
Current and ongoing activities

Response to *Making Mathematics Count*

The LTSN Maths, Stats & OR Network welcomes the report *Making Mathematics Count*, the outcome of the post-14 Mathematics Inquiry chaired by Professor Adrian Smith, as a constructive document that identifies a range of mechanisms to better support mathematics. In a highly critical report on current mathematics, education and practice, Professor Smith identifies major problem areas - GCSE mathematics, Curriculum 2000, a large shortfall in the number of qualified mathematics teachers, lack of challenging material for more talented students, poor structural sector support in the DfES and inadequate CPD. Apart from recommending that GCSE Mathematics should become a double award, Professor Smith suggests there should be differential pay for mathematics teachers, financial incentives/fee waivers for undergraduate mathematics students who wish to become teachers, the movement of statistics teaching out of the mathematics curriculum and the appointment of a "mathematics tsar" at the DfES and the development of both national and nine regional support centres.

The LTSN Maths, Stats & OR Network received special mention in several paragraphs of the report, and in particular in Recommendation 6.5:

The Inquiry recommends that the national support infrastructure provide appropriate resources to enable the Committee of Heads of Departments of Mathematical Sciences in HEIs in the UK (HoDoMS) to work together with the LTSN Mathematics, Statistics and Operations Research Network to seek ways to promote sustainable closer links between HEI mathematics (and other relevant) departments and mathematics teachers in their local schools and colleges.

At an Advisory Committee meeting held on Friday 27 February it was agreed that a joint working party with the Heads of Departments of Mathematical Sciences would be established immediately. Other actions would also be undertaken to encourage a central body to take a lead in developing collaborative bids from interested partners for the National Centre for Excellence in Mathematics Teaching and the nine Regional Mathematics Centres.

After a period of consultation and response from the Government, the LTSN Maths, Stats & OR Network looks forward to contributing to providing support materials, dissemination of good practice, helping further develop e-Mathematics and contributing to CPD materials at the School/University interface. We will be carrying various articles about issues relating to the report in this newsletter - there is one from Chris Belsom in this issue - and you can keep up to date with our activities via the post-14 area of our website, mathstore.ac.uk/post-14

HEFCE Centres of Excellence in Teaching and Learning

Bids for these centres were due to be submitted by 23 April. We invited seven institutions thinking of making a proposal related to mathematics or statistics to a meeting on 31 March with the following agenda:

- to explore the terms of engagement between CETLs, the Higher Education Academy and the Maths, Stats & OR Network
- to identify areas that are unique to potential bidders and to explore areas of mutual collaboration
- to discuss items of mutual interest relative to the bidding process

Keep up to date with progress by viewing the CETLs area of our website at mathstore.ac.uk/cetls

Update on the Higher Education Academy

The LTSN and the ILTHE officially transfer into the Higher Education Academy on 30 April 2004. By the time you read this, the Maths, Stats & OR Network will be part of the Academy, although there will not be an official launch until October 2004. For a transitional period the LTSN name will not disappear, but during the next year we will adapt the Academy branding as part of our own identity.

Keep up to date with progress by viewing the Higher Education Academy website at heacademy.ac.uk

Update on staff

We have two new members of staff. Lorna McGuire is based in Glasgow and will be creating an online catalogue that will help academics to find helpful and relevant learning and teaching resources. You should see the results of this very shortly on the Mathstore website. Fiona Adamson will be supporting the mathematics team in Birmingham and the mathematics miniprojects.

Development projects

The Maths, Stats & OR Network offers funding for a limited number of projects each year investigating learning and teaching in mathematics. The two most recent awards are described below, followed by updates from earlier projects.

A transitional course for students prior to university entry – University of the West of England

Students are recruited to university from a wide variety of backgrounds ranging from vocational secondary education and experiential learning offered by mature students through to the more traditional A-level route. Significant numbers of these students need time to become confident with basic mathematical skills covered in previous courses. One strategy to deal with this, which was outlined in the UMTC report *Developing effective learning strategies for teaching engineering mathematics to mixed ability groups*, was pre-university summer courses.

This project aims to create a distance learning pack, to be used over the summer period, that provides each student with a structured learning experience. The main feature of the learning pack involves a workbook supported by an audio recording that guides each student through the material at their own pace. The student will also be supported through the provision of computer based self-assessments, on-line learning materials and access to an on-line tutor. The transition course will conclude with a study day held at the University just prior to the start of the academic year.

Structured assignments pilot scheme – University of Glasgow

There is anecdotal evidence that the students of Mathematics and Engineering find it much easier to perform a task that is an end in itself as opposed to the same task embedded in a multi-stage problem. The usual provision of course materials in British universities assumes that formal training in how to set out a coherent solution to a multi-step problem is given in schools. However, the level of problems set at school means that students expect to be able to solve problems straight away, rather than work on them for a substantial time.

