

Higher education: teaching excellence, social mobility and student choice

A response from the Royal Society of Biology to a consultation from the Department for Business Innovation and Skills

January 2016

Royal Society of Biology

The Royal Society of Biology (RSB) is a single unified voice for biology: advising Government and influencing policy; advancing education and professional development; supporting our members, and engaging and encouraging public interest in the life sciences. The Society represents a diverse membership of individuals, learned societies and other organisations. Individual members include practising scientists, students at all levels, professionals in academia, industry and education, and non-professionals with an interest in biology. We have had contributions to this response from our individual members, committees and special interest groups including the Heads of University Biosciences and the Biology Education Research Group. We have also received contributions from other bioscience based learned societies, our member organisations (see Appendix A for full list) specifically of note including the Biochemical Society, the British Ecological Society, British Pharmacological Society, British Society for Immunology, Heads of University Centres of Biomedical Sciences, Microbiological Society and The Physiological Society.

The RSB supports higher education institutions, their staff and students through a number of initiatives, including:

- Offering our members who are active in teaching the opportunity to join the Chartered Science Teacher (CSciTeach) professional register¹. To maintain their registration teachers must demonstrate their continued commitment to engaging with professional development² and reflect upon their practice.
- Through our degree accreditation³ processes, the RSB ensures that accredited programmes enable students to develop the skills needed by employers alongside strong academic knowledge and practical skills.
- Offering training and events that support teachers in higher education including a yearly residential conference co-ordinated by our special interest group the Heads of University Biosciences which focuses on teaching and learning⁴.
- Recognising excellence in bioscience teaching with our annual Higher Education Bioscience Teacher of the Year Award⁵.

¹ Chartered status <http://www.rsb.org.uk/careers-and-cpd/registers/chartered>

² Professional development <http://www.rsb.org.uk/careers-and-cpd/cpd;>
http://www.rsb.org.uk/images/RSB_learning_for_life.pdf

³ Advanced Accreditation and Degree Accreditation <http://www.rsb.org.uk/education/accreditation>

⁴ Heads of University Biosciences events <http://www.rsb.org.uk/education/hubs/hubs-news-and-events>

⁵ Higher Education Bioscience Teacher of the Year Award <http://www.rsb.org.uk/get-involved/awards-and-competitions/he-teacher-of-the-year>

Executive Summary

1. The Royal Society of Biology is supportive of the overarching aim to raise the status and standard of teaching, support teachers in higher education (HE), encourage the improvement of teaching and increase transparency for students, teachers and employers. However, we do not think that the proposed teaching excellence framework (TEF) described in the Green Paper will deliver these objectives.
2. We **do not** support the introduction of **financial incentives** whereby institutions achieving higher TEF levels are permitted to raise fees to a higher capped level. While we recognise the need for institutions to follow an inflation-linked trajectory to narrow the widening gap between income and cost, we have concerns about a differential, tiered fee system that will likely have a detrimental impact on widening participation and associated social mobility, international competitiveness, teaching standards and sector diversity. If any mechanism to increase income is available, it should be in the form of a ring-fenced grant for improving teaching at universities struggling to raise standards.
3. We are deeply concerned that the **administrative burden** of gathering evidence for the TEF will fall predominantly on teaching academics, impacting negatively upon the time they need to ensure that they are indeed providing excellent teaching. A balance must be struck between the administration and the potential benefits of a TEF to ensure an overall positive outcome for both teachers and students.
4. The **common metrics** proposed will not measure teaching excellence, and indeed a refined definition of teaching excellence does not exist. This is a long-standing issue and whilst we do support the development of new metrics that are better indicators, this will be challenging and especially difficult to achieve within the proposed time frame. Furthermore, excellence will be discipline specific. Contextual information will also be vital in the interpretation of any metrics such as evidence of a culture of continued improvement such that teaching not only aims at excellence but also enhancement. The use of metrics should aim to raise teaching standards across the sector, not league positions.
5. We are supportive of the use of **data relating to institutions' investment in staff** training, access to teaching qualifications and recognition through professional registers such as the Chartered Science Teacher register⁶. We consider that these investments will help to raise the standard of teaching and also the status of teachers within the HE sector. Our joint report on raising the status and valuation of teaching (2014)⁷ highlighted a need "to develop a widely established framework for identifying and measuring good teaching, as there is for research" and considers the importance of properly incentivized teaching careers within the overall objectives of good teaching and fulfilling professional activity.
6. Excellent teaching should enable the weakest students to achieve a better outcome than would otherwise be expected. This **relative improvement** in student competence is critical for any metric based approach where absolute attainment should not be the focus.
7. We encourage **greater collaboration** between professional bodies, subject associations and HE institutions. Where appropriate, recognition that courses have undergone an accreditation⁸ process could contribute to the additional evidence that an institution submits. This would demonstrate that they engage with curriculum development, use a variety of appropriate teaching and learning techniques and have put in place strategies that support students to develop skills for employment.
8. The suggested **timetable for the implementation** of the TEF is inappropriately short. We are concerned that it will not be possible to process the applications of all institutions within the given timeframe. The government must ensure that there is sufficient capacity to administer the process fully and equitably, given the considerable reputational and business risk to institutions that do not achieve a TEF level 1 outcome within this first round.

⁶ Chartered status <http://www.rsb.org.uk/careers-and-cpd/registers/chartered>

⁷ Improving the status and valuation of teaching in the careers of UK academics (2014) http://www.rsb.org.uk/images/SB/Improving_the_status_and_valuation_of_teaching_in_the_careers_of_UK_academics_WEB_version.pdf

⁸ Advanced Accreditation and Degree Accreditation <http://www.rsb.org.uk/education/accreditation>

9. If a TEF is implemented, scores must be **awarded by discipline**, not at an institutional level. Only then will it be meaningful and of any use to prospective students and employers. All data gathered in the TEF should also be transparent, publicly accessible and include a peer review element.
10. We believe **research-informed teaching** should be delivered at all new institutions entering the university sector and by alternative providers that achieve university status. Bioscience is a broad and rapidly-evolving field, and students need to acquire an understanding of up to date knowledge and skills. It is also essential that every provider offers bioscience students support to develop their practical skills and access laboratory and fieldwork based learning experiences.
11. We are supportive of a keen **focus on students** and the creation of an Office of Students but think it is critical that the expertise that has been accrued in HEFCE is not lost. In addition the complexity and importance of the teaching community as active participants, who are heavily invested in the system, must be borne in mind.
12. It will be important for any TEF to **learn from the experience of the REF** (and RAE) about the consequences of the cultures it could establish. Both the successes and the perceived weaknesses and negative normative influence of the REF should be borne in mind along with the recommendations of the Nurse Review for the operations of the Universities and RCs as a whole within the research endeavour to “...establish a culture that improves effectiveness and encourages collaboration, not just competition between institutions.”
13. A well-functioning TEF would act in favour of the **spreading of good practice**, sharing and maximal use of talent, and development of novel practice to reflect teaching and education needs. Embedding a competitive culture focused on specific metrics could act against this. There is the issue of gaming where perceived need for competitive edge in the REF has encouraged a high level of focus on particular metrics (primarily impact factor and grant earnings) that has driven behaviour not necessarily as intended.
14. The experience of the REF in relation to a **positive focus on impact** has both encouraged researchers to consider deliverable societal benefits and helped to promote translation of research and this is a positive outcome. Assessment that supports positive and aspirational development can deliver excellent performance and returns to the sector and more broadly. We hope the positive impacts of an evaluation framework will be mirrored in the TEF.
15. We hope the Government will continue to **engage with the HE and broader stakeholder communities**, working together to ensure the common goal of raising the status and quality of teaching can be achieved by the TEF, to the benefit of teachers, students, employers and other stakeholders. The Royal Society of Biology looks forward to contributing to further developments of concepts and mechanisms, and supporting any evaluation of subsequent iterations of the TEF.

