



NANAMIC Update June 2016

NANAMIC Annual Conference

Monday 11th July 2016, from 9.45 am to 4.00pm

Stoke-on-Trent College

Motivating mathematics learning

Our focus this year is on highlighting teaching approaches and resources which stimulate and engage learners. This is of especial relevance at a time when mathematics will become a compulsory subject for many reluctant post-16 learners. This event also offers an opportunity for you to share your expertise and ideas with teacher colleagues.

Keynote speech Developing mathematical resilience

Dr Clare Lee, Open University

Confirmed CPD workshops include:

- *Creating puzzles, investigations and games which reinforce mathematical concepts*
- *Building conceptual understanding using "Maths in Context" teaching approaches*
- *The impact of dyslexia and dyscalculia on the acquisition of numeracy skills*
- *Core mathematics including an update and an opportunity to share problem solving resources of more general interest*

Booking forms and further information are available from our website
www.nanamic.org.uk

Cost: Members £99, Non-members £119 inclusive of membership fee.

Please note: this is the **only** Maths subject association conference particularly for teachers in the FE and Skills sector!

Workshop notes and presenter biographies.

Keynote Address

Clare Lee

Lecturer in Education, The Open University

Lecturer and researcher in mathematics education. Current research interest is teaching mathematics for life-long learning and use of mathematics. Author and editor of several books and journal articles on teaching and learning mathematics across all phases of education. Research Fellow on the Kings' Formative Assessment Project.

Developing mathematical resilience

Learners of any age need resilience to learn mathematics in ways that allow them to develop sufficient confidence to use and control mathematical ideas *for themselves*. Much mathematics is offered in an exclusive way that relies heavily on memory. They say, "learn to do it our way and you won't go wrong" then society is surprised when learners exclude themselves from doing mathematics. Instead of "path smoothing", teachers should work in ways that enable learners to see mathematics in the world and help them feel the satisfaction that comes from a struggle conquered. They must be inclusive by offering different ways to learn mathematics and encouraging learners to seek and give help in the community.

Building conceptual understanding using "Maths in Context" teaching approaches

"Maths in Context" teaching approaches engage students in order to build their conceptual understanding. The workshop will draw on these approaches trialled by Wirral Met maths team whilst teaching Functional and GCSE Maths to vocational students. The approaches themselves draw on the fruits of longstanding collaborative partnerships with MMU, MEI and NCETM.

Heather Aspinwall

Curriculum Manager Applied Science & Mathematics, Wirral Met College

Heather has taught maths in FE since 1988. She has been subject leader in both Skills for Life and Applied Science and Mathematics. Until recently she was College Manager for Mathematics and STEM, bringing maths together across the College. She is currently Director of Science and Mathematics.

Dyslexia or dyscalculia?

Specific Learning Difficulties (SpLDs) on mathematics learning. In particular, the question 'dyslexia' or 'dyscalculia?' will be discussed, focusing on differences and commonalities. The particular challenges that students with SpLD face will be considered and basic strategies, resources and approaches which help teachers, tutors and students to meet these challenges will be explored.

June Massey

Freelance consultant, trainer, SpLD assessor and tutor

June specialises in the impact of dyscalculia and other SpLDs (including dyslexia and dyspraxia) on mathematics learning. She has presented training days and workshops in a variety of settings, including the British Dyslexia Association International Conference, FE colleges, the University of Cambridge and NANAMIC. She is the author of "Meeting the Needs of Students with Dyslexia".

Improving mathematics learning in Stoke/at Stoke College

The mathematics team at Stoke-on-Trent are an experienced and innovative group, grappling with the difficult challenges presented by students studying functional maths or re-sitting their GCSE. Martin and the team will present a session demonstrating the use of growth mindsets, bar modelling and manipulatives. You will get a chance to work with Dienes blocks, multilink cubes and to do some practical trigonometry using measuring equipment. This interactive presentation will outline ways in which staff at the college have worked together successfully (and sometimes less successfully) to meet the challenges presented by their learners.

Martin Newton

Maths PD lead, Stoke-on-Trent College

Martin leads the maths team at Stoke-on-Trent College. He also works as a NCETM PD Lead and runs courses for ETF. He has led a number of initiatives at the College including becoming an early adopter of Core Maths. He loves active approaches to learning and is a born again 'bar modeller'.

Core mathematics

This workshop will include an update on Core Mathematics, and how it fits into the wider picture of increasing maths participation in post-16 in general. The session also aims to share the experience of teaching Core Maths so far, and how Core Maths differs from A-level or GCSE Maths teaching. Finally there will be a mini showcase of the resources used for teaching Core Maths (e.g. Bowland Maths, Nrich and resources from the Core Mathematics Support Programme).

Lily Tang

Mathematics Lecturer and Core Mathematics Lead, Cambridge Regional College

Lily Tang is a Maths lecturer as well as the co-ordinator for Core Maths at Cambridge Regional College, a medium sized FE college in Cambridgeshire. As well as teaching functional skills and GCSE resits, she is teaching both Year 1 and Year 2 Core Maths classes to learners following Level 3 BTEC programmes in Uniform Services, Art, Business, Media and Games Design.

Creating puzzles, investigations and games which reinforce mathematical concepts

Learning through play is a useful way for teachers to introduce new topics or revise previous subject matter. This workshop will give you a hands-on approach to creating your own resources from scratch.

Anne Townsend

Independent Mathematics tutor

Having taught music for most of her life, in 2003 Anne decided to enroll on the A level maths course at her local college as a challenge. A few years later she started teaching mathematics at the same FE college, where she worked until 2015. Anne is currently working as an independent mathematics tutor and an A level examiner.