The aim of this project is to develop course materials that encourage good mathematical style and structured thinking. This type of material will, in our opinion, greatly enhance the depth of the learning process and the level of retention.

Action Research on diagnostic testing and student support – an article describing the findings of this project can be found later in this issue under the title of *Don't just do it, Do it Right! Diagnostic Tests*, and a full report will be found on our website.

Sharing Good Practice in Assessment in Mathematics, Statistics and Operational Research – this project will result in two guides, one for students and one for staff. We hope that a sample copy of the student guide will be delivered to your departmental contact about the same time as this newsletter. Further copies can be ordered at 50p each for distribution to your students.

Workshops

Reports from three workshops can be found later in this issue. *Developing Links between Teaching and Research in Mathematics* and Teaching Statistics to Non-mathematicians were part of the Day Break series, and *Mathematics for Computing* is part of a series run jointly with LTSN Information and Computer Science. There will be three workshops in May:

Widening Participation in MSOR, 19 May, Aston University, led by Bill Cox

Teaching Undergraduate Statistics using 'R', 19 May, University of Leeds. Part of the Day Break programme, led by Charles Taylor

Mathematics for Computing, 28 May, University of Ulster. A joint event with LTSN Information and Computer Sciences

From 16-17 September we will be running our annual Induction Course for lecturers new to teaching in UK Departments. If you have any new colleagues or are making appointments, please ask them to put this date in their diaries.

Publications

The following publications can be ordered at any time. There is no charge for the leaflets or for individual copies of the booklets. Full details can be found at <http://ltsn.mathstore.ac.uk/publications>

Facts and Formulae leaflet: bulk copies available free of charge for distribution to students

Algebra Refresher, and Calculus Refresher: Bulk copies can be purchased for distribution to students. The current cost is £125 for 100 copies, payable in

advance.

Learning and Teaching in Mathematics, Statistics and Operational Research

Occasional series ISSN 1476-1378.

- 2/01 Guidelines for Introducing Groupwork in Undergraduate Mathematics
- 3/01 Good Practice in the Provision of Mathematics Support Centres (second edition)
- 4/03 Flexible Learning in Statistics (NEW)
- 5/03 Widening Participation in Mathematics, Statistics and Operational Research
- 6/04 Good Practice in Assessment - Guide for Students. Bulk copies can be purchased for distribution to students.

LTSN MathsTEAM publications

Diagnostic testing for mathematics: an in-depth review of current diagnostic testing including the results of a focused project and national survey. ISBN 07044 23731

Maths support for students: as Engineering and Science departments face the problems of inadequate mathematical preparation by students, many are setting in place networks of support-based activities. This booklet presents case studies illustrating these initiatives. ISBN 07044 23758

Maths for engineering and science looks at teaching mathematics in context. Case studies from contributing authors describe how other academics could reproduce the activity. ISBN 07044 2374X

Farewell to Pam Bishop



Pam Bishop
1989-present

....a big thanks for all your efforts and best wishes for the future from us all!

Pam Bishop has indicated she wishes to retire in June 2004. As this will be the last Newsletter before Pam departs, it is appropriate that we recognise and acknowledge her efforts on behalf of the mathematical community. Pam's contributions to supporting, encouraging and disseminating good practice in learning and teaching in mathematics over the last 15 years is simply without comparison in the UK. Her broad knowledge of activities across the country are unsurpassed and ever present, encouraging the development of the discipline, supporting colleagues in their activities or encouraging staff to work more closely together.

She began her period of employment at the University of Birmingham in 1989 with the Computers in Teaching Initiative (CTI), later to graduate into the much larger and broader range of activities of the LTSN Maths, Stats & OR Network in 2000, of which she is the Assistant Director. Pam was primarily responsible for the drafting of the bid documents for the Centre and which has led to funding of around £2m to date. The recent Post-14 Mathematics Inquiry Report of Professor Adrian Smith has recommended an enhanced role for the Network with a broader remit, possibly leading to further funding – much of this is due to Pam's foresight and broad knowledge of the Mathematics Education Sector. Pam's contributions are both national and international, for she has been a plenary speaker at various international conferences, but more often than not she prefers to remain in the background prompting and encouraging others.

Pam leaves the LTSN Maths, Stats & OR Network in excellent shape, well prepared for the numerous new activities that will form part of our commitment to learning and teaching in our discipline within the Higher Education Academy. We wish Pam all the very best for her future, especially with her other "love", folk music, and her work at Hobgoblin. Pam will be oft remembered in our community for her enthusiasm, commitment and her special contributions to the support of learning and teaching in mathematics, statistics and operations research.