Question 1: What are your views on the potential equality impacts of the proposals and other plans in this consultation?

The widening access and social mobility aims of this paper cannot be fulfilled if TEF performance is linked to tuition fees, and it could also potentially undermine and undo some of the progress that has already been made in this pertinent area. We therefore strongly oppose proposals to link TEF ratings with tuition fees.

a) Are there any equality impacts that we have not considered?

Yes. As tuition fees differentiate, and a tiered system for fees emerges, able but financially disadvantaged students may be dissuaded from taking up opportunities to access higher education. This forms a barrier to prospective students from lower socio-economic backgrounds and could substantially restrict their choice. The recent abolition of the last grant support for the poorest students will exacerbate this situation. As before, we strongly oppose proposals to link TEF ratings with tuition fees.

Question 2: How can information from the TEF be used to better inform student and employer decision making?

If appropriate metrics are used that strongly correlate with teaching quality, the level achieved in the TEF for a department or course could be a useful indicator of the teaching experience a prospective student can expect. However, the ability to define accurate measures of teaching excellence is a long-standing issue with no real consensus and so achieving this aim will be challenging, and difficult to achieve within the proposed time frame. We have elaborated on this in responses to subsequent questions.

We have several suggestions for how to improve the usefulness of TEF information for stakeholders:

Scored at the right level

- An aggregate institutional TEF score alone will not be useful to students who want to be able to access information directly relating to the content of their intended degree course⁹.
- A TEF rating needs to be at discipline level (e.g. 'biology').

Full transparency of data

- All data should be publicly available in an accessible format such as a spreadsheet file. This will allow the deepest data analysis possible by data aggregators such as UniStats or other widely-communicated league tables, and allow stakeholders to make maximally informed decisions.

Metric caveats and contextualisation

- Metrics cannot always be compared fairly across disciplines. For example, science courses inherently require greater contact time (e.g. for vital practical work) than perhaps a humanities course. It is important to recognise the validity of varying teaching methods across disciplines.
- It may be useful to explore a discipline benchmarking exercise for some metrics. For example, we recently found an average bioscience degree involves a total of ~500 hours of laboratory-based work over three years¹⁰. What does good contact time look like for a history degree compared to a medical degree? Universities should also have the opportunity to explain why a metric may be lower than the benchmark as it may be compensated for in other valid ways.
- It must be considered that a metric score will not always correlate linearly with teaching excellence. For example, non-contact time is valuable and necessary for students to develop independent learning skills. A

⁹ University World News (2013) <http://www.universityworldnews.com/article.php?story=20130328141317897>

¹⁰ The Royal Society of Biology, Higher Education Academy and the Biochemical Society undertook research into the quality of practical work, which led to the publication of a 2014 report '[Audit of Practical Work undertaken by Undergraduate Bioscience Students across the UK Higher Education Sector](#)'.

student who is not challenged or has been ‘spoon fed’ will lack these vital skills for employment. Is there a way to measure support for independent learning, such as provision of suitable facilities?

- Current employability metrics do not take into consideration typical career routes of bioscience graduates. They are more likely to continue in the bioscience field through completing further degrees before entering employment. Collecting employment data 6 months after graduation is too short a time frame for a final point and we would support the addition of a collection at 3 years.
- We are concerned about potential connections made between TEF scores and degree classes, particularly by employers. Is there more perceived value to gaining a 2.1 at a TEF level 2 institution compared to a level 4, due to the student achieving the same result despite ‘poorer’ teaching? The implications of this need to be explored and clear guidance offered to stakeholders.

‘Gaming’

- It is important to note that the majority of data used in league tables are performance indicators, rather than direct measures. Nevertheless they can act as strong drivers of change and can incentivise organisations towards ‘gaming’ such ranking systems¹¹. This can be detrimental to the student experience and we would like to see further investigation into the potential of this happening with metrics proposed and how it can be minimised.

Question 3: Do you agree that the ambition for TEF should be that it is open to all HE providers, all disciplines, all modes of delivery and all levels?

If the TEF is implemented, it should be applicable to all HE providers. However, there must be considerations of how this can be implemented over a suitable time scale and across different modes of educational delivery including part-time, sandwich/placement and distance learning. The pathways for progression through TEF levels will require scrutiny to ensure equal opportunity for all providers. There are also issues of scale where the proposed inclusion of small providers would result in the reduced validity of quantitative metrics.

Question 4: Where relevant, should an approved Access Agreement be a pre-requisite for a TEF award? What other mechanism might be used for different types of providers?

We strongly believe that all providers should have agreed Access Agreements, regardless of their tuition fees. Therefore, yes, they must be in place before a TEF level is awarded.

However, we have several concerns:

- The link between higher TEF scores and higher tuition fees is likely to undermine ambitions to support the wider participation and access of individuals from disadvantaged and underrepresented backgrounds into higher education.
- The Access Agreement must ensure providers have systems in place to support the admission and retention of individuals from disadvantaged backgrounds. There must be continued and effective support that removes or ameliorates any extraneous obstacles to these individuals’ successful completion of their courses and entry to employment.
- We question the metrics commonly used to determine disadvantaged backgrounds. The current use of postcodes does not provide a strong enough correlation with socio-economic background, particularly in large, heterogeneous cities such as London¹².

Question 5: Do you agree with the proposals on:

a) what would constitute a ‘successful’ QA review

¹¹ Foley, B. and Goldstein, H. (2012) Measuring Success: league tables in the public sector, The British Academy <http://www.britac.ac.uk/policy/Measuring-success.cfm>

¹² http://www.spa.ac.uk/documents/ContextualData/SPA_ContextualisedAdmissions.July2013.pdf

The QA review ensures that universities have the appropriate mechanisms in place to support their students, and whilst this is a beneficial process that should be retained, it does not directly assess teaching excellence. We therefore question its use as entry to TEF level 1.

We agree with the definition of success within the context of the QA review but have concerns about the short timeline for implementation of the framework. On page 24 of the green paper it states TEF level 1 will be based upon having a published a review by the end of February 2016.

What will be the consequences of a TEF 4 institution failing their QAA – will they lose their TEF entirely and what will be the consequences for students?

b) the incentives that should be open to alternative providers for the first year of the TEF

We oppose the use of TEF-linked tuition fee rises as an incentive for any provider.

c) the proposal to move to differentiated levels of TEF from year two?

The notion of a mechanism to reward and acknowledge high quality teaching is appealing. However, we wish to be clear that measuring teaching quality is a complex challenge and through a tiered system there may be unintended negative consequences which we have detailed below.

