

Newsletter

Spring 2007

www.nanamic.org.uk

Thinking Through Mathematics – March 2007

The first NANAMIC training day for this year took place at Northern College on Tuesday 6th March when **60** delegates attended. The day was run jointly with Maths4Life with the theme of 'Thinking Through Mathematics' and formed part of the regional launch of the resource pack.

Oonagh Gormley introduced the day and gave the delegates information about the background to the project, research that went into developing the activities, and the impact on teachers and learners. Oonagh also explained the layout of the pack and its contents.

The delegates then divided into workshop groups.

Jane Annet's ran a workshop on using discussion in the classroom. The first part of this was about checking calculations and the skills and language needed for learners to explain to each other why they thought various answers might be right or wrong, without actually carrying out the calculations. This was followed by an exercise where delegates sat back to back and described a shape for their partner to draw, which again emphasised the use of precise mathematical language. Finally, delegates used one of the activities from the pack, where one person describes a mathematical term to another, without using certain forbidden words. Not as easy as it sounds!!

Helen Jarvis's workshop concentrated on finding out what learners already know. Although learners have diagnostic assessments, sometimes these do not pick out the extent of learners prior knowledge. Helen started with the number 2.09 written on the board and asked people what this could mean. This gave rise to a surprising number of different ideas involving money, units, temperature and many others. The following discussion revolved around what teachers could learn from this and whether or not this was a useful technique for groups with mixed levels of ability.

Oonagh ran a session looking at mistakes and misconceptions. In this session delegates looked at a variety of errors and had to decide if they were mistakes, misconceptions or misunderstandings. This was followed by a discussion on the ease, or otherwise, with which these decisions could be made, how serious the errors were and whether further analysis and investigation would be required. The delegates also looked at some statements where they had to decide whether they were sometimes, always or

never true. These seemed fairly complicated, but Oonagh assured us that research showed that these activities, even when using algebraic notation, worked with entry-level learners. Her final advice was to “suspend your disbelief”.

In the final afternoon session Liz Webster, NCETM regional coordinator for Yorkshire and Humberside, showed delegates how to access the NCETM website and encouraged them to sign up to their local network, where ideas are discussed and shared. Several delegates took the opportunity to sign up straight away!!

The feedback from delegates was very positive and all seemed to enjoy the day and find it interesting and inspiring. Among the comments we got were the following

- “I have found the day very interesting and thought provoking. It will change the work I do with students. Thank you.”
- “I am looking forward to trying some of the activities.”
- “Very useful, informative, enjoyable. Love the resources and will be ordering more!”
- “An interesting event with a lot of useful information, which will help me with my teaching.”

The most commonly used phrase in the feedback forms was “very useful” and 22 delegates said they would be interested in taking further part with the work of the Association.

We were fairly cramped in the main room as we expected to have about 30 delegates, but the popularity of the event meant that this number rose to 60. The DVD clips were very popular and the comments from Malcolm Swan, that sometimes discussions can get a bit messy, but to persist with the approach, will give confidence to those who feel they are taking a bit of a risk.

Finally, as two delegates left they stopped to tell me that they had just discovered they had been at school together and hadn't met for thirty-five years. How is that for added value?

Thanks go to the excellent speakers, Oonagh, Jane, Helen and Liz for their enthusiasm and expertise. Our thanks also go to the staff at Northern College who made us so welcome. Their building is a former stately home and has wonderful architecture and magnificent views from the terrace where we were able to have our coffee out in the sunshine.

If you are interested in hosting an event for NANAMIC please contact Lesley Way at: Ways2Learn ...

What did they say? Reports from meetings

NANAMIC is one of the organisations that represents the views of the post-16 mathematics community at a number of meetings. We attend these meetings on your behalf and represent the views of the membership. We are often asked to provide a speedy response to questions that inform policy decisions relating to mathematics e.g. whether or not we want coursework to continue at GCSE Level, so if you want to express an opinion about the issues raised in this section, please visit www.nanamic.org.uk and follow the links to the forum. The more you respond and debate, the more accurately we can represent your views.

For this Newsletter we have concentrated on the work of the Joint Mathematical Council. For more information on the organisation visit: <http://www.jmcuk.org.uk>

Joint Mathematical Council (JMC)

The JMC was established to ensure that the various voices of the mathematics community were in harmony. David Martin, the Chair of NANAMIC, was elected as JMC Secretary at the AGM that took place on 9th November 2006. Sally Barton now represents NANAMIC at these meetings.

