FE Magazine
Issue 9

Welcome to the ninth issue of the FE Magazine, which has been put together at the seventh British Congress of Mathematics Education in Manchester where between sessions, representatives of the Association of Teachers of Mathematics (ATM), the Mathematical Association (MA), and the National Association for Numeracy and Mathematics in Colleges (NANAMIC), met and agreed to form a joint post-16 working group. It is felt that by meeting together, the three subject associations can learn from each other and make use of their different expertise to enrich the opportunities, experiences and resources the associations can provide for those working with post-16 learners. A longer meeting is being planned for later in the summer term 2010.

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From the editors

The editors invite you to explore some ideas for May Day starters, try some NRICH activities with your learners, and make use of resources that have been developed for May Maths Days in Tasmania.

The Mathematics I do – Professor Adam McBride

About me: I am Professor of Mathematics at the University of Strathclyde (Glasgow), and Chair of Council of the Mathematical Association. [Prof. McBride is a founder member of the United Kingdom Mathematics Trust, and also of the British Mathematical Olympiad].

The mathematics I use at work...
includes differential and integral equations, modelling evolutionary processes e.g. coagulation and fragmentation of particles.

The mathematics I've used in the last week...
I used some combinatorics to count the number of patterns for fingering in music, subject to various restrictions.

Mathematics which has amazed or surprised me…
the result of Gauss proving which regular polygons can be constructed using a straight edge and compasses.

The part of mathematics I like most…
is number theory because of its elegance, and mathematical analysis because of its importance in studying mathematical models.

The part of mathematics I like least…
is statistics.

A maths teacher I remember…
is Alex Balfour who gave us weekly puzzles long before any competitions existed.

And another teacher I remember…
is Bill Craig who encouraged me to study maths at university and recommended some useful books.

And other people/events that have influenced my attitude to mathematics include...
a lecture on semi-groups of operators in 1973, the start of Mathematical Challenge in Scotland, and involvement in the International Mathematical Olympiad.

Focus on…revision

At the beginning of the summer term our thoughts turn to revision.

First of all, don't forget the revision resources here on the portal. For example:

- in Mathematics Matters Lesson Accounts, Liz Durham writes about her successful revision lesson on tree diagrams with a class of adult learners
- you can read about Speed Teaching Revision in Mathemapedia
- you can find out how other people revise for GCSE Maths in the Secondary Forum
- you can listen to Rob Simpson's A-level and GCSE revision podcasts
- you can discover other teachers' resources in the Documents section of communities, such as the STEM Mathematics Network, the Thinking Through Mathematics community and the Secondary Forum.

There are many other useful revision sites - Google will come up with a list - although many of those will simply provide revision notes and worksheets for students.

Sites suggested by delegates at the recent STEM Network meetings included:

- ClassTools.net where you can create educational games, activities and diagrams in Flash! and find lots of different timers (and soundtracks) which you can use to encourage your students to do questions quickly
- the Wolfram Alpha Computational Engine
- the Adult Basic Skills Resource Centre, particularly their sections on Exams and Revision Summer 2010
- the revision section of Emaths, and
- you can watch a series of recordings of online revision sessions covering each of the topics in A level Core Mathematics produced by the Further Mathematics Support Programme.

.www.ncetm.org.uk

A Department for Children, Schools and Families initiative to
enhance professional development across mathematics teaching

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ACCESS TO FURTHER mathematics

www.furthermaths.org.uk

National Centre
for Excellence in the
Teaching of Mathematics

A-level and Further Maths

Jenny from Guildford emailed us to tell us about two sites which she directs her GCSE students to when they are thinking about studying AS and A-level Maths and/or Further Maths, or when her A-level students are asking about studying maths at university.

more maths grads
multiplying opportunities

More Maths Grads (MMG) was a three-year project (2007 - 2010) funded by the Higher Education Funding Council for England to develop, trial and evaluate means of increasing the number of students studying mathematics and encouraging participation from groups of learners who have not traditionally been well represented in higher education.

