ROYAL STATISTICAL SOCIETY
DATA | EVIDENCE | DECISIONS

Royal Statistical Society response to British Academy on the national strategy for quantitative skills consultation document, 18 March 2014

0.   Background

0.1.   The Royal Statistical Society (RSS) is both a learned society for statistics and a professional body for statisticians. We were first founded as the Statistical Society of London in 1834, and became the Royal Statistical Society by Royal Charter in 1887. There are more than 6000 members of the RSS around the world, of whom some 1500 are professionally qualified as Chartered Statistician. We are active in a wide range of areas both directly and indirectly relevant to the study and application of statistics. Among our activities, our *getstats* campaign targets professionals in parliament, in the civil service, in the media, and in schools, to improve statistical literacy for public benefit in the UK.

0.2.   We are glad to respond below to the British Academy's national strategy consultation document. The quantitative skills deficit is a national problem that requires a 'people pipeline' with a much greater capacity than we have had in recent times. The British Academy's 'society counts' position statement called for a national strategy and a joint approach to quantitative skills, to be tackled by a High Level Strategy Group (HLSG). [1] The Royal Statistical Society is part of the HSLG, alongside a range of representatives from the education sector and government. [2]

1.   Whether the four themes identified in the strategy address the main areas where action is required.

1.1.   The four themes in the strategy suggest that impact on quantitative skills should be maximised by 1. making the case, 2. coordination, 3. building the evidence base and 4. investing in the supply chain. These themes are a good starting point. In particular, we support the production of research and evidence to inform good practice. We feel that developing shared messages for policy makers will also be of great use in making the case.

1.2.   For government and for the general public, the role of statistical literacy in economic progress, standards of living, and for participation in democracy, should be well recognised. This should be a major area of inquiry in developing the evidence base.

1.3.   In terms of investing in the supply chain, we think that the strategy should focus on the 'people pipeline' leading to quantitative skills development in universities and in employment.

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[1] British Academy (2012) *Society Counts: Quantitative Skills in the Social Sciences and Humanities*, October 2012. Available from: http://www.britac.ac.uk/policy/Society_Counts.cfm [Accessed March 2014]
[2] Other organisations on the higher level strategy group are the Advisory Council for Mathematics Education, British Academy, Department for Business Innovation and Skills, Department for Education, Economic and Social Research Council, Higher Education Funding Council, Higher Education Academy, Nuffield Foundation, Office for National Statistics, Russell Group members, the UK Statistics Authority, and Universities UK.

This was the core interest of many in setting up the HLSG. In higher education, it would be valuable for all students, including in the arts and humanities, to have exposure to quantitative skills, perhaps in the context of learning about evidence, argument and logic. The Research Excellence Framework has had the unintended consequence of separating the discipline of statistics from the application of statistics, such that teaching on the use of statistics now mostly takes place outside of statistics departments. In implementing the strategy, a greater return should be pursued for the application of statistics, cross-disciplinary work, and good teaching, at the university level.

1.4. We'd question broadening mutual activities under the national strategy to reach too many 'new audiences'. This may stretch resources too thinly. Some of the coverage of existing audiences is incomplete: not all students who could benefit from quantitative skills development are exposed to it, and messages about its importance and relevance yet to get through to many of the relevant stakeholders in universities. [More on this in 5.2.]

2. **Whether there are any significant issues not addressed by the strategy.**

2.1. We feel a significant issue not addressed is the approach to implementing the strategy. This should start with the terms of reference, an outline of the stakeholders involved in the strategy, and what the scope of the activities will be.

2.2. In the course of the consultation it has become clear that the intention is to bring together initiatives already being driven by stakeholders in quantitative skills, rather than to centrally drive priorities. This is currently not explained in the strategy document.

2.3. Given the intention set out in 2.2, it is our view that the group should seek out where additional work is required and it can uniquely add value. We suggest two areas of work that the strategy should prioritise preceding the general election:
i) Building the evidence base by developing some baseline data of actual levels of quantitative skills amongst the target population; and
ii) Developing a common policy platform which can be used to influence party manifestos in the run up to an election.

2.4. Staffing and resourcing are major considerations that are not addressed in the strategy document. The extent to which this strategy is linked to funding, such as relevant funded initiatives of the British Academy and other stakeholders, could be clarified.

2.5. The strategy doesn't offer a definition of quantitative skills. Defining which quantitative skills are needed, and the content and methodology for best developing them, would be a useful area on which to develop shared messages both for secondary and for tertiary education. How quantitative skills are best developed and demonstrated, for example through computing or data analytics, might also be addressed.

3. **Examples of schemes, initiatives or investment by your organisation or others that has, to date, been successful in promoting quantitative skills.**

3.1. There are many projects and resources already existing that aim to develop quantitative skills, including free online resources. These will be useful in implementing the strategy. We offer some examples below, but suggest that to support and coordinate mutual activities, a review of activities more widely will be helpful.

3.2. The RSS Centre for Statistical Education's *Census in Schools* project has been particularly successful in aiding the teaching of statistics, especially the handling and analysis of data, in

secondary schools. The RSS Guy Lecture for schools also enthuses and inspires young people with current statistical role models applying statistics to real-world problems.

3.3.   In partnership with the Institute and Faculty of Actuaries, the RSS has produced research reports on statistics in the mathematics curricula in primary and secondary schools. [3] We follow up on this research by sharing recommended approaches with the education sector including policy-makers, qualification awarding bodies, and teachers.

3.4.   The RSS' *getstats* campaign seeks to improve statistical literacy across the UK, with projects targeted as specific professions that play a key role in communicating with the public. For example, we offer RSS Science Journalism Training, including statistics workshops for journalists and journalism students. *Getstats in parliament* has promoted statistical literacy in Westminster, focusing on MPs' and researchers' competence and confidence with statistics. The Science Media Centre's *Before the Headlines* project is also worthy of note in this area, offering statistical comment on newsworthy scientific papers to journalists before they are made public.

4.   How a national strategy could help you to develop quantitative skills within your area of interest.

4.1.   We think the main benefits will be in [1] coordinating the messages the government hears regarding quantitative skills, [2] investigating the evidence base for quantitative skills, and [3] supporting the 'people pipeline' up to and including quantitative skills development in higher education and employment. We would also like to provide lessons and learn lessons from other organisations of what works and what doesn't in developing quantitative skills. In total, this strategic work would be of great value for our *getstats* campaign.

5.   Any other comments you would like to feedback for the HLSG to consider?

5.1.   We feel that the title of 'national strategy' is a confusing one, as this titling suggests a government-led policy initiative. 'National' also means something particular in relation to Scotland, Wales, and Northern Ireland. We support that the strategy should have a wide geographic reach, but suggest that this is conveyed in a different way.

5.2.   A communications strategy should follow on from the national strategy. We feel that the two may be conflated into the one document currently. For example, for 'making the case', the strategy document highlights 'new audiences, i.e. employers and the general public'. A distinction should be drawn between audiences targeted in a media campaign *about* stakeholder activities, and audiences that are targeted directly by stakeholders.

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[3] Porkess, R. (2012). *The Future of Statistics in our Schools and Colleges*, Royal Statistical Society & the Actuarial Profession. Available from:
https://www.rss.org.uk/uploadedfiles/userfiles/files/The%20Future%20of%20Statistics%20in%20our%20Schools%20and%20Colleges.pdf [Accessed: March 2014]
Porkess, R. & Dudzic, S. (2013). *A world full of data: Statistics opportunities across A-level subjects*. London: Royal Statistical Society, and Institute and Faculty of Actuaries. Available from:
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