Topics raised at the November meeting included:-

- Functional Maths, as part of an address given by Celia Hoyles.
(<http://www.schoolsnetwork.org.uk/uploads/documents/8375.ppt> to get an introduction to the topic and <http://www.qca.org.uk/15891.html> for QCA's progress so far)
- The work of SEMTA, the sector skills council for Science, Engineering, Manufacturing and Technology which has responsibility for mathematics.
(to find out more visit <http://www.semta.org.uk/semta.nsf/?Open>)
- A report by ACME, the Advisory Committee on Mathematics Education.
(visit <http://www.mis.coventry.ac.uk/HODOMS/hodoms/2005/ACME-Sanders.ppt> for a presentation on the background to ACME)
- An update on the work of the National Centre for Excellence in the Teaching of Mathematics. (<http://www.ncetm.org.uk/>)
- An outline of a *HEFCE funded Project 'More maths graduates'* that will be piloted in the West Midlands, Yorkshire and Humberside as well as London. (<http://www.moremathsgrads.org.uk/>)

To find out more visit the web sites listed.

Topics from the February meeting included:-

- Progression to A Level from the new GCSE format proposed for 2010. (there is an on-line consultation at <http://www.qca.org.uk/16346.html> to canvass your views on the role of coursework in the new GCSE)
- Encouraging take-up of mathematics: applications for undergraduate degrees showed an increase of 6.4% across all subjects , but over 10% in mathematics. Applications for teacher training were up by about 3% and for mathematics by 7%.

To take part in the on-line discussions about these topics visit:

<http://www.ncetm.org.uk/Default.aspx?page=14&module=com&mode=102&omcid=623>

Collaborative Learning in Mathematics: Malcolm Swan
pub. NIACE & NRDC ISBN 1-86201-311-X

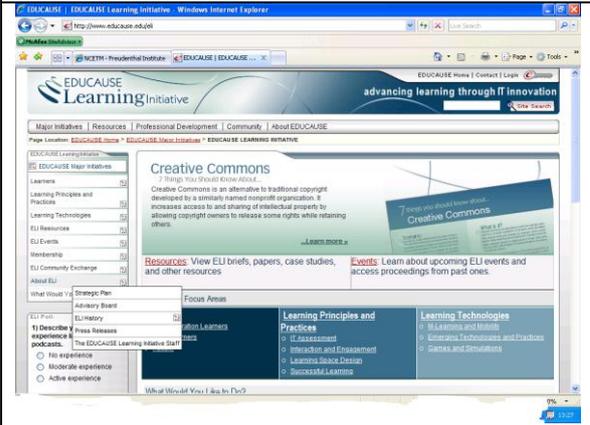
Malcolm Swan's book is a rare combination. It is useful to those of us involved in the day-to-day teaching of mathematics as well as those interested in the research methodology and theoretical underpinning of maths education.

Malcolm begins by recounting a classroom episode where a teacher's explanation of how to add fractions is met with complete incomprehension; one of those excruciating situations that we all recognise with embarrassment. He goes on to share the journeys of a number of lecturers grappling with GCSE Maths re-sit classes, who were challenged to rethink their fundamental assumptions about teaching and who tried out a connectionist approach with their classes. Many found in this a recipe for motivating students and achieved improved examination success rates. Not all readers will want to engage with the impressive theoretical foundations or the detailed analysis of the data, so there is a helpful summary of each chapter in an expanded outline. Many teachers will enjoy the lively examples of how classroom practice can be changed, to allow students to work through their misconceptions to that "Now I get it!" moment, that makes the job rewarding. At the same time, researchers and those undertaking continuing professional development, can undertake a more thorough reading. Inside the back cover is a CD containing the resource materials used in the research, as well as video clips showing the activities being used with low attaining 16 - 19 year old students.



<http://www.mmlsoft.com/>

Formulator Tarsia 2.0.
 With this software you will easily be able to create, print out, save and exchange customised jigsaws, domino activities and a variety of rectangular card sort activities. The activities created using this software can be presented in printable form, ready to cut out.



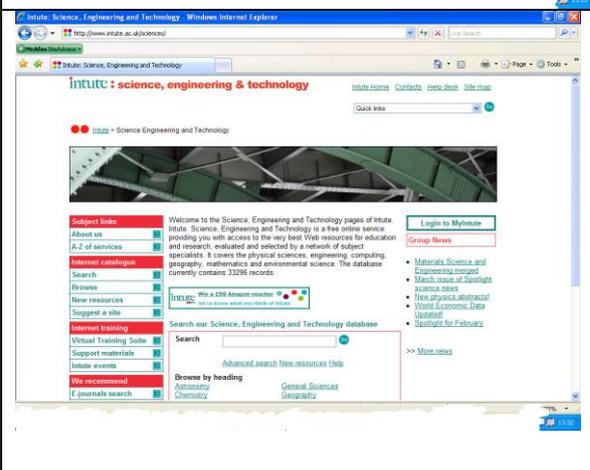
<http://www.educause.edu/>

Educause Learning Initiative
 ELI's 7 Things You Should Know About...pieces, provide quick, no-jargon overviews of technologies and related practices that have demonstrated or may demonstrate positive learning impacts. Any time you need to explain a new learning technology or practice quickly and clearly, look for a 7 Things You Should Know About... brief from ELI.



