a department could be given a different grade dependent on which staff are included in the process. For example, a department could be graded at 3 if the whole department is entered, grade 4 if 80% of staff are entered and grade 5* if only 50% are entered. Although the lettering system takes this into account e.g. 3a and 5*d, the letters are often ignored and universities

exploit this to demonstrate their excellence. This element of games-playing **must** be removed from any future assessment exercise.

One way to eliminate games-playing in this way would be to undertake some form of multidimensional analysis. This would involve analysing the departmental data for each of the above situations i.e. a grade for when all staff are included, a grade for when 80% of staff are included, 60% and so on. The information could then be graphed and statistical analysis performed that would enable an overall grade/numerical value to be calculated. This would then allow the departments, which have differing research staff profiles, to be compared fairly. In addition, individuals could be grouped if the nature of their work relies on team working.

d. Is there an alternative to organising the assessment around subjects or thematic areas? If this is unavoidable, roughly how many should there be?

THE IEE do not consider there to be an alternative to subjects and themes. The number of UoAs is roughly right although it could increase when emerging areas of research are taken into account. **The IEE recommend that there should be a method of assessing whether a subject/theme can become a UoA in its own right.** (*Recommendation 5*) This could be based on specific parameters such as the amount of funding the area attracts through research grant proposals, the number of research active staff across the UK etc. This would allow some themes to drop out when they fall below a certain size and emerging multidisciplinary themes be included when they reach a critical mass.

Multidisciplinary research is an issue that, in previous RAEs, has not been handled satisfactorily. In order to rectify this situation, **the IEE recommend that where a department feels that their themes do not fall completely into the area of expertise of the specified UoA, they should be permitted to nominate up to three peers to feed into the UoA panel. The panel would be obliged to ask for input from at least one of those peers.** (*Recommendation 6*)

e. What are the major strengths and weaknesses of this approach?

A major weakness currently is the lack of flexibility within the UoA panels. The result is that many panels do not contain peers that can cover all of the subject areas covered by that UoA thus introducing an element of non-equality of opportunity to some areas.

Group 2: Algorithm

10

a. Is it, in principle, acceptable to assess research entirely on the basis of metrics?

The system should be measured using metrics, the majority of which are comparable and objective fact. A small proportion of subjective views should be included in the final analysis. These views should be well grounded, backed up by evidence and representative of the whole department.

b. What metrics are available?

Beyond the metrics mentioned in the consultation document, others are available. For example, EPSRC survey all members of university departments and ask them to elect whom they would recognise as respected peer reviewers for their work. The results of the survey are used to form an EPSRC College. This system could be adapted for the RAE and some form of numerical ranking used as input to the RAE. This would provide a useful means of measuring the reputation of individuals and departments across the institutions.

c. Can the available metrics be combined to provide an accurate picture of the location of research strength?

Yes.

d. If funding were tied to the available metrics, what effect would this have upon behaviour? Would the metrics themselves continue to be reliable?

People act/react to their targets and so the metrics must be set in order to advance UK research. In the past, the metrics that have been used have led to an element of games-playing which has undermined their value. However, specific metrics used carefully and transparently could result in the level of research in the UK being raised.

e. What are the major strengths and weaknesses of this approach?

If the right metrics are set and applied and there is transparency about how they are used, any games-playing employed to meet targets could have a positive outcome and thus benefit the system.

Group 3: Self-assessment

13

- a. *What data might we require institutions to include in their self-assessments?*

Research should be assessed every five years with a full independent assessment, but there should also be an annual gathering of relevant data using self-assessment to enable the tracking of trends. The measures should be objective and verifiable with a small element of discretion for departments to give other evidence. By implementing internal assessments, based on the same set of statistics and carried out on an annual basis some type of trend analysis could be fed into the RAE process, and provide improved data for the five yearly 'check-up'.

- b. *Should the assessments be prospective, retrospective or a combination of the two?*

They should be a combination of the two and include a commentary on any emerging trends.

- c. *What criteria should institutions be obliged to apply to their own work. Should these be the same in each institution or each subject?*

There should be a core set of transparent metrics that every department works to. These should be based on measurable, factual data and should be applicable across all UoAs. Although the metrics would be standard, individual departments should be allowed to provide whatever evidence is pertinent to their case.

- d. *How might we credibly validate institutions' own assessment of their own work?*

Institutions should be obliged to produce a database of supporting documentation, for example statistics on student numbers, published articles, etc.

- e. *Would self-assessment be more or less burdensome than expert review?*

Institutions must take ownership of the quality of their research as they do with teaching assessment. Quality assurance processes should be examined to ensure that work is reaching the required standard. These would run in parallel with the system for assessment of teaching and use a similar process of benchmarking. **The IEE recommend that the RAE should run concurrently with the TQA process.** (*Recommendation 7*)

- f. *What are the major strengths and weaknesses of this approach*

The weakness of the system is its reliance on robust, transparent metrics across the board.

