

Consultation response

A response from the Nuffield Council on Bioethics to *Fulfilling our potential: Teaching excellence, social mobility and student choice* (Department for Business Innovation & Skills)

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Please tick the box that best describes you as a respondent to this consultation.

<input type="checkbox"/>	Alternative higher education provider (with designated courses)
<input type="checkbox"/>	Alternative higher education provider (no designated courses)
<input type="checkbox"/>	Awarding organisation
<input type="checkbox"/>	Business/Employer
<input type="checkbox"/>	Central government
<input checked="" type="checkbox"/>	Charity or social enterprise
<input type="checkbox"/>	Further Education College
<input type="checkbox"/>	Higher Education Institution
<input type="checkbox"/>	Individual (Please describe any particular relevant interest; parent, student, teaching staff etc.)
<input type="checkbox"/>	Legal representative
<input type="checkbox"/>	Local Government
<input type="checkbox"/>	Professional Body
<input type="checkbox"/>	Representative Body
<input type="checkbox"/>	Research Council
<input type="checkbox"/>	Trade union or staff association
<input type="checkbox"/>	Other (please describe)

BACKGROUND

- 1 The Nuffield Council on Bioethics is an independent UK body that examines and reports on the ethical issues raised by developments in biology and medicine. The Council has achieved an international reputation for advising policy makers and stimulating debate in bioethics. It was established in 1991, and is funded by the Nuffield Foundation, the UK Medical Research Council, and the Wellcome Trust. For more information about the Council see: www.nuffieldbioethics.org
- 2 The majority of this response draws on the Council's report *The culture of scientific research: findings from a series of engagement activities* (published 2014).¹ Although this project focused on the implications of the academic environment for the quality and conduct of research, our findings provide some lessons that also may be relevant for teaching.

The culture of scientific research (2014)

- 3 In 2014, the Nuffield Council on Bioethics embarked on a series of engagement activities aiming to inform and advance debate about the ethical consequences of the culture of scientific research in terms of encouraging good research practice and the production of high quality science. The Steering Group for the project included staff of some of the UK's leading scientific organisations, namely the Royal Society, Academy of Medical Sciences, Society of Biology, Royal Society of Chemistry and the Institute of Physics. The activities of the project included:
 - An online survey that received 970 responses.
 - Fifteen discussion events co-hosted with universities around the UK involving 740 speakers and participants.
 - Evidence-gathering meetings with funding bodies, publishers and editors of scientific research, and academics from the social sciences.
- 4 Most of those who took part in our activities were involved or interested in research being undertaken by higher education institutions (HEIs) in the UK. We believe some important themes and ideas emerged during the project that are relevant to the broader context in which scientific research is conducted in higher education institutions in the UK.
- 5 Our findings led us to make some general observations:
 - In some cases the culture of scientific research does not support or encourage scientists' goals and the activities that they believe to be important for the production of high quality science.
 - There seem to be widespread misperceptions or mistrust among scientists about the policies of those responsible for the assessment of research.
 - Among all the relevant stakeholders, concerns about the culture of research are often on matters that they think are outside their control or are someone else's responsibility.

¹ Available at: www.nuffieldbioethics.org/research-culture

- 6 We believe there is a collective obligation for the actors in the system to do everything they can to ensure the culture of research supports good research practice and the production of high quality science. As such, we provide a number of suggestions for action for funding bodies, research institutions, publishers and editors, professional bodies and individual researchers. Our suggestions to funding bodies include:
- Ensure the track record of researchers is assessed broadly, without undue reliance on journal impact factors.
 - Provide training and/or guidance for peer reviewers and grant assessment committee members to ensure they are aware of and follow assessment policies.
 - Communicate clearly to research institutions and researchers about funding strategies, policies and opportunities, and information about past funding decisions, particularly in areas where there are common misconceptions.
 - Support early career researchers to plan their future careers and expand their skills and experience outside of the research environment, and tackle negative attitudes towards those leaving academia.

RESPONSES TO SPECIFIC QUESTIONS

Valuing teaching

Question 10: Do you agree with the focus on teaching quality, learning environment, student outcomes and learning gain? Please give reasons for your answer.

- 7 We welcome measures that better support, recognise and reward the teaching responsibilities of researchers. In *The culture of scientific research* we concluded that the track record of researchers should be assessed broadly by funders and research institutions (p. 35), and that research organisations should better recognise the wider activities of researchers (p. 26).
- 8 It was suggested during the project's discussion events that research organisations should pay closer attention to and value the hard-to-measure and often invisible ways in which researchers contribute to the production of high quality science. This may include mentoring, training, teaching, peer review, university administration, public engagement and contributing to the work of national bodies and policy makers (p. 26).
- 9 Our report highlighted the range of pressures to which researchers are currently subject and found that in some cases the culture of scientific research does not support or encourage scientists' goals or the activities that they believe to be important for the production of high quality science. The introduction of further administrative burdens associated with assessment exercises should be understood within the broader context within which research and teaching is conducted and should be designed, implemented and timed accordingly.
- 10 Researchers need to be supported in their roles as teachers, through adequate training and professional education. In respect to research, our report found that

almost half of the survey respondents believed that provision of professional education, training and supervision in the UK is having a positive or very positive effect overall on scientists in terms of encouraging the production of high quality science (p. 26). It is important that researchers have access to any necessary training to support their teaching, as well as research, roles.

