INTRODUCTION

The British Academy begins its report by stating a concern that the UK is weak in quantitative skills, mainly in the social sciences and humanities. It suggests that the lack of skills has serious implications for the workplace, research, education and everyday life. However, students tend not to be aware of how useful these skills will be to their employability. Employees need to interpret data, contribute to problem solving and to quality improvement. Businesses need their staff to be able to make effective use of statistics and probability. However employers from a range of sectors are dissatisfied with the elementary numeracy skills of applicants and serving employees.

A lack of quantitative skills limits research. For example, research is not able to exploit new opportunities provided in particular by the UK’s investment in its social science data infrastructure and technical innovations (such as an emphasis on open data and new sources of data from social media, for example). Quantitative skills are important for all research because they can help researchers in the social sciences and humanities to engage with other disciplines in the sciences and engineering, and to work in interdisciplinary teams. A lack of quantitative understanding can also limit intellectual dialogue, and may also limit our ability to engage with cutting-edge research in other countries. Lecturers will not be well equipped to research, or teach, if they cannot grasp fully the quantitative literature.

Statistical literacy is important for all modern citizens. As the report says:

“Without statistical understanding citizens, voters and consumers cannot play a full part. To call politicians, media and business to account, we need the skills to know when spurious arguments are being advanced.”

The Royal Statistical Society’s getstats statistical literacy campaign captures the importance of data literacy to everyday lives:

“at every turn we make decisions to which risk, probability and sampling are relevant. Choosing what to buy or planning a journey; deciding on medical treatment and listening to the advice of a doctor; calculating earnings and benefits and how to save and invest: these are statistically rich decisions. We need numerical data to understand the performance of schools and hospitals, but also to understand why league tables can be distorting and unfair.”

REASONS UNDERLYING THE PROBLEM

The problem is not new but has recently become urgent because of a range of causes, both at school and university level. The report claims that the problems begin at school level, in part because most students do not study mathematics after the age of 16 and they arrive at university anxious about quantitative methods. At undergraduate level, there are not enough academic staff able to teach quantitative methods in ways that are relevant and exciting to students in the social sciences and humanities, and many degree programmes do not allow enough time for teaching methodology. Further, courses addressing quantitative methodology are frequently taught in isolation and seem irrelevant to the core discipline. The cohort of leading quantitative social scientists are aging and there was a lack of training of high level quantitative social scientists particularly in the 1990s.

OPPORTUNITIES AND EFFORTS TO MEET THE CHALLENGE

A range of initiatives are underway. Public and charitable funders of social science and mathematics are seeking to fill the skills gap.

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1 Quantitative skills involve the manipulation and analysis of numerical data or observable facts

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Substantial funding

- A £15.5 million funding programme funded by the Nuffield Foundation, the Economic and Social Research Council (ESRC) and the higher Education Funding Council for England (HEFCE) is aiming at a step-change in quantitative methods training for UK social science undergraduates.
- The ESRC is backing a longstanding commitment to enhance quantitative skills across the full breadth of the ‘educational life course’: from building new capacity at the undergraduate level to refreshing the quantitative skills of mid-career academics teaching undergraduates and supervising PhD students (‘training the trainers’) with substantial funding.
- The Scottish Funding council and Higher Education Funding Council for Wales are partners in the ESRC-led four-year national strategy in quantitative methods.

Partnerships

- Given the increasing relevance of quantitative skills to individual disciplines, a key route to success will be in working with subject bodies to reform the research and teaching landscape. Subject associations have done significant amounts of their own work to promote quantitative skills. For example, the Royal Statistical Society has been active in promoting statistical literacy in schools, universities, government, media, business and the wider public.
- Social science learned societies and subject associations are already engaging with the Quality Assurance Agency (QAA) to ensure that future subject benchmarks give clear and robust requirements for quantitative skills. The Academy and others are working with them to create expectations of core quantitative skills.

A joint approach

Committed to a joint approach, the British Academy has recently established a high level strategy group for quantitative skills, chaired by professor Ian Diamond FBA, drawing together senior representatives from key stakeholders including: the Nuffield Foundation, ESRC, Universities UK, the Funding Councils, Office for National Statistics, UK Statistics Authority, Department for Business Innovation and Skills, ACME, Royal Statistical Society, Higher Education Academy and the Russell Group. The aim of the group is to undertake a joint approach to improving the UK’s quantitative capacity.

CONCLUSION: BUILDING ON MOMENTUM

The report concludes with three key points, part of which are quoted below:

- The time is now. We must seek to change behaviour to ensure that the UK retains its place as a leader in research and higher education, and that our graduates are equipped with the skills necessary for competitiveness, professional development and employability.
- Change will not happen overnight, and we are developing a strategy for action and trying to avoid fragmented policy and practice.
- This national strategy will require initiatives targeted across the educational life course and beyond, from the school level, to university, and wider public data literacy. The humanities and social sciences in universities will need to engage with the science and maths communities and with other sectors, such as employers and schools.

The full document can be downloaded from:
http://www.britac.ac.uk/policy/Society_Counts.cfm
Alternatively, search on the terms ‘British Academy position paper society counts’