

Science Minister on 'The Research Landscape'

It's truly fantastic to be with you today – and thank you to Nick for the invitation.

With the disruption we're all facing, it's so important that we can keep meeting virtually like this.

It is truly a testament to how adaptable we are, that these virtual meetings now feel quite normal – a sign that we are all more capable of responding to change than we think we are.

And change is something which you, as a higher education community, are experts in responding to – with your heroic efforts over the last few months being just the latest example of how our universities are adapting to a changing world.

I like to think that science, research and innovation lie at the heart of this. Universities, as you know, they're full of creative people – people who are driven by a desire to create, to discover, to innovate.

That makes you so well-placed to help us solve the challenges of the 21st century. Not just the challenge of COVID – but major challenges like climate change, which I know we're all thinking about.

Or how to adapt to an ageing society, or indeed how to respond to the challenge to level up, right across the UK.

And I hope you can see that this government recognises the importance of science and innovation for our future.

That's why we remain committed to raising public spending on R&D to £22 billion per year by 2024/25.

And in July we published our ambitious [Roadmap](#), setting out an exciting vision for the future of UK R&D – and genuinely I'm excited by the Roadmap and how well it's been received by the community.

But as the Roadmap clearly said, we need to be honest about where we need to improve. And I really do believe that honesty is the best policy.

And that's because we have a duty to spend that money wisely so it can make the biggest difference possible.

Key to this is evaluation, which is what I want to talk about today.

It is only by evaluating the system that we can understand what works and what doesn't.

That we can make improvements that will lead to better outcomes.

And evaluation can be a powerful incentive – and it can change behaviours.

Through linking evaluation to funding, we have introduced policies intended to drive greater impact and openness from our research.

That's why in all honesty other countries look to the UK as the global experts in research evaluation – with nations as far-flung as Japan and Australia running exercises that are inspired by or benchmarked against our own [Research Excellence Framework \(REF\)](#).

But, if implemented in the wrong way, or in a way which doesn't evolve, evaluation can drive negative behaviours.

I have made a point of listening carefully to the research community over the last few months – talking to a wide range of people from all backgrounds and all career stages.

You – and I have to say thank you for this – have not been backwards in coming forwards about the things that are getting in your way – the restrictions that are holding you back.

The challenges you face in research – and the culture which is at the root of these.

It is clear to me that many of you feel pressure from the wider evaluation system – pressure to demonstrate particular things to your peers and your superiors – things which sometimes make very little sense.

For instance, I've already talked about the culture which has grown up around the academic publication process.

Researchers tell me they feel pressure to publish in particular venues in order to gain the respect of their peers, which wrongly suggests that where you publish something is more important than what you say. That just can't be right.

People talk to me about "REF-able publications" – a total distortion of the value of research and a constraint on the diversity of research objectives.

Despite the rich variety of outputs that can come from research, over 97% of outputs submitted to REF 2014 were text-based. Just think about that.

And it is surprising how commonplace it is to talk about the UK's leading position in "citation impact" – an odd phrase, actually, which confuses a process with an outcome.

Indeed, the processes researchers use to communicate with each other have now become so ingrained into the recognition and reward system that publication and citation seem to have become ends in themselves.

This gives rise to related issues – we know people feel pressured to show

significant results from their work, to get it published, just to justify the effort and investment involved.

This could be having a profound effect on the very integrity of science itself – leading to questionable research practices and evidence of a growing crisis in the reproducibility of research.

A crisis which over half of surveyed academics recognise as significant.

We have created this situation, in part because of the way we evaluate success.

These are not new problems, but the good news is that the UK is leading the way in tackling them.

I have written to fellow Science Ministers around the world about this.

And, building on work done by the UK's Forum for Responsible Metrics, Research England and UKRI are working with Dutch and South African partners on a global event on Responsible Research Assessment.

This Global Research Council virtual event will discuss how research assessment can beneficially impact research culture and the research ecosystem, to take forward the points I make here.

And looking at the REF, the Stern Review in 2016 helped us make important reductions to institutional game-playing and the negative impact of the exercise on individual researchers.

But it's clear we have to go further.

The REF exercise of today would be hardly recognisable to those involved in the early selectivity exercises of the 1980s.

Although intended for simple purposes, universities have turned the REF into a major industry, with rising costs and complexity. Lord Stern also commented on this, but I am not convinced that the changes introduced have gone far enough.

There are now very few parts of academic life in the UK that are not affected in some way by the REF.

The REF ruleset, implemented in a risk-averse way, has become the default tool for many university leaders to effect institutional change.

But a risk-averse compliance culture risks stifling creativity and diversity.

We risk breeding resentment and eroding trust in our ability to evaluate the system effectively and fairly.

Indeed, we know that 4 in 10 surveyed researchers believe that their workplace puts more value on metrics than on research quality.

Now it's really important that I say clearly up front. I have absolutely no

intention of disrupting the important work of the current REF.

It is vital that this work continue as planned, delivering robust outcomes which will inform significant funding decisions over the coming years.

And, perhaps even more importantly, we must protect our dual support system, which is a key strategic advantage for the UK research base.

However, we must be prepared to look to the future and ask ourselves how the REF can be evolved for the better, so that universities and funders work together to help build the research culture we all aspire to.

We need to work together to build an evaluation system that achieves our goals.

More quality time spent on research.

A positive culture which recognises all contributions to research.

A culture which motivates people to do diverse, creative and risk-taking work.

Institutions improving in ways that align to their diverse missions.

And clear accountability for public funding without layer upon layer of complex bureaucracy.

We should not shy away from asking the tough questions.

We need to be prepared to take bold decisions.

But I realise of course that this will take time.

We need to consult widely – and intend to do so, and think carefully and deeply about the consequences of our actions.

Culture change doesn't happen overnight – and this is equally a conversation which we must not rush.

But we do need to get started.

So I have today written to Research England to ask them to start working with their counterparts in the devolved administrations on a plan for reforming the REF after the current exercise is complete.

Recognising the importance of protecting the current REF and valuing it.

But being clear that we need to continue the journey towards building that better system we need.

One which can enable everyone in research to fulfil their potential.

Where evaluation supports and enables brilliant work of all types.

And with it all underpinned by a positive and supportive culture.

Our R&D Roadmap is about setting us out on a journey – a journey which we've only just begun.

But our Roadmap is about evolution as much as it's about radical reform – recognising where we are successful, and where changes are needed.

There is a lot of excellent work we can build on, and I am looking forward to working with all of you to help make the changes we need, to strengthen our position as a science superpower.

Thank you.