NEWSLETTER

Issue 15: Spring 2018

Invitation to contribute to a sigma Network Resource Capture project

David Bowers
Chair | sigma Network
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The **sigma** Network Steering Group and Website Working Group are kick-starting a project to identify all valuable current and 'legacy' resources that are useful to the mathematics and statistics support community (e.g. those created through the former MSOR Network, **sigma** Network, HELM, HESTEM and related projects).

We aim to ensure a master copy or stable URL, contact information, licence information and access to the source materials is captured with a long term view of ensuring the materials remain online and, ideally, can be placed within modern, accessible and usable platforms we can depend on as a community.

To start the project we have a working meeting from 11:00-15:00 on Friday 23rd March 2018 at Loughborough University MLSC (Schofield Building). To express interest in helping with this project and/or attending on Friday 23rd March please send an email to chair@sigma-network.ac.uk.

Accessibility SIG resource working day - 26 March 2018

Emma Cliffe
Co-chair | **sigma Network Accessibility SIG**

The sigma Network Accessibility Special Interest Group aims to produce resources on accessibility in a mathematics support context to guide maths support tutors and those managing maths support centres. Accessibility covers a potentially wide remit of issues which could impact access to maths and/or statistics within a course and/or impact access to maths and statistics support itself.

We are looking for participants with relevant experience and expertise to help develop these resources, starting with a working day in Loughborough on Monday 26th March.

For further information, including how to express interest both in taking part in the resource development and in attending the working day on Monday 26th March please see:
http://www.sigma-network.ac.uk/calendar/accessibility-sig-resource-working-day/

This is an opportunity to share your experience and expertise; to work with colleagues who have similar research and development interests and to be involved in a project which may provide evidence towards elements of the UK Professional Standards Framework. Active participants will be listed as authors/reviewers of the resources and will be offered co-authorship of any resulting publications.

You do not need to be a sigma Network member to participate. Please consider passing this information on to interested colleagues both within and outside the network.

sigma
network for excellence in
mathematics and statistics support

Editor's Note

With the hope for longer days and clearer skies, this new season's edition also comes with a new editor. It is with great pleasure that I bring to you the Spring 2018 edition and endeavour to keep the same enthusiasm and momentum that Cheryl had before she embarked on her parenthood adventure. As we look ahead to the busy revision and marking period, I invite you to take some time to read about the experiences our colleagues have shared with us and consider joining the series of events planned by the **sigma** Network for this year.

Thank you to all authors for their contributions to this edition. The deadline for contributions for the next edition (Autumn 2018) is **31st July 2018**. We welcome contributions on any topic that may be of interest to practitioners and academics supporting higher education students in their learning of mathematics and statistics. To submit an item, see http://www.sigma-network.ac.uk/sigma-newsletters/ .

Finally, as usual, the views expressed do not necessarily constitute recommendations from the **sigma** Network Steering Group or any associated parties.

Happy Spring and happy reading!

– Hansa Bissoondeeal
(University of Essex)

Congratulations on your new arrival!

Congratulations to Cheryl Voake-Jones on the arrival of our latest **sigma** Network member.

Toby Luc Jones was born on 28th October 2017 at 2:03am, weighing 8 lb 8.5 oz.

Best wishes and lots of joy!

The Chair's piece: Small World

David Bowers
Chair | sigma Network
chair@sigma-network.ac.uk

It is not just bigger and faster aircraft that have "shrunk" the planet. Modern communications technology means that ideas and experiences can be shared across the globe more easily than ever before. It is pleasing to see that our **sigma** Network mailing list (www.jiscmail.ac.uk/sigma-network) of around 350 subscribers includes a number from overseas. Welcome all!

While English is an international language, mathematics is the universal language. And the more I speak with colleagues from other countries, the more it becomes clear that the common issues of maths support transcend national boundaries.

I was recently invited to the Czech Republic to deliver a training course for maths support tutors and managers. I started by asking participants to note down their main concerns. Responses included:

- What is the best way of dealing with large groups of students seeking support?
- What student:tutor ratio should we aim for?
- How can I demonstrate the impact of my maths support centre?
- How can I convince university managers of the importance of maths support?

Such questions are also asked, and are equally relevant, here in the UK.

In a similar vein, I recently read on the website of the Mathematics Education Support Hub of Western Sydney University in Australia that their goal is to help students who want to "brush up their basic mathematical skills . . . understand and practise the mathematical calculations underpinning their discipline area . . . gain statistical skills for industry". No difference there, despite the 10,000 miles that divide us!

Here in the UK we are fortunate that the legacy of **sigma** and its pioneering forefathers provide us with a wealth of resources and experience, and a vibrant community of practitioners. It behoves us now to share this more widely, and also develop and learn from the parallel work of others more widely afield. At a recent **sigma** Network Steering Group meeting, it was decided to look into ways of consolidating our links with maths support centres internationally. This would not only help us all to "further the cause" of maths support, but might also lead to the possibility of meaningful collaboration. Ideas that spring to mind include: research and comparative evaluation of provision; international webinars for practitioners to share experience; joint funding bids for multi-centre development projects; working exchange visits overseas.

