Title: **The sigma Network: developing an evidence base for scholarship in mathematics and statistics support**

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Session Learning Outcomes

By the end of this session, delegates will be able to:

- Articulate evidence of the continuing need for mathematics and statistics support across the curriculum in higher education;
- Identify ways this need is being met, and cite approaches to the scholarly evaluation of impact;
- Extrapolate the emerging scholarship within the sigma Network to other areas of academic skills support.

Session Outline

The phrase "the mathematics problem" (LMS, 1995; Hawkes and Savage, 2000) has entered common use to describe the perceived mismatch between the mathematical competencies of incoming undergraduates and the mathematical skills required for the successful study of a range of disciplines in higher education. Mathematical and statistical competency and confidence is important for the humanities and social sciences as well as for the traditional STEMM subjects. The sector has responded with a variety of support mechanisms for students (Marr and Grove, 2010), and a well-defined community of practice of mathematics and statistics support tutors – the sigma Network - has emerged (Croft et al, 2015).

The sigma Network (www.sigma-network.ac.uk) provides staff who work in university mathematics and statistics support centres with opportunities for collaborating and sharing examples of evidence-informed practice and reflective evaluation of the impact of their work (Matthews et al, 2013; Samuels and Patel, 2010). This session will highlight and consider the findings of some key reports and case studies that have been produced, to demonstrate the emerging scholarship in this field.

The current version of the UK Professional Standards Framework (HEA, 2011) explicitly acknowledges those who "support learning" in higher education as potential candidates for professional recognition and Fellowship. We will show how emerging scholarship within the mathematics and statistics support community and the sigma Network can demonstrate relevance to other groups engaged in academic learning support.

Session Activities and Approximate Timings

The outline of the workshop is a follows;

- [10 mins] Beyond anecdote: how can we evidence the need for cross-curricular maths support? (Guided discussion)

- [5 mins] The development of the **sigma** Network (Presentation)

- [10 mins] What indicators can be used to evidence the impact of academic skills support provision? (Small group discussion and reportback)

- [10 mins] Examples of ways the maths support community has addressed this in a scholarly fashion. (Presentation)

- [10 mins] How can the approach of the **sigma** Network inform the evidence-based practice of other academic support services? (Open discussion)

References

Croft, A.C., Lawson, D., Hawkes, T., Grove, M.J., Bowers, D. and Petrie, M. (2015) "sigma – a Network Working!" in: Mathematics Today, vol. 51, no. 1, pp. 36-40.

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Marr, C. and Grove, M.J. (eds) (2010) Responding to the Mathematics Problem: The Implementation of Institutional Support Mechanisms. Maths, Stats and OR Network, Birmingham.

Matthews, J., Croft, A.C., Lawson, D. and Waller, D. (2013) "Evaluation of mathematics support centres: a literature review" in: Teaching Mathematics and its Applications, vol.32, no. 4, pp. 173-190.

Samuels, P. and Patel, C. (2010) "Scholarship in Mathematical Support Services" in: Journal of Learning Development in Higher Education, vol. 2, pp. 1-21.