

## **Response to the Department for Education on developing England's teaching profession to a world class standard**

The Royal Statistical Society (RSS) is a professional body for statisticians and data analysts, with more than 6,000 members in the UK and across the world. As a charity, we advocate for statistics to be used effectively in the public interest.

We are glad to respond to your consultation on the vision for a world class teaching profession in England, primarily to express our support for a “College of Teaching”. One of our key charitable objectives is to ensure that all young people develop statistical literacy in school, so that their understanding of data, risk and probability can inform their daily decisions. A further goal is to strengthen the discipline of statistics and its part in science and research. We therefore support the development of statistical skills in higher education and in industry, with school education providing an important basis for this. With several other bodies in the mathematical sciences, we are supporting initial teacher training to raise the number of trained maths teachers. We also offer RSS training for a range of professions to learn basic statistics. In our work on education policy and practice, we aim to ensure that all school leavers are able to use and interpret data effectively to make informed choices and decisions. It is well-recognised in your consultation that the quality of an education system is greatly influenced by the quality of its teachers and their ongoing professional development. Toward this, teacher training as well as students' learning and assessment need to be supported.

The proposal for a College of Teaching is to provide more effective support for the teaching profession, by starting up a representative body that is independent of Government. We expect that education in our own discipline, as well as others, will benefit from this. We also welcome the establishment of a fund for high-quality, evidence-based professional development for teachers, which recognises that teachers need support now. We have some further comments on the need for professional development that builds statistical literacy and mathematical skills, presented in responses to Q3 and Q7 below.

### **Q3. Where should the balance of responsibility lie between teachers, schools and Government for ensuring that appropriate professional development is undertaken? How, in the longer term, might responsibility sit with a new independent professional body?**

We would like to comment on the balance of responsibility for teachers to have basic statistical skills, which should be offered in initial teacher training, and recognised as valuable CPD. We expect that the creation of a College of Teaching will help to address this agenda, as well as many others in teacher training and professional development. Funding from the professional development and evaluation fund should also be directed toward addressing this gap.

The Carter Review of Initial Teacher Training highlighted that teachers' professional lives increasingly require data-analytical skills. It reports that being able to assess pupils accurately is clearly crucial to good teaching, and that following government reforms, there is an increased role

for teachers in this. How to use pupil data is one area where the review identifies that basic training in statistics is needed.<sup>1</sup>

Training and professional development also needs to join up with, and respond to, curriculum reforms. The government has recently raised the proportion and level of quantitative assessment of students, and has sought to make it compulsory to attain Level 2 mathematical skills by the age of 18. Subject reforms have stipulated that assessment should include mathematical skills (at Level 2 or higher) across a wider range of A level subjects. The government has also invested in new two-year 'Core Maths' courses, to advance participation and practice of maths skills beyond the age of 16. High quality teaching of these statistical and mathematical skills is a challenge that needs to be addressed. Our own research has looked at A Levels, including mathematics, biology, chemistry, physics, computer science, business, economics, engineering, geography, history and sociology. We found that working with data and statistics is valuable for these subjects, and that experience of this within subjects also has great potential to improve.<sup>2</sup>

It is clear that more training is needed for statistical literacy, and that teachers themselves have a crucial role in this. Different subjects have different requirements, so standards should be discussed on a subject by subject basis. Standard-setting by a more independent and representative body should lead to improvements in initial teacher training and continuing professional development. The RSS will be glad to assist where possible, both to aid teachers' professional skills, and to support curriculum development and resources for teaching.

**Q7. In addition to the proposals outlined here, what other approaches would help schools to remove barriers and incentivise effective professional development for teachers?**

In their 2015 policy outlook, the OECD has found that many countries have been introducing educational reforms, but that only 10% of these are currently being evaluated. They argue that to avoid "reform overload", a balance needs to be found between political and policy agendas in education.<sup>3</sup> In promoting their findings, they say that future reforms should be built on policies proven to work over a timeframe independent of political cycles or pressures.<sup>4</sup> Instituting more of a long-term, planned approach to curriculum content in the UK would result in greater stability, which would also be likely to incentivise professional development. Teachers would have more confidence about learning to teach new curriculum requirements, in the knowledge that sweeping changes are not around the corner.

*Response submitted by Olivia Varley-Winter, Policy & Research Manager, on 3 February 2015.*

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<sup>1</sup> Carter, A. (2015). *Carter review of initial teacher training (ITT)*. Available from: [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/399957/Carter\\_Review.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/399957/Carter_Review.pdf)

<sup>2</sup> Porkess, R. & Dudzic, S. (2013) *A world full of data: statistics opportunities across A level subjects*. Available from: <http://www.rss.org.uk/Images/PDF/influencing-change/A-world-full-of-data.pdf>

<sup>3</sup> OECD (2015) *Education Policy Outlook 2015: Making Reforms Happen*. Available at: <http://dx.doi.org/10.1787/9789264225442-en>

<sup>4</sup> OECD (2015) 'Success of education reforms threatened by lack of oversight', 19 January 2015. Available at: <http://www.oecd.org/education/success-of-education-reforms-threatened-by-lack-of-oversight-says-oecd.htm>