If anyone has experience, contacts or ideas to contribute to developing the **sigma** Network internationally, please do get in touch. It's a small world!

The Cushioning Effect of Maths Support

Gareth Woods
Teaching Fellow | Aston University
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Harry Flynn
Teaching Fellow | Aston University

One of the most challenging aspects of our role in mathematics support is the attempt to measure our impact on student outcomes. We have received much anecdotal evidence from students illustrating the positive impact our Learning Development Centre (LDC) maths support has had on their progression and success.

The challenge we now face is how to measure impact quantitatively. In an attempt to examine this we looked at a particular cohort of students: the Foundation Degree in Engineering. This group differ from usual undergraduate students in that their course runs concurrent with their company role, with the students visiting the University for just a few weeks of intensive study each term. We decided to implement a package of extra-curricular support options including a series of evening tutorials and email tutorials culminating in revision sessions during exam week. The students could also make their own arrangements to visit for one-to-one support.

Dr Harry Flynn and Dr Gareth Woods

In an attempt to measure impact we investigated the difference in the grades from moving from the first to second year. Due to the more challenging nature of the second year of study, it was expected that the students' grades would be lower. We found this to be true, with an average decrease of 14.37%. Those students who made use of the support available from the LDC had an average decrease of 10.92% compared to 17.63% for those who didn't. This statistically significant difference is very interesting as it does appear to show that the intervention of the LDC has had a "cushioning" effect on the student's grades, potentially preventing some from failing.

For enquiries about this case study contact Dr Gareth Woods at g.woods@aston.ac.uk.

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Statistics Week: An idea worth sharing

Francis Duah
Maths Skills Centre Manager | University of York
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The UK Data Service and institutional library and information services are partners in statistics learning support; and these partners can add value to the statistics learning support provision at our institutions. For example, in 2017 and 2018, during one week in February, the Maths Skills Centre at the University of York coordinated an event, which was promoted as *Statistics Week*. During the week, the *UK Data Service*, the *Information Services* at York, and the Maths Skills Centre delivered collaboratively a coherent programme of workshops to postgraduate taught and research students. Our colleagues from *UK Data Service* and the *Information Services at York* brought to bear on the event specialist knowledge of data sources, their management and visualization.

During the *Statistics Week*, the *UK Data Service* offers a two-and-a-half hour session in which they demonstrate to students how they can access a range of existing data from www.ukdataservice.ac.uk. They use the unrestricted '*teaching dataset*' – British crime survey – in their demonstration of *crosstabulation* and *Chi square analysis*. It is worth noting that the UK Data Service also provides online resources for student self-learning including Interactive Data Skills Modules and a practical guide for those using survey data in research projects. Students come away from the workshop with full appreciation that they do not always have to collect original or primary data for their research projects.
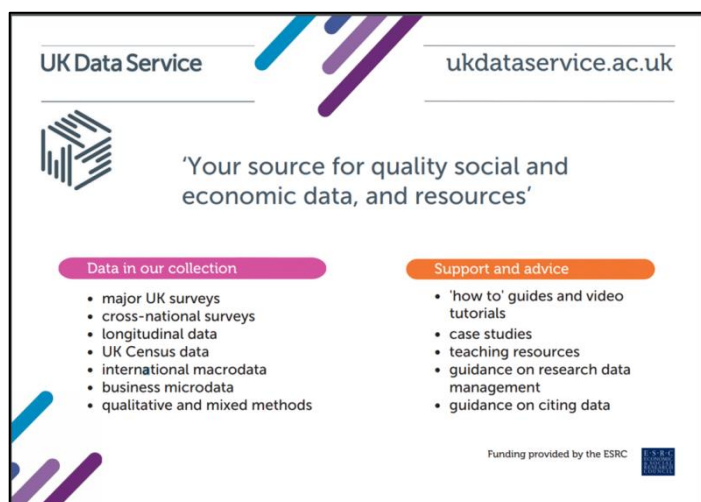
Publicity material for plasma screen displays provided by UK Data Service

During the *Statistics Week*, colleagues from the *Information Services* at York also offer presentations on *online survey tools*, *data visualization* and *data planning and management.* The Maths Skills Centre at York also offers statistics workshops that introduce students to *R* and *SPSS*. Working with the *UK Data Service* and the *Information Services* has offered opportunities for the development of collegial working relationships and the development of teaching skills for those of us involved in statistics learning support and consultancy. It would be interesting to know how others adopt and adapt the idea of a statistics week in their own institutions.

The Figure above is a publicity material provided by the *UK Data Service* for plasma screen displays. If you are looking for support from *UK Data Service* you can contact them at help@ukdataservice.ac.uk.

ARTICLES

Raising awareness of the need for Maths Support: 'Successful Students: What's Maths got to do with it?'