Implications for International Competitiveness

- Introducing the four-tier TEF could imply a teaching crisis in the UK HE landscape that does not exist and may impact upon international competitiveness.
- The UK's international reputation for HE ranks highly, attracting high numbers of students from abroad with 435,000 international students representing 19% of the total UK cohort in 2013/14¹³
- BIS estimated the total value of UK higher education and training exports to the UK economy to be £10.4 billion in 2015, and predict this will reach £16.9 billion by 2025. The bulk of these estimates come from international tuition fees and student spending¹⁴
- The majority of HEIs greatly benefit from international student income, allowing them to further invest in their activities, including teaching provision. International student intake in 2013/14 averages at 2600 per UK HEI, with only 8 of 163 HEIs having no intake¹⁵.
- There is a risk with any tiered rating system that it may be open to misinterpretation where the mid-range is perceived as the baseline or average. The four tier system may imply that universities that have not achieved a higher rating than level 1 offer poor teaching, rather than reflecting the actual QAA's assessment that they 'meet UK expectations'.
- We propose that should this tiered system be implemented, it needs to be absolutely clear that level 1 TEF universities meet UK expectations and that their international reputation is not compromised. It is important that all universities are given full opportunity and support to raise their TEF level if this system is implemented.

We have concerns that UK universities with lower TEF ratings will be less competitive internationally, especially given that no other comparable system exists abroad. Any loss of international competitiveness for individual universities would reduce their income, allowing less investment in teaching provision and may lessen the international reputation of the whole UK HE sector.

¹³ HESA: [Higher Education Student Enrolments and Qualifications Obtained at Higher Education Providers in the United Kingdom 2013/14](#)

¹⁴ Department for Business Innovation and Skills, 2011: [Estimating the value to the UK of Education Exports](#)

¹⁵ https://www.hesa.ac.uk/dox/pressOffice/sfr210/071277_student_sfr210_1314_table_3.xlsx

It is also proposed that the use of metrics will evolve and therefore depending on the year of application for a TEF level, different providers will be judged against different criteria. We suggest carefully modelling the system to evaluate the potential approaches before introducing the metrics from year two onwards.

Question 6: Do you agree with the proposed approach to TEF assessments on Timing?

We support review of the TEF award every 3-5 years with the allowance for HEIs to apply annually for higher TEF levels. It is vital that TEF assessment does not clash with the REF, so as not to further overburden HEIs.

Assessment panels?

We strongly support the proposal for subject-specific assessment panels that represent key stakeholders, including students, employer representatives and academic experts in teaching and learning. For the biosciences it will require specific understanding of practical teaching methods, covering laboratory, field and placement work. There is also a risk of dilution of effectiveness if the unit of assessment for each panel is too large in scope. It is also unclear how increasingly popular, and valuable, inter-disciplinary programmes will be assessed.

We need clarification of the roles of panel members, given that various stakeholders bring different expertise. They must be supported with access to professional development opportunities and training to enable them to interpret evidence and establish whether it reflects excellence in teaching. This will ensure that they are able to make fair and valid comparisons across the sector.

We have concerns about how assessment panels will be populated. The subject-specific HEI sector is relatively small and the most appropriate individuals will be senior subject experts who tend to know each other. This will add to the costs for the institutions financially and result in teachers losing planning, assessment and marking time as well as students losing contact time. The government should be aware that for some large institutions, 30 or more individual panels may be required to cover the full range of disciplines.

We are also concerned by the extent to which teaching excellence can be determined by a paper exercise. Would lecturers need to submit learning outcomes, lesson plans and lecture slides?

and process?

We agree that the TEF assessments should be independent from Government and that there should be development of an appeals process. We believe there needs to be quality assurance of this.

We agree that the panel's judgement on each of the criteria should be published. All data should be publicly accessible, facilitating students to make maximally informed decisions and allowing data to be mined and usefully interpreted and aggregated by statistical organisations such as Unistats and others.

The TEF aims to raise the level of teaching quality, yet is likely to place most of the burden on those staff it aims to support i.e. teaching academics. We have already seen administrative burden become a driver for teachers in primary and secondary education to leave the profession and would want safeguards in place to prevent this from being mirrored in tertiary education, which is already under pressure from REF assessment.

We also have concerns as to where interdisciplinary and joint programmes would sit in this assessment model where we assume departments would be assessed and given an overall rating

Question 7: How can we minimise any administrative burdens on institutions?

In the constantly evolving biosciences field, research-informed teaching is pivotal with many teaching academics also engaging with or being active researchers. This beneficial structure must be protected from the inevitable administrative burden, which will perversely reduce time available for academics to maintain the quality of their teaching and research. There will be pressure to employ additional administrators to specifically work on the TEF, as many institutions do for the administration surrounding REF submissions.

However, requests for additional contextualising data to go alongside metrics will provide a better indicator of what is happening in institutions and the practices that they have put in place. Academics who have implemented these practices will be best placed to provide this information, rather than general administrators.

With the importance of tracking datasets, we propose utilising organisations that already gather longitudinal data. This should increase efficiency by reducing administrative burden on both HEIs and government, whilst highlighting and perhaps further funding the important work these organisations do. For example, the Equality Challenge Unit runs the Athena SWAN and Race Equality Charters and the Social Mobility Foundation tracks A-level entry qualifications and subsequent degree attainment of students from disadvantaged backgrounds.

Any move to a GPA-based degree classification would place a large administrative burden on HEIs, especially if they had to convert to this system in a short timeframe. Therefore there must be maximal notice given to HEIs if there are plans for TEF to use this system in future.

Question 8: Do you agree with the proposed approach to differentiation and award as TEF develops over time?

We need clarification as to how metrics will map onto differential levels before we can properly respond to this consultation.

We also need clarification on how the proposed institutional TEF level would be aggregated. There will be examples of varying levels of teaching quality at all institutions and it would be unfair and inaccurate for all departments, staff and students to fall under one institutional level. Instead, it should encompass greater granularity and therefore be awarded to discipline level (e.g. 'biology' or 'life sciences').

Employers who regularly recruit graduates already know the quality of teaching and from which HEI's they prefer to recruit because they hold existing research/business/patent links. They are therefore unlikely to accept a blanket TEF level as a better guide to graduate preparedness.

We also want to know whether HEIs can apply for level 4 straight away, or whether they must progress through the levels with each subsequent application.

Question 9: Do you agree with the proposed approach to incentives for the different types of provider?

No. We predict that for many institutions, a higher TEF level would see an increase in the quality and quantity of prospective students due to enhanced reputation. This is a sufficiently strong incentive and reward to encourage universities to improve their teaching to attain higher levels of TEF. However, universities need to be assured of inflation-linked increases in fees, otherwise the sector is not sustainable.

We object to linking TEF levels with raised tuition fee caps as we have concerns regarding the following negative repercussions for widening access and teaching standards:

Widening access

- Provision of education is a public good activity and, as much as possible, its commodification should be resisted, by providing mechanisms to bridge any price barrier.
- The financial benefit to universities of a high TEF rating should not be to the financial detriment, or become an effective disincentive, to students of limited means who may apply to lower charging universities and not apply according to their ability. Access to high quality teaching should be based on merit and need, not purchasing power.

- Individuals from poorer families are more likely to be uncomfortable with the burden of a relatively high debt, regardless of low interest rates and repayment thresholds.¹⁶ Higher tuition costs will therefore be a barrier to accessing HEIs that boast a higher TEF level, and higher quality teaching.
- Whilst current data suggests that access has not been negatively impacted by the introduction of £9,000 tuition fees¹⁶, the majority of universities charge this and so it is essentially a flat rate market. Through linking fees to the TEF and thus increasing the variability of fees throughout the HE sector, it will mean a substantial difference in accumulated debt to a student who decides to attend a TEF level 1 institution compared to TEF level 4. We feel this is a credible risk to the widening access agenda.
- Individuals from lower socio-economic backgrounds are more likely to live at their parental home while studying to reduce the need for maintenance loans, and so their choice of university is limited to their locality¹⁶. Differential rates mean that some may not go if their local university charges significantly more than others.