The MMG activity ended on 31 January 2010, but this was not the end of the story! Following the well-received trial in Wales, all resources produced during the course of the project and much more, will be sent as 'More Maths Grads in a Box' to all secondary schools, further education colleges and universities in England. The box will also contain the means to reproduce all MMG material for future needs.

maths careers

A-level students thinking about university maths will find the page on the Maths Careers site aimed at 16-19-year olds particularly interesting – perhaps you could persuade your careers department to have a link to it on their website?

On the site they can read the career profiles of maths and stats graduates, download the guide Maths at University, find out about the mechanics of roller coasters, or learn what they will study in a maths-based degree. GCSE students will find these pages and those aimed at 14-16-year olds informative.

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News from the STEM Networks

LSIS STEM network meetings for mathematics took place in Leeds, Newcastle, Nottingham, Guildford, Solihull, Exeter, Cambridge and London during March 2009.

Participants enjoyed sharing a great variety of ideas, approaches and resources during the 'Show and Tell' hour and several of these are now posted in the documents section of the STEM Mathematics Network community.

Mathematics and Engineering teachers worked together taking part in People Bingo and exploring Learning Conversations and questioning techniques from the Motivational Dialogue resources available on the Excellence Gateway.

Rich Tasks were the focus for another of the workshop sessions including activities at different levels from:

- Rich Starting Points for A Level Core Mathematics
- Teaching and Learning Functional Mathematics
- Thinking Through Mathematics.

The meetings also provided links to other STEM and mathematics items, including feedback from recent research action projects and new resources:

- Leading Mathematics in the Learning and Skills Sector
- Mathematical Moments
- Thinking Through Mathematics
- Resources for Managers of STEM provision
- STEM Knowledge and Technology Transfer.

What's happening in the Regions?

Flexible Learning in Cheshire East

Cheshire East is developing flexible learning. Funding from LSIS has supported the project team in collaborating with employers and designing programmes that engage with new sections of the local workforce and fit into learners' busy lives.

Courses and follow-up enquiries have been promoted by making the business case for the benefits of learning and vocational qualifications. Presentations and meetings with managers have ensured top-level commitment, and have made links to other initiatives such as the Skills Pledge and Investors in People.

Curriculum development has involved workplace managers identifying requirements with teachers: workplace materials have been used in designing taster activities that employees can relate to.

Members of the project team attended management meetings to promote possible courses to supervisors and staff. This increased take up and meant approaches were adapted to ensure prospective learners were comfortable with what was on offer and understood its relevance to their workplace.

More detail is available in the report, which describes the various steps to effective delivery, the critical success factors and provides examples of some of the materials used.

LSIS STEM Programme Funding Opportunities

We urge you to apply now for funding from the LSIS STEM programme – awards of £1 000 are available for 45 Action Research Projects and £2 000 for Professional Learning Communities. More information - including details of how to apply - is available in the LSIS STEM Spring 2010 Update.

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Elsewhere on the Portal

The Primary Magazine can be (perhaps surprisingly!) a rich source for FE teachers. This month their 'Focus on' section looks at the General Election and includes links to the Hansard Society's Y Vote Mock Elections site and to past election data on the BBC website.

The Primary Magazine also includes a series 'A little bit of history', which tells the story of famous mathematicians. Have a look at these issues:

Issue	Mathematician
16	Archimedes
21	Boole
15	Carroll*
22	Euler
20	Fibonacci
14	Gauss
19	Lovelace
17	Pascal
18	Pythagoras

Lewis Carroll (Charles Dodgson) is also featured in Issue 57 of the Secondary Magazine

Don't forget to apply for funding for a spring 2010 Mathematics Knowledge Network (MKN). You and your colleagues may be eligible to apply for funding of up to £2 000 under the scheme. Applications should be received before **noon on Monday 10 May 2010**.

And finally…

How large is a strawberry and why should it matter?

strawberries
➤ 1 of 5 a day = 10 strawberries

If the equation is,
1 of '5 A DAY' = 10 strawberries,
what does this really mean?

Is '1 of 5 a day' a useful type of non-standard measure? Exactly how much is one portion of fruit or veg? Find out about '5 A DAY' portion sizes from the Department of Health. Download a poster, watch a video, print out a wall chart to track your progress through the week or learn more with the 'What's it all about' booklet.

Why not discuss the Eat Well Plate pie chart with your learners and find out from the Food Standards Agency what fraction of your diet should consist of fruit and vegetables?