Latest NANAMIC Member to be awarded the CMathTech designation

We are pleased to report that Noreen Rahman is the latest NANAMIC member to be awarded the Chartered Maths Teacher designation. Read about her story and decide whether it might be something for you to consider. We are always glad to help with the application process. See our website for more information.

Noreen Rahman Graduated from City University with an Honours degree in BSc Mathematics and Finance. She has a PGCE and MA in Mathematics Education from UCL Institute of Education, London.

I decided to forego a career in Finance in order to give back to my community and share my passion for mathematics with the next generation. I take my career as a mathematics teacher extremely seriously, such that I studied for an MA in mathematics education in order to deepen my pedagogical understanding and thus to maximise my students' learning in the classroom. I came across the Chartered Mathematics Teacher designation through an article in the Guardian newspaper. I felt the essence of the CMathTech designation perfectly reflected my passion for mathematics and for this career. It provides a deserved recognition for those teachers who truly persevere to be the highest calibre mathematics teachers working tirelessly to continuously develop for their profession, and instil passion of mathematics in students not just in the classroom but one that lasts for their lifetime. I feel truly privileged to bear the designation of CMathTech after my name.

Girls are more afraid of mathematics than boys in 80% of countries

Read more of this interesting research [here](#).

Unlocking Potential – A report into offender learning

The full report, which includes an executive summary, can be found [here](#).

Are you working with your Maths Hubs? They are not just about schools.

To find your nearest most appropriate hub visit the maths hub [website](#).

NCETM Secondary and FE Newsletter

The latest **NCETM** [newsletter](#) can be viewed on the NCETM website. There is some very relevant 'stuff' in here for FE teachers.

- Heads up has a section on a [second consultation](#) on proposals for grade standards for GCSEs
- There is another section on Core Maths
- There is also information about the [FMSP Maths Arts and Crafts Teachers Day](#) in London on 25 June.
- In Sixteen Plus there is a section on how to encourage your resit students to have the confidence to use what they already know when working on a problem

Plus much more

Letter to the Secretary of State for Education

You may have heard that there is a proposal from the DfE that those who 'fail' Key Stage 2 SATS will be required to take a 'progress check' in Year 7. The Meeting of the Mathematics Subject Associations (of which NANAMIC is a part) have written to Nicky Morgan to express our concern. Although this does not directly affect post-16 students, we feel that it is not in the best interests of these these young people and that it will have yet another negative impact upon them for their later maths education. Here are the contents of this letter:

10 June 2016

Dear Nicky Morgan

I am writing on behalf of MMSA¹ to express concerns about the proposed Year 7 progress check to be taken by all learners who fail to achieve the 'expected standard' at the end of Key Stage 2, early in their secondary education. We appreciate the concern for progress that underlies this proposal, but feel there are unintended and likely highly significant associated costs to both learning and attitudes.

The transition to secondary education is challenging for young people as they move to new, larger schools with significant organisational differences. The early months of secondary school should be a time when all learners experience a renewed confidence, inclination and ability to engage with mathematics. Those who have failed to meet the expected standard in Key Stage 2 need expert teaching that helps to build their confidence and mathematical understanding; something that takes time to achieve. Many such young people feel that they have 'failed' in mathematics and this proposal risks them 'failing' yet again.

A Year 7 'progress check' will distort learners' early secondary mathematics experience, as teachers will feel pressured, as Year 6 teachers do, to 'teach to the test'. Ofsted (2012) is clear that such teaching leads to superficial learning rather than building deep foundations that secure future progress. If learners are to make significant progress with the fundamentals of mathematics and begin to access the Key Stage 3 curriculum, they should not be subject to external tests at this stage. It is not realistic to expect a new secondary school to be able to facilitate a deep-seated peer-comparable progression in mathematical competence over three months in a new school; when primary schools, who know the children well, have been unable to achieve that in six years.

Teachers are in the best position to design a curriculum that can secure positive dispositions and engagement with mathematics from all learners as they enter secondary school. Through high expectations and monitoring progress, they can optimise long-term learning. We urge reconsideration of the proposed Year 7 'progress check'. We would welcome the opportunity to discuss our concerns with you.

Yours sincerely

Dr Sue Pope
MMSA Hon Sec

cc. Education Guardian, Times Educational Supplement, Telegraph, Times

1 MMSA (the Meeting of Mathematics Subject Associations) is a collaboration of the classroom-facing professional associations focused on mathematics education in this country: Association of Mathematics Education Teachers (AMET), Association of Teachers of Mathematics (ATM), National Association of Mathematics Advisers (NAMA), National Association for Numeracy and Mathematics in Colleges (NANAMIC) and The Mathematical Association (MA).

ACME Conference 2016

If you are interested in attending the Acme Conference in London on 12 July, you need to register before 24 June. Further information and a registration form can be found [here](#).

STEM Learning CPD Opportunities

The National STEM Centre's latest Secondary and FE Newsletter can be found [here](#). They also offer a range of CPD opportunities. Check out the details [here](#).

Royal Statistical Society Event

Statistics across the curriculum: are we preparing young people for the data revolution?

Monday 4 July 2016, 1:00 pm - 4:30 pm

The Royal Statistical Society, 12 Errol Street, London EC1Y 8LX

<https://www.statslife.org.uk/events/eventdetail/692/-/statistics-across-the-curriculum-are-we-preparing-young-people-for-the-data-revolution>

This half-day event shares updates and perspectives on

- the importance of continued embedding of quantitative and statistical education in secondary schools and colleges,
- what is required for effective implementation,
- the opportunities and threats for growing participation in quantitative skills education pre- and post-16.

The discussion will cover the position of statistics and quantitative skills across a range of school subjects, with plenty of scope for identifying cross-curricular issues.

NEWS EXTRA

NANAMIC continues to be on twitter. Please follow us @NanamicCio for the latest news, updates and events.