Raising teaching standards

- We believe that the introduction of differential tuition fees and thus differential incomes for universities may widen the gap in teaching quality due to positive and negative feedback loops.
- Well-funded universities are better able to invest in their teaching provision and thus more likely to achieve a higher TEF rating. This is likely to produce a positive feedback loop for universities that are already performing well and do not need greater financial and teaching support to the extent that other universities might.
- Smaller, less well funded universities that struggle to find the resources to improve teaching quality will be at a competitive disadvantage should larger universities be able to charge more and invest towards attaining higher TEF levels. They may lose prospective students and income, resulting in a downward trend of quality. It is important that there are formulas in place to prevent too steep an escalation.
- The TEF should act as both an incentive and support mechanism to improve teaching quality. It should include processes that raise standards across the HE sector and therefore close any gaps in teaching quality between universities, rather than polarise them.
- This polarisation could create a two-tier system whereby universities that do not achieve higher TEF levels are caught in a low funding/no improvement scenario. This could lead to the collapse of some institutions, which would be damaging to the HE sector which benefits from a diverse array of providers, with some specialising in key courses of benefit to the economy and wider society.
- HEIs with low overall rankings in league tables may boast specialised courses with excellent teaching quality and international reputation. These high quality courses may be damaged if the institutional TEF rating is low, resulting in less comparative income and poorer ability to compete in the market. It will be important to preserve and nurture excellence wherever it occurs, even within otherwise unremarkable institutions, and mechanisms to achieve this must be considered within the overall framework.
- Conversely, any specialised course with low TEF ratings would be at risk of being closed by the university to improve their overall rating, as an easier solution than attempting to improve the course itself. This is of particular concern where courses deliver graduates with a particular or niche skill set or knowledge.
- If any mechanism to increase income is available, it should be in the form of a ring-fenced grant for improving teaching at universities struggling to attain a higher TEF rating.

Whilst the green paper states there will be no increase in fee with a rise in TEF level for enrolled students, we question the impacts of a level decrease. This would possibly constitute a 'broken contract' to provide the student

¹⁶ Neon Report (2015) Does cost matter? http://www.educationopportunities.co.uk/wp-content/uploads/DoesCostMatter_ANEONReport.pdf

with a certain level of teaching and therefore entitle them to a refund and/or a drop in fees for subsequent years. This would pose possible budgeting issues for the university.

Question 10: Do you agree with the focus on teaching quality, learning environment, student outcomes and learning gain?

We agree with these areas of focus in principle but question how they will be accurately assessed and have concerns that metrics are not equivalent across subjects. E.g. teaching quality is no more likely to be higher in a bioscience course with 500 hours of contact time than a humanities course with 50. The assessments of and satisfaction levels among the teaching staff are also crucial components of a complete picture, and therefore of focus.

Teaching quality

- Fast-moving subjects such as the biosciences require that teachers use the latest information available. Research-informed teaching may therefore be a useful indicator of teaching excellence for the biosciences. Teachers should be active researchers or have input from those who are.
- Institutions should recognise and reward excellent teaching through parity of status between teaching and research careers. This is particularly important in the biosciences where research tends to dominate advancement criteria.
- One fundamental difference between the research and teaching environment is the element of peer review, operating both at the point of research outputs, on draft and released publications (ie pre and post publication peer review), and more informally through discussion at conferences and symposia. Both contribute to and can be distilled into a sense of community esteem. University teachers do not have a similarly functional mechanism across the board to contribute this valuable perspective to a TEF. Teacher as well as student assessment of teaching is essential for a complete picture.
- It may be a good indicator to look at staff satisfaction in regards to institutional support for advancing their teaching e.g. access to pedagogical grants and conferences. This is something that cannot be measured by using student-gathered data.
- How many staff have qualifications or recognition in teaching such as the PGCap, Fellowship of the Higher Education Academy or acceptance onto the Chartered Science Teacher Register¹⁷, nominations received for awards such as HE Bioscience Teacher of the Year Award¹⁸ or similar are indicators of teaching quality. Some require a fee which institutions must ensure does not become a barrier for academics.

Learning environment

- Support facilities such as libraries and computer suites need to be considered as part of this 'learning environment', much as 'research environment' is part of the REF.
- Bioscience-specific learning environments are necessary for excellent teaching such as access to field work, laboratories, placements and independent research work. RSB Degree Accreditation assesses this¹⁹
- Teachers must be encouraged to thrive and excel by institutions that value teaching and peers who celebrate achievement in nurturing the next generation of informed and inquiring minds in their discipline.

Student outcomes

¹⁷ Chartered Science Teacher Register <http://www.rsb.org.uk/careers-and-cpd/registers/chartered>

¹⁸ HE Bioscience Teacher of the Year Award <http://www.rsb.org.uk/get-involved/awards-and-competitions/he-teacher-of-the-year>

¹⁹ Advanced accreditation and degree accreditation <http://www.rsb.org.uk/education/accreditation>

Student outcomes are wide ranging and go far beyond what employability data can capture. Although employment data indicates to an extent whether a student's degree has prepared them for entering work, whether a student is employed does not directly correlate to the quality of teaching during their degree.

- Institutions could follow up with employers to assess their satisfaction with the quality of graduates from a course. Likewise, it may be useful to ask students how prepared they were for work.
- With the breadth of employment destinations for bioscience graduates, there will always be a need for employers to be involved in the training of new employees to help them develop more specialist skills.
- Salaries inherently differ between subject and area of employment, and increase at different rates for different career paths. This should be accounted for and expectations can be established with longitudinal studies following the careers of graduates. The impact of good education is as much in a life more richly lived as in a career more richly (economically) rewarded – the impact of education and of institutions that value, promote and deliver excellent education should be factored into any assessment.

Learning gains

This is vitally important but complex to measure, with a number of different factors to be taken into account, including the starting points for students, which depend on educational background, family income, age and part-time study.

A student with CCC at A-level graduating with a First would represent more added value than a student with A*A*A* graduating with a First. However the student with A*A*A* achieving a First has no higher level achievable, limiting the potential 'value' that can be added.

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?

Institutions are not delivering national curricula and so delivery and assessment methods vary, being tailored by each provider. Metrics cannot account for these underlying differences and we therefore support contextualisation through awareness of the student demographic and use of qualitative data such as institution mission statements. Teaching must be embedded within an institutional culture with commitment to and investment (through governance and budget) in continuous improvement in teaching and teacher careers.

It is very important not to use metrics as proxy measures of desired characteristics unless there is certainty of a causative relationship. Whatever is measured will be examined, prioritised and promoted within institutions and the opportunity cost and peril of an incorrect choice of metric is therefore huge. Similarly, the distinction between metrics and indicators should be carefully acknowledged and used responsibly.²⁰

We are supportive of an overall aim to develop new measures that will be a better indicator of teaching excellence than the metrics currently available. We recommend engaging with the education research community to support this development and to deal with the dilemma of defining teaching excellence inherent in any attempt to measure it, while at the same time acknowledging that what constitutes excellence will be field and time variant.

