

Supplementary Written Evidence submitted by Professor Paul Glaister, Professor of Mathematics and Mathematics Education at the University of Reading (DIV0108)

Core Maths was referred in the [Industrial Strategy: building a Britain fit for the future - GOV.UK \(www.gov.uk\)](http://www.gov.uk) while the current Chair of S&T Select Committee, Rt Hon Greg Clark, MP, was SoS in BEIS. That document, where I had some influence over the contents of pages 104-107 - Driving up the study of maths, including on AL Maths + F Maths, Core Maths, the Advanced Maths Premium, and CfEM.

This [White Paper](#) followed [Adrian Smith's report and the Govt response](#). In the latter one of Adrian's key recommendations was:

“Recommendation 1: The Department for Education should seek to ensure that schools and colleges are able to offer all students on academic routes and potentially students on other level 3 programmes access to a core maths qualification.”

There is very much on Core Maths in Adrian's report which I was delighted to contribute to.

In the [Industrial Strategy White Paper](#) you will see reference on page 105 to “We are seeing growth in the new core maths qualifications introduced in 2014, which are designed to prepare students for the mathematical demands of university study, employment and life. These have been endorsed by a large number of universities, including many in the Russell Group.” These statements of endorsement resulted from my endeavours - captured here: [University endorsement statements | STEM](#) & here: [University Statements on Core Maths.pdf \(reading.ac.uk\)](#) – on my voluntary, one-person mission & tour across universities, including very many conversations with VCs, PVCs, Deans, Heads of Admissions, plus RG Chair, RG PVCs + Chair, Chairs of RG Admissions, and RG Quals groups, which was initiated by the [Communication to vice chancellors.pdf \(reading.ac.uk\)](#) from Ministers Gibb & Johnson which included my [briefing paper for universities on core maths.pdf \(reading.ac.uk\)](#) and offer to brief their universities. I was asked to write that [paper](#) by DfE.

Bear in mind that I secured these statements when only ~3000 students were taking Core Maths.

But reference to the statements was also made in the [Smith review of post-16 mathematics: report and letter - GOV.UK \(www.gov.uk\)](#) in paragraph 117 on page 43 (which I wrote).

Core Maths was formally launched in July 2014 where I spoke alongside Liz Truss who was Schools Ministers (which included responsibility for Core Maths) at the time. Her speech is here: [Liz Truss speech launching Core Maths and the Core Maths Support Programme](#) I included reference to launch here: [Core Maths: the most significant development in post-16 mathematics education in a generation | STEM](#)).

Of course I work closely with DfE on Post 16/Level 3, including Core Maths, and am Chair of the External Expert Panel referred to in: [Core maths qualifications: technical guidance - GOV.UK \(www.gov.uk\)](#) which advised Minister Gibb on whether qualifications submitted as candidates for Core Maths (for participation, progression, advanced maths premium etc.) satisfied the requirements – it was during this (carried out in 2014 and again in 2018).

Adrian Smith's report also recommended:

“Recommendation 4: The Department for Education should work with UK learned societies to encourage universities to better signal and recognise the value of level 3 mathematics qualifications for entry to undergraduate courses with a significant quantitative element.”

which [Minister Gibb referred to in his letter to me of 21 August 2017](#).

The Royal Society (with support from me and others), along with the British Academy, have indeed been working on this since then, culminating in their statement: [The British Academy and the Royal Society advocate increased uptake of Core Maths qualifications | Royal Society](#).

I was then asked to write: [We need to support Core Maths qualifications to realise young people's ambitions | Royal Society](#)

I've spent the last 8+ years doing everything I can to support Core Maths (along with [A level Mathematics and Further Mathematics, starting with ALCAB](#)). As such you can find out much more about Core Maths from my page: [Core Maths — Paul Glaister](#)

Finally, linked to all of the above is the importance of Data Science, also referred to in [Adrian Smith's report](#). His final recommendation:

“Recommendation 18: The Department for Education and the Department for Business, Energy & Industrial Strategy should commission a study into the long-term implications of the rise of data science as an academic and professional field, looking at skills required for the future and the specific implications for education and training in mathematics and quantitative skills.”

informed, in part, the RS report: [Dynamics of data science skills | Royal Society](#).

One area of activity that has flowed from this is the: Alliance for Data Science Professionals - Professionals - [Alliance for Data Science Professionals](#) comprising the Learned Societies: BCS, The Chartered Institute for IT; The Operational Research Society; The Institute of Mathematics and its Applications; The Royal Statistical Society; as well as The Turing Institute; NPL; with support from The Royal Society and The Royal Academy of Engineering.

[See also:

1. [RSS - Alliance formed to create new professional standards for data science](#)
2. [RSS - Data science standards](#)
3. [Alliance formed to create new professional standards for data science - IMA](#)
4. [New professional standards for data science - NPL](#)
5. [Alliance formed to create new professional standards for data science | BCS](#)

The Alliance Board/Steering Committee for this activity is developing standards and certification for Data Science Professionals and I am the IMA representative on this.

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