The strength of the system is that it would reduce bureaucracy and transfer ownership and control of the external perception of the quality of the institutions, to the correct place i.e. those who are going to gain by having a good reputation.

Group 4: Historical ratings

16.

- a. *Is it acceptable to employ a system that effectively acknowledges that the distribution of research strength is likely to change very slowly?*

It would NOT be acceptable to base the grading of a department on an historical rating; it must be based on factual analysis.

Group 5: Crosscutting themes

17.

- a. *What should/could an assessment of the research base be used for?*

(i) The assessment could be used to assure the taxpayer that the research base deserves the level of resource that they attract and whether the level is appropriate.

(ii) The assessment enables international comparison.

(iii) The assessment allows the centre (be it research council, Government etc) to assess what research activity is taking place, and at what level, thus enabling them to not only manage the activity, but also have a strategic view of what that research might achieve. It also enables Government to be in a position where they can match policy objectives with research capability. At institutional level, it allows the institutions to manage their research base in a similar way.

(iv) The assessment gives industry a better view of where research is being carried out most effectively and consequently where best to make their investments.

b. How often should research be assessed? Should it be on a rolling basis?

The IEE recommend that research should be assessed every five years with a full independent assessment, but there should also be an annual gathering of relevant data to enable the tracking of trends using self assessment. (Recommendation 8)

c. What is excellence in research?

Excellence is difficult to quantify, but should be based on the renown of the individual, the department and the institution. Measures of excellence should include:

- Publications.
- Invitations to give keynote lectures.
- Citations.
- International recognition and activity.
- Inclusion in advisory groups for Government activities.
- The ability to inspire other people to work in a given area.
- The increase of public understanding. This could include activities such as interaction with local schools, public lectures etc.
-

d. Should research assessment determine the proportion of the available funding directed towards each subject?

Yes

e. Should each institution be assessed in the same way?

Yes

f. Should each subject or group of cognate subjects be assessed in the same way?

Yes, but with the proviso that the UoA is fair to all cross-disciplinary groups that do not have a UoA specific to them.

g. How much discretion should institutions have in putting together their submissions?

Discretion should be kept to a minimum, though some space should be allowed for departments to present any other evidence as they see pertinent.

h. How can a research assessment process be designed to support equality of treatment for all groups of staff in Higher Education?

The IEE acknowledge that there can be a degree of loss of momentum and direction when staff are employed on a series of short-term contracts. It can also be unsettling for the staff concerned, as they periodically have to look for new contracts. However, we cannot see how the RAE can be adjusted to assist this situation.

i. Priorities: what are the most important features of an assessment process?

1. Transparent.
2. Resistant to games-playing.
3. Fair to individuals, institutions **and fair to emerging areas. (Note the addition)**

The process should be part of managing a department and so must be administered efficiently, both by the department and by the funding councils.

Group 6: Have we missed anything?

1. **The constituency of the panel needs revising.** The panels ought to have a broader representation of people who are research literate, but not necessarily involved in academic research. This would add balance to the panel and enable the assessment of commercial relevance of research to be more expertly judged. If the panel were to include international membership, this might prove useful in promoting UK research abroad. (*Recommendation 9*)
2. **Institutions and the funding councils should not see the RAE as an additional bureaucratic burden.** Robust quality assurance processes should already be in place if institutions are serious about improving the quality of their provision, the results of which should provide the input to the RAE. (*Recommendation 10*)

Recommendations

1. **A standardised grading process of research projects, similar to that used by EPSRC, should be introduced across all of the research councils. The data collected would provide a useful input to the RAE.**
(Group 1, 7b)
2. **The system for the ranking of journals needs to be transparent and the community needs to know what the ranking is.**
(Group1, 7b)
3. **Any journal that is deemed as acceptable by one UoA should automatically become acceptable to all UoAs and the list of journals must be in the public domain.**
(Group 1, 7b)
4. **Assessment must be made at an individual level for all HEFCE funded eligible staff, even if this means that non-research active staff are included in the process.**
(Group1, 7c)
5. **There should be a method of assessing whether a subject/theme can become a UoA in its own right.**
(Group1, 7d)
6. **Where a department feels that their themes do not fall completely into the area of expertise of the specified UoA, departments should be permitted to nominate up to three peers to feed into the UoA panel. The panel would be obliged to ask for input from at least one of those peers.**
(Group1, 7d)
7. **The RAE should run concurrently with the TQA.**
(Group 3, 13e)
8. **Research should be assessed every five years with a full independent assessment, but there should also be an annual gathering of relevant data using self-assessment to enable the tracking of trends.**
(Group 5, 17b)
9. **The constituency of the panel needs revising.**
(Group 6, paragraph 1)
10. **Institutions and the funding councils should not see the RAE as an additional bureaucratic burden.**
(Group 6, paragraph 2)