Common metrics

- Data produced by institutions do not currently measure teaching excellence, and indeed there is no agreed definition of teaching excellence against which to measure, and therefore using these data as metrics in the TEF could be damaging. To acknowledge that current data may be an indicator, not a metric, of teaching excellence may be a helpful development.
- Six months after graduation, where many graduates will not yet have decided upon a career path, is a relatively short time to collect employment data. Professions such as education and medicine have obvious

²⁰ *Responsible metrics* are described in *The Metric Tide* (2015) Chapter 10, p134.

career pathways and jobs for graduates to enter, whereas students from the biosciences often enter a broad range of occupations, as well as, in many cases, continuing on to further study.

- Collecting data several years after graduation may better reflect the employability outcomes of graduates and this might be achieved through using data collected by the Student Loans Companies or HMRC, provided data protection laws and provisions could be satisfied. However it should be noted that employment data are not a direct indicator of teaching quality and are skewed by a range of factors beyond the control of individual departments.
- There are issues in contextualising employment data where TEF assessments will take place in different years in which the economic climate can vary, impacting upon graduate employability. Interpretation of data across modes and levels must also be clear. For example, mature students taking first degrees part-time may have significant work experience such that it influences DLHE data. However, in most institutions this will be a relatively small number.
- Retention data are difficult to interpret and must be seen in context. Students in the most under-represented groups often have the lowest retention rates. Therefore the use of this metric must not perversely penalise institutions that have commendable initiatives to increase access and widen participation, and which therefore may have reduced retention rates compared to institutions without such initiatives. For example, institutions such as the Open University that cater to distance learners and often offer a stepping stone onto other higher education routes would be seriously impacted by over-reliance on this statistic in the determination of reward.
- We have concerns relating to the use of student evaluation because of the risk of conscious and unconscious bias. For example, there is emerging research which shows that student evaluation of teaching disadvantages female teachers and that this bias varies by discipline, student gender and other factors that make it difficult to adjust data to take them into account²¹. Contemporary approaches to addressing unconscious bias are well known and therefore the Government may need to consider training for students, should student evaluation be relied on for data used in the TEF.
- Satisfaction within the National Student Survey is not a good measure as it does not correlate with teaching quality. Students also rarely get to compare provision at different institutions and much of this satisfaction rating will relate to institutional management of expectations. In our response to BIS on assessing the quality of higher education we state:

“In considering student satisfaction as a measure of teaching excellence there is a tension between what a university needs to provide for students and what the student may want. Student satisfaction (and corresponding positive National Student Survey results) are achieved in part by providing more defined curricula/questions and more complete support (references, online lectures, expected outcomes). Universities play a role in challenging students, ‘transforming’ them into graduates ready to input into society, and this does not necessarily align with what makes students immediately happy. TEF should take into account parts of the Student Survey such as getting useful feedback and having good support structures but should be wary that it does not cover all educationally important aspects.”²²

New Metrics

- We are supportive of the implementation of new questions in the student survey under the heading of academic challenge and integrative learning²³.
- We are supportive of the development of agreed metrics that reflect the training and employment of staff, sharing of best practice in teaching, recognition of their professional qualifications and the investment that this represents, and the use of these metrics as a component of quality assessment. However we are wary of

²¹ Boring, A., Ottoboni, K. and Stark, P. (2016) Student Evaluations of Teaching (Mostly) Do Not Measure Teaching Effectiveness <https://www.scienceopen.com/document/vid/818d8ec0-5908-47d8-86b4-5dc38f04b23e?7>

²² RSB (2015) RSB response to the Business Innovation and Skills Committee Inquiry: Assessing the quality of higher education <http://www.rsb.org.uk/policy/consultations/consultation-responses>

²³ The consultation on changes to the NSS, Unistats and information provided by institutions http://www.hefce.ac.uk/media/HEFCE,2014/Content/Pubs/2015/201524/HEFCE2015_24.pdf

any implication that a simple formulaic approach can capture this in a way that is an adequate overall assessment.

- Indicators such as how many staff have qualifications or recognition in teaching may be useful. These include the PGCap, Fellowship of the Higher Education Academy, acceptance onto the Chartered Science Teacher Register²⁴, being a finalist or winner of awards such as HE Bioscience Teacher of the Year Award²⁵ or similar. However, there is no current standardisation between these various recognition schemes and so thought must be given to reconciling the equivalency between them. For example, is 50% of staff having HEA fellowship in one department comparable to 50% having Chartered Science Teacher status in another?
- We would like further details on what commitment to learning would look like and how it may be measured. This metric may be difficult for all institutions to provide useful data for, especially when they cater for part time and distance learning.
- We have also suggested indicators which could be used for metrics in our response to Question 10.

Other information submitted by institution

- Although the size, mission, context, setting, priorities and provision are useful additional evidence to have in contextualising the data from an institution, these are not measures that relate directly to teaching quality.
- We would like further detail on what will be the measures for ‘teaching intensity’, and as mentioned before, it will be important to incorporate recognition that contact time across disciplines is not always comparable. The same can be said of staff/student ratios – some topics are perfectly suited to being taught by one staff member in a lecture theatre, whilst laboratory skills are less well suited and require more 1 on 1 interaction between staff and students.
- We are supportive of recognition of institutions’ wider engagement with employers and PSRBs to ensure that courses meet the needs of Society.

Social mobility and widening participation (Part A: Chapter 4)

Question 12:

a) Do you agree with the proposals to further improve access and success for students from disadvantaged backgrounds and black and minority ethnic (BME) backgrounds?

The RSB calls for improved access and success for all groups with evident need for support. We are pleased to note the proposed emphasis on the need to support success of students, taking the emphasis beyond that of simply widening participation to university, and highlighting the complexity of challenge and the need to develop strategies to support students throughout their studies. However, we wish to restate that we strongly oppose raising fees differentially as it works against these proposals.

The proposal states TEF will recognise the “*efforts that providers make to improve the access and experience of students from all backgrounds*” but further detail is required to indicate how this will be measured and contribute to the assessment.

It will be necessary for institutions to have data relating to the race, socio-economic status, specific learning needs, mental health and the age profile of their students. This data will enable them to track progress and provide assistance for ongoing improvements of practice towards the aim of ensuring all demographics are sufficiently supported. We do however note that students do not have to disclose this information and therefore there will always be some level of uncertainty.

²⁴ Chartered Science Teacher Register <http://www.rsb.org.uk/careers-and-cpd/registers/chartered>

²⁵ HE Bioscience Teacher of the Year Award <http://www.rsb.org.uk/get-involved/awards-and-competitions/he-teacher-of-the-year>

We also object to combining data from different disadvantaged groups for analysis. Each group faces widely different challenges, and may require different support, and there is a risk of losing meaning and understanding should data be homogenised. All statistics using small datasets should include appropriate narrative that sets out the context and limitations, including impact on the validity of the information presented.

b) Do you agree that the Office for Students should have the power to set targets where providers are failing to make progress?

As universities are autonomous institutions, there may be potential issues with the Office of Students setting targets for individual providers. Clarification is also required regarding under what parameters an institution will be deemed to be “failing to make progress” and targets need to be carefully considered so that universities are not penalised if students leave due to reasons beyond their control.

The use of retention rates as a target can mean a small drop in numbers of students can represent a large percentage drop within each disadvantaged group. There could be a case to use qualitative information about the support provided rather than any reliance on quantitative metrics when the sample size is too small to provide meaningful and robust data.

c) What other groups or measures should the Government consider?

Mature students and students with disabilities are often under-represented at universities and it is important to ensure that there is equity of access and strategies in place to support them to continue with their studies. Similarly gender inequality should be a focus so that both men and women are supported in areas where they are underrepresented.

Once strategies are in place to measure it, we would be supportive of using metrics that relate to the value added to students and their learning gains as measures of success.

