

all students need to develop maths confidence

Increasingly employers' numeracy testing is an early stage of the recruitment process. Would-be teachers are required to pass a numeracy test before being accepted onto postgraduate teaching courses for both primary and secondary levels irrespective of their core subject.

Students studying a wide range of subjects encounter mathematics or statistics within their courses.

Postgraduate students in all disciplines may have a requirement for interpreting statistics in research papers.

Evidence shows that success in the workplace is linked to functional mathematics abilities.

There is a need for all higher education students on any course to be mathematically confident.



free online resources

Video tutorials, teach yourself booklets, help leaflets, guides ...

For support practitioners and academics
www.sigma-network.ac.uk

For numeracy and mathematics
www.mathcentre.ac.uk
(Staff and student resources)

For statistics
www.statstutor.ac.uk
(Staff and student resources)

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And after leaving university many graduates will find themselves faced with numerical reasoning tests when competing for jobs. Yet only 16 per cent of undergraduates studying subjects other than maths have an A-level in maths under their belt. Often they will have forgotten much of what they once knew, and even if they haven't, their confidence in their own abilities may be low.

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David Willetts in the report *Robbins Revisited: Bigger and Better Higher Education* (2013)



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However, in this country most new undergraduates arrive at university having taken no mathematics since GCSE two or more years previously. Even if they remembered all the mathematics they once knew, it would be inadequate but, in practice, much of it has often been forgotten anyway.

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Roger Porkess in the research chaired by Carol Vorderman, *A world-class mathematics education for all our young people* (2011)

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We estimate that of those entering HE in any year, some 330,000 would benefit from recent experience of studying some mathematics (including statistics) at a level beyond GCSE, but fewer than 125,000 have done so.

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ACME report *Mathematical Needs: Mathematics in the workplace and in Higher Education* (2011)

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The UK is weak in quantitative skills, in particular but not exclusively in the social sciences and humanities... another reason for the poor skills of undergraduates is the dearth of academic staff able to teach quantitative methods.

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British Academy position statement *Society Counts: Quantitative Skills in the Social Sciences and Humanities* (2012)

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A particular case is that of future primary school teachers. Many of these give up mathematics after GCSE (possibly with no more than grade C), take arts subjects at A level and for their degrees and then go on to a PGCE in which little time is available for improving their mathematics subject knowledge or devoted to it. Then, six years after they last did any serious mathematics, they find themselves as class teachers, responsible for the mathematical development of their pupils.

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Roger Porkess in the research chaired by Carol Vorderman, *A world-class mathematics education for all our young people* (2011)



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The acquisition of at least basic mathematical skills – commonly referred to as “numeracy” – is vital to the life opportunities and achievements of individual citizens ... Individuals with limited basic mathematical skills are less likely to be employed, and if they are employed are less likely to have been promoted or to have received further training.

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Adrian Smith in the report *Making Mathematics Count* (2004)

what and why of maths support

One of the roles of mathematics support is to provide opportunities for students to receive assistance in preparing for and dealing with mathematics or statistics that they encounter.

This support is in addition to any formal teaching that they receive as part of their course.

Mathematics support not only helps students who are struggling, it also helps to raise aspirations of better prepared students enabling them to progress from good results to excellent ones.

Support is offered in dedicated centres or in locations such as a Skills Centre or Library. It is non-judgemental and supportive and seeks to take students from "where they are" to where they need to be in order to succeed on their chosen courses.

The evidence base for the need for additional support is extensive. Many students have low confidence in their mathematical abilities and the prospect of encounters with mathematics in their undergraduate or postgraduate studies or as part of job selection is very daunting.



what can you do?

If you are a **university leader** or **policy maker**, ensure you appreciate the scale of the challenge and work with **sigma** to ensure the availability of excellent support facilities and services in your institution.

If you **teach** students who are struggling with mathematics or statistics refer them to appropriate resources within your institution and from:

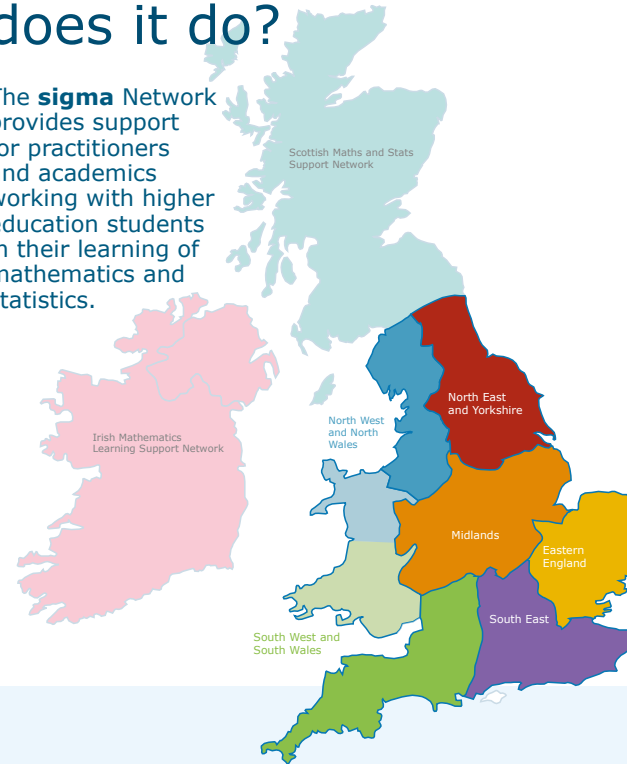
www.mathcentre.ac.uk and www.stats.tutor.ac.uk

If you work in mathematics or statistics **support** get involved with your local **sigma** Hub events. Offer to run an event. Share your experience with and learn from others.

If you are a **university advisor**, publicise the work of the **sigma** Network.

what is the sigma network and what does it do?

The **sigma** Network provides support for practitioners and academics working with higher education students in their learning of mathematics and statistics.



sigma Network Hubs offer local advice, networking opportunities and events.

The **sigma** Network has a website with news, funding opportunities and resources for practitioners.

www.sigma-network.ac.uk

The **sigma** Network keeps you informed through the mailing list and the **sigma** Network quarterly e-Newsletter.

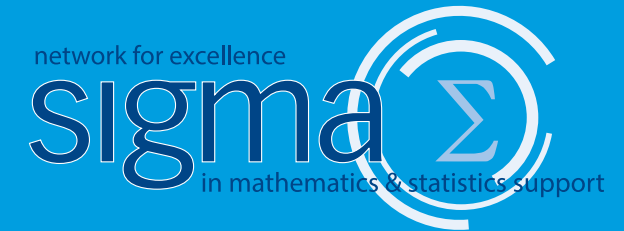
sigma-network@jiscmail.ac.uk

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sigma Network

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Why your students need to be numerate
What you can do to help them

Support for you from the **sigma** network
www.sigma-network.ac.uk