Use of metrics and peer review in assessment

Question 11: Do you agree with the proposed approach to the evidence used to make TEF assessments - common metrics derived from the national databases supported by evidence from the provider? Please give reasons for your answer.

- 11 Issues relating to the use of metrics in research assessment may be relevant to the use of metrics in teaching assessment. The use of metrics, particularly journal and article metrics, in the assessment of research and researchers was a recurring theme in *The culture of scientific research*. We heard from the participants in our project that metrics have a role to play in research assessment but can undermine the assessment process and can have unintended consequences.
- 12 There was wide recognition that research cannot be assessed using metrics alone, and that qualitative as well quantitative measures should be used in assessment. Seventy-one per cent of our survey respondents believe the peer review system in the UK is having a positive or very positive effect overall on scientists in terms of encouraging the production of high quality science (p.26).
- 13 Throughout the project we heard repeatedly that one particular metric – publishing in high impact factor journals – is thought to be the most important element in determining whether researchers gain funding, jobs and promotions, along with article-level metrics such as citation numbers. This has created a strong pressure on scientists not only to ‘publish or perish’, but to publish in particular journals. This is believed to be resulting in important research not being published, disincentives for multidisciplinary research, authorship issues, and a lack of recognition for non-article research outputs.
- 14 The REF is thought to be a key driver of the pressure to publish in high impact journals, with many unaware or untrusting of the instructions given to REF assessment panels not to make any use of journal impact factors in assessing the quality of research outputs. The desire for a more diverse set of measures of research quality and reach to be used in assessments was raised by many survey respondents throughout their responses.
- 15 In the course of project we encountered the view that use of metrics can give rise to incentives to ‘game’ the wider system. For example, participants at the project’s discussion events suggested that a focus on journal article metrics in the assessment of researchers may be contributing to a culture in which scientists try to gain authorship credits for as many articles as possible (p. 25).
- 16 We welcome the undertaking that TEF assessments will be based on criteria that are straightforward and “*robust and are easily understood by students, employers*

and other stakeholders” as the consultation document states, and welcome the Department’s decision to conduct a technical consultation in 2016 on the metrics that will be used to make TEF assessments. A nuanced approach to developing a set of indicators is required.

The REF

Question 26: What are the benefits of the REF to a) your institution and b) to the wider sector? How can we ensure they are preserved?

Question 27: How would you suggest the burden of REF exercises is reduced?

- 17 *The culture of scientific research* found that researchers had both positive and negative perceptions of the influence of the REF on HEIs and other research institutions. When asked for their views on the REF, 25 per cent of our survey respondents said they believe that the REF is having a positive or very positive effect overall on scientists in terms of encouraging the production of high quality science. However, almost 40 per cent thought that the REF is having a negative or very negative effect. In addition, a quarter of survey respondents cited the REF when asked which features of the UK research environment are having the most negative effect on scientists in terms of encouraging high quality science.
- 18 Our report found that the REF is thought to be a key driver of the pressure to publish in high impact journals, with many researchers unaware or untrusting of the instructions given to REF assessment panels not to make any use of journal impact factors in assessing the quality of research outputs. Attempts to assess the societal and/or economic impact of research are welcomed by some, but others believe this is creating a culture of short-termism and is pushing aside interest in curiosity-driven research, as well as resulting in researchers exaggerating the potential application of research in grant proposals (p. 28).
- 19 It was raised in several of the project’s discussion events that the REF may be disadvantaging multidisciplinary work. There are four main expert panels which allow cross-referencing across a number of sub-panels covering different disciplines, with each REF panel judging the element of work that falls under their remit. Some event participants believed that the panel set-up deterred researchers from submitting multidisciplinary work to the REF process (p. 28).
- 20 There seem to be widespread misperceptions or mistrust among scientists about the policies of those responsible for the assessment of research. For example, while there was general agreement that journal impact factors should not be used in the assessment of researchers by funding bodies, researchers still report a strong pressure to publish in high impact journals.
- 21 The REF aims to recognise and reward the work that HEI departments do concerning staff development, PhD awards and research collaboration, in the ‘Environment of research’ category. Our findings however, revealed that there was a perception among event participants that these areas of work are undervalued.

- 22 Our findings suggested that competition, which may be introduced by the REF and other forms of assessment and appraisal exercises, can have both positive and negative consequences. Many believe that competition can bring out the best in people as they strive for ever better performance, and that science advances more rapidly as a result. It is also thought that high levels of competition go against the ethos of scientific discovery and can create incentives for practices that are damaging to the production of high quality research (p. 21).
- 23 Of the survey respondents who provided a negative comment on the effects of competition in science, 24 out of 179 respondents (13 per cent) believe that high levels of competition between individuals discourage research collaboration and the sharing of data and methodologies. This concern was echoed during several of the discussion events.