Question 13:

a) What potential benefits for decision and policy making in relation to improving access might arise from additional data being available?

It would be useful to longitudinally track students with particular characteristics. These data would help establish whether particular interventions have been successful, and aid the evaluative process. The data would also enable universities to better target their interventions.

Collection of the data will continue to be an issue as it is at the discretion of the student whether they wish to disclose personal information. Communication about the purpose of data collection and assurance and robust practices in terms of data security would be essential elements of any centralised system.

b) What additional administrative burdens might this place on organisations? If additional costs are expected to be associated with this, please quantify them.

We do not feel it is in our remit/expertise to answer this question.

Question 14: Do you agree with the proposed single route into the higher education sector?

We do not feel it is in our remit/expertise to answer this question.

Question 15:

a) Do you agree with the proposed risk-based approach to eligibility for DAPs and university title?

Whilst we support the diversification of HEIs in principle, we are concerned that for a fast evolving subject like the biosciences, alternative providers will have little or no experience of research-based teaching. The teaching of biological concepts must be informed by the latest discoveries and innovation, encouraging students to learn how to generate new knowledge. If it is not, individuals will be at risk of their knowledge being out of date by the time

they graduate. This is already an inevitable problem with the sciences but would be exacerbated by alternative providers that are not research-informed. If alternative providers are to be given university title, it is crucial that they provide an assurance that a pipeline is in place so that knowledge and skills from active research can inform teaching, and module content is regularly reviewed and updated. It is also essential that every provider offers bioscience students support to develop their practical skills and access laboratory and fieldwork based learning experiences.

b) What are your views on the options identified for validation of courses delivered by providers who do not hold DAPs?

We question whether these providers would come under the umbrella of the body that awarded the degree, which may be a negative contributor to the TEF score.

To give the TDAPs to the Office for Students would represent a significant move away from sectoral autonomy and would make Government an interested party in the delivery of HE, as having an oversight of quality as well as being a provider. This has the potential to create a conflict of interest.

We support the proposal to endorse or even contract existing bodies with their own DAPs to operate as central validating bodies, on condition that they sign up to a validation approach which explicitly promotes competition, diversity and innovation.

We oppose Government giving DAPs to non-teaching bodies.

Question 16: Do you agree with the proposed immediate actions intended to speed up entry? Please give reasons for your answer.

We have concerns with allowing designation applications from new providers throughout the year given that this will involve a large and constant workload.

We support introducing a probationary designation period, during which the validating partner plays a more hands on role to ensure quality, and with in-year monitoring and quality assurance

We support allowing providers to apply for HER after having applied for course designation, so that the processes run in parallel, but would want the flexibility to desist if it is found unworkable.

We believe that it is too intrusive upon the autonomy of HEIs to use student number controls as a compliance measure by the Office for Students, or as a condition attached to the model of entry where cause for concern is flagged.

Question 17: Do you agree with the proposal to introduce a requirement for all providers to have contingency arrangements to support students in the event that their course cannot be completed?

Yes we support the requirement for all providers to have contingency arrangements and this is already the case where a programme is withdrawn or cannot be completed. The primary aim must be to protect the student interests since they are in a weak position having made the decision to commit time and financial resource to a given provider.

Please give reasons for your answer, including evidence on the costs and benefits associated with having a contingency plan in place? Please quantify these costs where possible.

HEIs should be able to supply these costings as many have contingency arrangements in place already.

Question 18:

a) Do you agree with the proposed changes to the higher education architecture? Please give reasons for your answer.

We would like further clarification of safeguards in place to ensure the Office for Students (OfS) is sufficiently separate from Government regarding the extent to which BIS is able to determine the priorities of teaching grants, such as allocation to different disciplines.

We would also like to know how much input students will have to the OfS and would support there being appointed representatives, perhaps from the National Union of Students (NUS).

It is proposed that some of HEFCE's functions will be absorbed by the OfS as would the role and the functions of the Director of Fair Access. We wish to emphasise that it is vital that the expertise that has been built up within these organisations should not be lost. However, this is only one aspect of the proposed changes and additional information on the full intended function and impact of the OfS, and other architectural changes would be needed to fully address or answer such a broad question.

b) To what extent should the OfS have the power to contract out its functions to separate bodies?

OfS should have the authority to contract out some of its functions to other bodies, where those organisations can demonstrate the relevant expertise and credibility within the sector. We have seen this successfully done by HEFCE using HESA to collect data.

c) If you agree, which functions should the OfS be able to contract out?

Examples would include the role of QAA with its long-standing reputation as a guardian for the quality and standards of HE provision. One of the reasons for the initial establishment of the QAA was to separate the funder from the guardian to remove risk of conflict of interests. This separation needs to be maintained.

There would be benefits in the HEA remaining as a separate, independent body supporting the development of HE across the sector.

The operation of the TEF should also be contracted out.

d) What are your views on the proposed options for allocating Teaching Grant? Please give reasons for your answer

In principle we support option 2 whereby the responsibility for determining the allocation of teaching grants is divested to the Office for Students. As this role was previously administered by HEFCE, we hope that many of the staff would move across to the Office for Students so as not to lose the expertise, ethos and remit present at HEFCE.

However, in option 2 'the BIS Minister sets priorities'. We are concerned that strategic directions can change quickly with ministers; universities are not equipped to operate on such short time scales. A buffer, currently provided by HEFCE, is necessary to allow for any subsequent changes in government to ensure that funding for teaching does not become erratic and difficult to predict in the long-term.

Question 19: Do you agree with the proposal for a single, transparent and light touch regulatory framework for every higher education provider?

We do not feel it is in our remit/expertise to answer this question.

Question 20: What steps could be taken to increase the transparency of student unions and strengthen unions' accountability to their student members?

We do not feel it is in our remit/expertise to answer this question but do support the existence of student unions to support the interests of the student body, and would support transparency as an important aspect of governance and action.

Question 21:

a) Do you agree with the proposed duties and powers of the Office for Students? Please give reasons for your answer.

We support the following proposed duties:

- *"A duty to promote the interests of students to ensure that the OfS considers issues primarily from the point of view of students, not providers"*

Whilst we agree that the students are the primary stakeholder and should most benefit from higher education, there is a caveat whereby some things they may want are impossible to deliver or shouldn't necessarily be provided. For example, more contact time between academics and students is presumed to be a good thing from the perspective of students and there will be a temptation to use it as a proxy for an element of teaching quality. However, excellent teaching must encourage independence in students and part of the teaching role is to wean students away from the student/teacher view of learning. OfS therefore needs to establish student priorities in collaboration with academics (perhaps via learned societies), with a view to overall excellence of education. We therefore see a duty to consider issues primarily in the best interests of students, taking into account the aspirations of providers as an appropriate framework.

- *“A duty to respect the institutional autonomy of higher education providers and the academic freedom of their staff”*
- *“A duty to report annually to Parliament on progress in widening participation and access and retention for students from disadvantaged backgrounds, with powers to require providers to complete access agreements in order to charge students fees above the basic amount. This gives OfS the existing powers of the Director of Fair Access.”*

However, we disagree with the power to charge above the basic amount.