<http://www.fi.uu.nl/wisweb/en/>

WisWeb is the website of the Freudenthal Institute for secondary education (students of 12 to 18 years old). The main focus of the site are **applets**; small computer programs that run over the internet



<http://www.intute.ac.uk/sciences/>

Intute: Science, Engineering and Technology is a free online service providing you with access to the very best Web resources for education and research, evaluated and selected by a network of subject specialists. It covers the physical sciences, engineering, computing, geography, mathematics and environmental science. The database currently contains 33296 records.

Web Survey Now Live On-line

The Quality Improvement Agency has commissioned a review of the Adult Literacy and Adult Numeracy Core Curricula, and the Pre-entry Curriculum Framework, and is seeking the views of practitioners and their learners, policy makers, subject experts, managers and other users of these curricula through a variety of consultation initiatives. **Have your say!**

Go to: http://www.lsbu.ac.uk/lluplus/consultancy/currentprojects_3.shtml

Odds and ends...

"5 out of 4 people have trouble with fractions." Board in Danby, NY

"Anyone can count the seeds in an apple, but no one can count the apples in a seed."
Anonymous

"There are three kinds of people: those who can count and those who can't."
Bumper sticker on a car in Ithaca, NY

Circular argument

Last week I spray-painted a large circle in the College car park. The next person I met in the College refectory, regardless of whether they were staff or student, I asked, "Are you a consistent liar?" If they said "Yes" I sent them into the circle in the car park. Later in the day I went to the people who were in the circle and asked them the same question. This time, because they were in the circle of liars, I did not believe them and sent them out of the circle and into the refectory. Even later that day, the next person I met in the College refectory, regardless of whether they were staff or student, I asked, "Are you a consistent liar?" If they said "Yes" I sent them into the circle in the car park. Even later in the day I went to the people who were in the circle and asked them the same question ...

Please help me! Where have I gone wrong? Do I have a 100% retention figure for the circle or a 0% retention figure?

Bear Facts

I live in a small house that only has four windows, one in each wall. It is very cramped but comfortable. It is also very cold, so when I have visitors I open the windows to let some warmth in! However, I have a wonderful view and I can look south from every window. One day, through one of my windows I saw a bear.

What colour was the bear?

Uncle Alan ...

Our Agony Uncle answers your problems related to Maths and IT.

D writes:

I am beginning to doubt that the words I use make sense any more. One of my students asked me how I would describe "a hard drive" and I told them about the time I drove from Edinburgh to Wolverhampton, then to Windsor and back to Edinburgh. They laughed!

Uncle Alan's reply

I think you need a Dictionary of IT terms.

E writes:

I studied German history at school and learned about Johan Ignatius Goethe, JIG for short, who wrote poetry and had many wise things to say. I now find that there is a maths activity that uses JIG saws. Are these wise sayings about mathematics by the great man?

Uncle Alan's reply

Clearly you failed your History exam, Goethe's first names were Johan Wolfgang. However, if you want to learn about the use of jigsaws in mathematics read the preview below and come to the NANAMIC Summer Conference.

Calling all Jigsaw users

Are you a Jigsaw user? Do you want to use it at more levels? Do you want to get started? Then come to the summer conference and book onto the Jigsaw sessions when we will be looking at how to get the most out of this software.

Have you had **any problems** in creating what you wanted in Jigsaw? or sharing Jigsaw files? E-mail Sally (sallyb@regent-college.ac.uk) before the conference and the issues raised will be addressed at conference and suggested solutions posted on our website.

Forthcoming NANAMIC events

Don't forget... to book YOUR place at these NANAMIC Events in 2007

Friday May 11 th 2007	Loughborough College	Malcolm Swan, University of Nottingham
Friday May 18 th 2007	Peterborough Regional College	Mathematics and Dyslexia Julie Kay, Mark College
Wednesday 27 th June 2007	Tresham Institute Kettering	Keynote speaker Rob Eastaway

Help with conference/training event fees may be available to individual members who are unemployed or who are student teachers.