

Tutorials and marking: follow-up material

If you plan to become an academic then it is worth thinking a bit more deeply about how to make your teaching most effective. Some of the references here may help. Two warnings:

- A lot of educational ideas which are currently fashionable in universities and schools do not adapt well to mathematics.
- Even the maths education literature has a rather low signal-to-noise ratio. You should discuss any new ideas with experienced colleagues before putting them into practice.

Books and collections

J. H. Mason, *Mathematics teaching practice: a guide for university and college lecturers*, Horwood / Open University, 2002.

B. Cox, *Teaching Mathematics in Higher Education: the Basics and Beyond*, The Maths, Stats and OR Network, 2011.

Two good compilations of practical advice for maths lecturing.

L. Alcock & A. Simpson, *Ideas from Mathematics Education: an introduction for mathematicians*, Higher Education Academy, 2009.

A useful guide to educational theory; the authors are psychologists who also teach (real) mathematics so are well placed to comment on how mathematical learning actually works.

P. Kahn & J. Kyle (eds), *Effective Learning and Teaching in Mathematics and its Applications*, Kogan Page, 2002.

This collection provides introductions to many aspects of mathematics education.

A. C. Croft, M. J. Grove, J. Kyle and D. A. Lawson (eds), *Transitions in Undergraduate Mathematics Education*, University of Birmingham, 2015.

This contains some more up-to-date articles, with particular relevance to first-year teaching.

S. Cowley, *Getting the Buggers to Behave* (3rd ed.), Continuum, 2006.

The bestseller of school classroom management. Sadly, much of its advice is directly applicable to first-year teaching in a modern university setting.

Periodicals

Probably the best source for articles on university maths teaching in the UK, written from a “chalkface” perspective, is *MSOR Connections*, which started as the newsletter of the Higher Education Academy’s Maths, Stats and OR Network. When the HEA shut down the MSOR Network, *Connections* went into abeyance and the HEA helpfully deleted the archive. (This is absolutely typical of how the HEA treats mathematics.) The journal has since been revived by the University of Greenwich. At present, articles can be found online in two places.

- Back volumes 1–12 are online at <http://icse.xyz/mathstore/node/568.html>
- Current volumes 14ff are online at <https://journals.gre.ac.uk/index.php/msor>

Nobody seems to know what’s become of volume 13.

Of the many education research journals, I’ve found the *International Journal of Mathematical Education in Science and Technology* to be the most useful (disclaimer: I’ve published in it) — but good articles can crop up in all sorts of places!