- *“A duty to provide students with accessible information, supported by powers to require providers to provide and publish information that enables students to make informed choices; and to require them to make it freely available. Sensible data protection precautions will apply. There would also be additional powers to require bodies providing a service connected with the provision of higher education (e.g. UCAS) to provide relevant data and information, where it is needed in order to improve student information and tackle access issues.”*
- *“A duty to publish and operate a risk based regulatory framework, limiting OfS monitoring for low risk providers and the cost of regulation, to ensure a focus is maintained on minimising burdens for providers.”*
- *“A power to require providers to meet conditions to protect students in the event of course closure or provider failure, giving students the essential safeguards they need and protecting the taxpayer.”*
- *“A duty to promote excellent teaching, and a high quality experience for students studying higher education, with powers to require providers to meet a baseline level of quality, and to assess the quality of teaching through a Teaching Excellence Framework (TEF).”*
As stated previously, we would like to see HEFCE staff and processes involved in this as not to lose expertise.
- *“A duty to provide government bodies with data and assurances about which providers should be eligible to receive public funds, and powers to allocate teaching grant funding to eligible providers (subject to decisions about the allocation of grant funding).”*
We believe this to be HEFCE's current role and support their expertise in this area continuing in the OfS.

We object to the following:

- *“A power, potentially, to validate providers' courses, and (subject to decisions about the role of the Privy Council) to award degree awarding powers and award university title, as well as powers to suspend and remove these awards”*
- *“A power to charge providers a subscription fee in return for registering the provider – this would reduce the burden on taxpayers.”*
We want to seek clarification of this subscription fee and if it will be in addition to the costs of the QAA review process required for level 1 TEF.

b) Do you agree with the proposed subscription funding model? Please give reasons for your answer.

The RSB want to seek clarification of the actual costs of subscription fees and if these will be in addition to the costs of the QAA review process required for level 1 TEF. We also have concerns that the biosciences may be

charged additional fees “for the more expensive applications and processes” given its practical content. The biosciences are already expensive, and more financial burden to assess the quality of its teaching compared to other subjects could be detrimental.

Question 22:

a) Do you agree with the proposed powers for OfS and the Secretary of State to manage risk?

We believe that the proposed powers for the Secretary of State are appropriate. Although again we highlight that although we agree that it should be the responsibility of the Secretary of State to set the tuition fee caps, we do not believe that student fees should be linked to TEF levels.

We have concerns with the proposal that BIS or a specified partner organisation should be able to enter and inspect higher education providers, if it is suspected that the provider has committed a breach of the conditions of receipt of (direct or indirect) public funding. However, encouragingly, the Green Paper makes the point that the Secretary of State has a duty to respect the institutional autonomy of providers.

b) What safeguards for providers should be considered to limit the use of such powers?

Question 23: Do you agree with the proposed deregulatory measures?

We agree there is a general need to reduce administrative burden of current regulatory measures.

Reducing complexity and bureaucracy in research funding

Question 24: In light of the proposed changes to the institutional framework for higher education, and the forthcoming Nurse Review, what are your views on the future design of the institutional research landscape?

Excellent research, learning and teaching are important joint components of a sustainable and productive knowledge economy. Institutions that combine these activities, so that they can inform each other, are important resources for the UK and offer excellent opportunities for inquiring and ambitious minds. The subject base over which individual institutions can combine high quality in research, learning and teaching will vary depending upon staff and facilities (including funding) and it is important to recognise and nurture pockets of excellence and advancement where they arise.²⁶

The Nurse Report importantly recognises the diversity of the research landscape, which extends beyond HE, and therefore the need for flexibility in funding to achieve the best outcome.²⁷ HE teaching needs access to active researchers and facilities, this is particularly important in biology, where the UK’s active research environment rapidly advances inquiry, scholarship and technology.

As well as teaching undergraduate programmes, the teaching of postgraduates at Masters and Doctoral level is a critically important component of higher education and crucially linked to the health and productivity of the research and innovation landscape in public and private institutions. Excellence in postgraduate teaching should also be an important aspect of an assessment framework and outcome. The Nurse Review notes that capacity to train doctoral students wherever the most suitable expertise rests is vital and that programmes should not constrain this.²⁸

The UK’s established links between public and private researchers provides opportunities for research training within programmes at all levels. It is important to ensure that this range of experience is open to students along with a focus on delivery of teaching excellence. In the biosciences, research exposure in a range of settings is valued by

²⁶ “The best research should be funded wherever it is found.” [Ensuring a successful UK research endeavour](#). A Review of UK Research Councils by Paul Nurse (2015) p9.

²⁷ “It is very important to ensure that the mechanisms delivering research support are able to support the best research wherever it can be found and by whoever wishes to carry it out.” [Ensuring a successful UK research endeavour](#). A Review of UK Research Councils by Paul Nurse (2015) p18.

²⁸ “Doctoral training programmes if too inflexibly applied can prevent graduate students being supervised by quality researchers who are not part of such programmes. Mechanisms should be in place to prevent this unfortunate outcome, by maintaining diversity in the support available for graduate students.” [Ensuring a successful UK research endeavour](#). A Review of UK Research Councils by Paul Nurse (2015) p18.

students and employers, including for entry to further research. An extended period of practice is an essential criterion for the Royal Society of Biology's Advanced Accreditation. Future arrangements that preserve and expand these opportunities would be welcome. The Nurse Review recognises the importance of the full breadth of training opportunities. The proposed mapping of the research landscape recommended to be undertaken and communicated by the Research Councils²⁹ could also prove a valuable resource for the planning of training and teaching.

The retention of the current Research Councils' individual identity and focus and continuation of their work on building relationships with researcher communities in the UK and abroad is important to maintain momentum and to ensure that full benefit can be derived from past and current investment. We are aware that the international identity and reputation, for example of the MRC, has been a significant aid to establishment and continuity of research programmes. The creation of Research UK as the overarching body to facilitate co-ordination across the publicly-funded research landscape and to support excellence in interdisciplinary research has potential advantages, provided it can act to ensure the funding of, and decision-making about, science projects by the science community.

Importantly, the review points out that a view across the research landscape will not reduce the need for appropriate investment in research by individual Government departments. Interaction with the public sphere so as to understand and seek to address public need is a vital function. Achieving this via a ministerial committee is a suitable route for high-level discussion but could not function for the direction of research; strength and supported capacity within RUK is therefore important. Many aspects of the recommendations and their implementation remain unclear, including the size and shape of RUK as an organisation. Achieving the right balance in this may not necessarily deliver overall efficiency savings to be directed back to research.

Question 25:

a) What safeguards would you want to see in place in the event that dual funding was operated within a single organisation?

The retention of dual funding is essential to ensure the health of the UK's higher education institutions. The combination of rewarding past performance and making prospective investment in projects provides a range of potential success criteria and diversified income that can help institutions to plan and develop. Placing both funding mechanisms with a single organisation presents challenges if not risks.

In the short term, with institutional and community memory of good practice and operational outcomes providing well-informed leadership, the best of both systems may be easier to retain. In the longer term it may be more difficult to ensure that inevitable options to simplify and unify processes do not have unintended consequences. Processes to ensure good outcomes are therefore key. Clear, transparent processes are essential and a recognition that very different assessments are being made for different purposes. Elements of information, for example about *environment* that may be relevant to both assessment processes have to be considered in the light of the objective, and treated differently. Use of research income, for example, as a predictor for QR allocations has been shown to be unsatisfactory.³⁰

Publication (as recommended by the Nurse Review³¹) of granular data on research funding application outcomes at regular intervals and within a usefully short timeframe would be helpful to allow the community to understand decision-making on research funding. Without pre-empting the forthcoming consultation on the future of the REF, clearly defined and justified criteria and their use in the allocation of funding will be essential. Dedicated, visible teams will be beneficial for the community, and retention of the expertise and processes developed within HEFCE is necessary.

b) Would you favour a degree of hypothecation to ensure that dual funding streams, along with their distinctive characteristics, could not be changed by that organisation?

Research funding programmes and processes should be adapted to evolving need; they are therefore more likely to require adaptation than QR funding streams. REF or its successor should be thoroughly discussed with the

²⁹ [Ensuring a successful UK research endeavour](#). A Review of UK Research Councils by Paul Nurse (2015) p19.

³⁰ [Dual funding structure for research in the UK](#). Hughes et al (2013)

³¹ "To improve transparency about the grant funding process, they should publish key data not just on headline success rates, but also more granular breakdowns, by research topic for example, that are easily accessible and broadly comparable across Councils;" [Ensuring a successful UK research endeavour](#). A Review of UK Research Councils by Paul Nurse (2015) p18.

community before adoption, and remain stable thereafter. This is especially important given the behavioural and investment incentives within assessment criteria.

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?

The RSB derives no institutional benefit from the REF but individual members participate directly in and are affected by the assessment and subsequent allocations.

The REF and predecessor RAE, through the accumulation of valuable and compelling information about the UK HE research landscape and the development of knowledge about its function, have enabled an objective assessment of research quality across the UK.

The process has focused research leaders on delivering and evidencing public benefit in new ways, with a variety of outcomes.

Bioscience research is a broad and dynamic area and a significant proportion of REF focus. The fast-paced nature of much bioscience means that it is particularly open to changing patterns of assessment or investment and behaviours driven by these – often in anticipation. For this reason well-communicated processes and objectives of the REF are essential. The widely-held view that impact factor (IF) of publishing journals is a determining influence in the REF has been an unintended and broadly unhelpful cultural shift.³² On the other hand the culture of visibility and a focus on performance have been broadly beneficial.

The preservation of the science community at the heart of the process, understanding, informing and executing the process is important for credibility and quality. In particular the element of peer review alongside collectable data is a key attribute. As pointed out in *The Metric Tide* (2015) “[N]o set of numbers, however broad, is likely to be able to capture the multifaceted and nuanced judgements on the quality of research outputs that the REF process currently provides.”³³

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

Some of the primary burdens of the REF arise as a result of common misconceptions about what is expected of researchers in order to be assessed favourably and therefore to be a valuable representative of their institution. This continues to result in habitual focus on IF of publishing journal as a proxy for quality and on research funds secured as a measure of value in the eyes of many researchers despite REF policy and assessment guidelines.³⁴ The *Metric Tide* report points out that “...the conservatism of metrics users is a long-standing problem, creating a preference for established or user-friendly measurements over more sophisticated or diverse metrics. Researchers in the scientometric field are also increasingly concerned about the unintended effects that some metrics are having in an era of expanding academic audit.”³⁵ This concern will apply equally to any evolved TEF process. Very clear, direct and early communication of processes and priority to researchers would be beneficial.

The additional workload created by the REF is perceived by many researchers as a significant burden beyond research and teaching duties, and there is concern that the TEF will further add to this. It is likely that a more evolved understanding of impact and how to recognise and present it will reduce institutional burden in the next exercises. Ideally, the experience accumulated by REF panel members and the benefits that this can bring would be an additional positive legacy – this requires good committee support and workload management.

Question 28: How could the data infrastructure underpinning research information management be improved?

Improved interoperability of databases and more freely-available information could bring significant benefit. Developments such as widespread adoption of ORCID IDs by participating researchers are a step in the right direction.

³² [The culture of scientific research in the UK](#). The Nuffield Council on Bioethics (2014).

³³ [The Metric Tide: Report of the Independent Review of the Role of Metrics in Research Assessment and Management](#). Wilsdon, J., et al. (2015) p131.

³⁴ [The culture of scientific research in the UK](#). The Nuffield Council on Bioethics (2014).

³⁵ [The Metric Tide: Report of the Independent Review of the Role of Metrics in Research Assessment and Management](#). Wilsdon, J., et al. (2015) p88.

Appendix A – Member Organisations of the Royal Society of Biology

Full Organisational Members

[Academy for Healthcare Science](#)
[Agriculture and Horticulture Development Board](#)
[Amateur Entomologists' Society](#)
[Anatomical Society](#)
[Association for the Study of Animal Behaviour](#)
[Association of Applied Biologists](#)
[Bat Conservation Trust](#)
[Biochemical Society](#)
[Biosciences KTN](#)
[British Andrology Society](#)
[British Association for Lung Research](#)
[British Association for Psychopharmacology](#)
[British Crop Production Council](#)
[British Ecological Society](#)
[British Lichen Society](#)
[British Microcirculation Society](#)
[British Mycological Society](#)
[British Neuroscience Association](#)
[British Pharmacological Society](#)
[British Phycological Society](#)
[British Society for Cell Biology](#)
[British Society for Gene and Cell Therapy](#)
[British Society for Immunology](#)
[British Society for Matrix Biology](#)
[British Society for Medical Mycology](#)
[British Society for Neuroendocrinology](#)
[British Society for Parasitology](#)
[British Society of Plant Breeders](#)
[British Society for Plant Pathology](#)
[British Society for Proteome Research](#)
[British Society for Research on Ageing](#)
[British Society of Animal Science](#)
[British Society of Soil Science](#)
[British Toxicology Society](#)
[Daphne Jackson Trust](#)
[Experimental Psychology Society](#)
[The Field Studies Council](#)
[Fondazione Guido Bernardini](#)
[GARNet](#)
[Genetics Society](#)
[Heads of University Centres of Biomedical Science](#)
[Institute of Animal Technology](#)
[Laboratory Animal Science Association](#)
[Linnean Society of London](#)
[Marine Biological Association](#)
[Microbiology Society](#)
[MONOGRAM – Cereal and Grasses Research Community](#)
[Network of Researchers on Horizontal Gene Transfer & Last Universal Cellular Ancestor](#)
[Nutrition Society](#)
[Quekett Microscopical Club](#)
[The Rosaceae Network](#)

[Royal Microscopical Society](#)
[Science and Plants for Schools](#)
[Society for Applied Microbiology](#)
[Society for Endocrinology](#)
[Society for Experimental Biology](#)
[Society for Reproduction and Fertility](#)
[Society for the Study of Human Biology](#)
[SCI Horticulture Group](#)
[The Physiological Society](#)
[Tropical Agriculture Association](#)
[UK Environmental Mutagen Society](#)
[UK-BRC – Brassica Research Community](#)
[UK-SOL - Solanacea Research Community](#)
[University Bioscience Managers' Association](#)
[VEGIN – Vegetable Genetic Improvement Network](#)
[Wildlife Conservation Society Europe](#)
[Zoological Society of London](#)

Supporting Organisational Members

[Affinity Water](#)
[Association of the British Pharmaceutical Industry \(ABPI\)](#)
[Association of Medical Research Charities](#)
[AstraZeneca](#)
[BASIS Registration Ltd.](#)
[Bayer](#)
[BioIndustry Association](#)
[Biotechnology and Biological Sciences Research Council \(BBSRC\)](#)
[The Donkey Sanctuary](#)
[Envigo](#)
[The Ethical Medicines Industry Group](#)
[Fera](#)
[Forest Products Research Institute](#)
[Institute of Physics](#)
[Ipsen](#)
[Medical Research Council \(MRC\)](#)
[MedImmune](#)
[Pfizer UK](#)
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