Karen Symons
Senior Lecturer in Maths Support | Maths Learning Centre, De Montfort University
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De Montfort University annually organizes a Teaching & Learning Conference for staff as part of their commitment to developing excellent standards of teaching. So, this year I was delighted to have been chosen to run a workshop designed to raise awareness of the importance of numeracy skills for all students, regardless of the mathematical content of their degree course.

The aims of the 'Successful Students: What's Maths got to do with it?' workshop were to:

- Find out staff perceptions about the numeracy needs of their learners.
- Provide a forum for sharing good practices that currently exist to help students improve their maths skills.
- Reflect on what else we, as a community, not just the Maths Learning Centre, could be doing to help students improve their confidence and abilities in maths.

36 lecturers attended – from each of our four faculties (Art, Design & Humanities; Business & Law; Health & Life Sciences and Technology). I planned an active workshop, with a carousel of flip-charts which were rotated around the groups to which everyone contributed. Plenty of discussion ensued!

The main outcomes of the event were:

- There was consensus over the considerable need for numeracy support for our learners.
- The numeracy needs of students beyond the content of their course were not mentioned by lecturers e.g. for passing employability tests.
- The emotional barrier faced by students (and lecturers) when encountering Maths was identified as a major problem.
- Discussion touched upon the damaging beliefs we hold and messages we give about Maths – such as 'not having a Maths brain'.
- The question 'Should maths support just be left to the empathetic few?' was asked.

Feedback from the event was very positive and there was an appetite for further workshops to explore the issues of 'Mathematical messages we give to our learners' and 'How can we develop Mathematical Resilience?'.
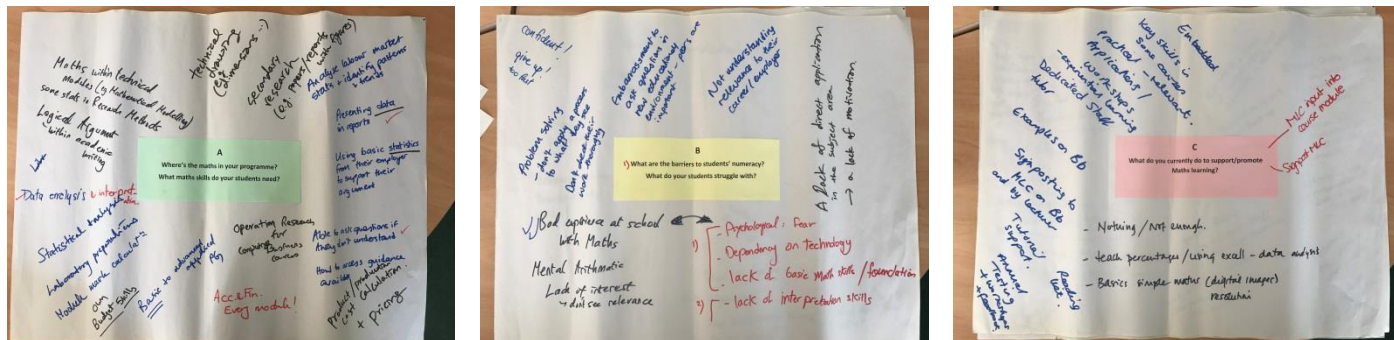
Zoom in for clearer images of the flip chart carousel

Maths Support in the Czech Republic

David Bowers
Chair | sigma Network
chair@sigma-network.ac.uk

In 2016 the first mathematics and statistics support centre in the Czech Republic was established at Masaryk University in Brno, as a result of collaboration with the MatRIC Centre at the University of Agder in Norway. (Some of you may remember meeting enthusiastic delegates from the Czech Republic and Norway at the CETL-MSOR Conference in Loughborough in September 2016.) Since then, other universities in the Czech Republic have shown interest in setting up maths support centres of their own.

In December 2017, Masaryk University invited me to visit Brno to run a training course for new maths support centre tutors and coordinators. Sixteen delegates attended, from six institutions across the Czech Republic, including Brno, Ostrava, Zlin and Pilsen.

The first day focused on modelling different approaches to maths support and addressing strategic issues of managing a maths support provision, including promotion, resourcing and evaluation. Delegates were keen to share experiences and hear of examples from the UK where maths support is much more established. The work that **sigma** has done over the years to collect evidence of the need for maths support and carry out research into the impact of maths support was well received. The challenge of persuading senior managers to adequately staff and resource maths support centres seems to be an international issue! The recent **sigma** research in this area was viewed with interest.

Day two was a structured training day for new maths support tutors, following the established **sigma** tutor training guide. Delegates reverted to their native Czech for the role play and problem solving activities, but their impressive English language skills meant that resources produced by **sigma** could be used throughout the training. Attendees can now roll out the training across their institutions in future years.

David Bowers (2nd from left) with representatives of maths support centres in the Czech Republic

The generous hospitality of my hosts at Masaryk University, and the positive good humour of the delegates, made for a productive few days, and the vibrant Christmas market in the historic centre of Brno made the visit all the more memorable. We look forward to keeping in contact with our new friends from the Czech Republic as they develop their mathematics and statistics support centres.

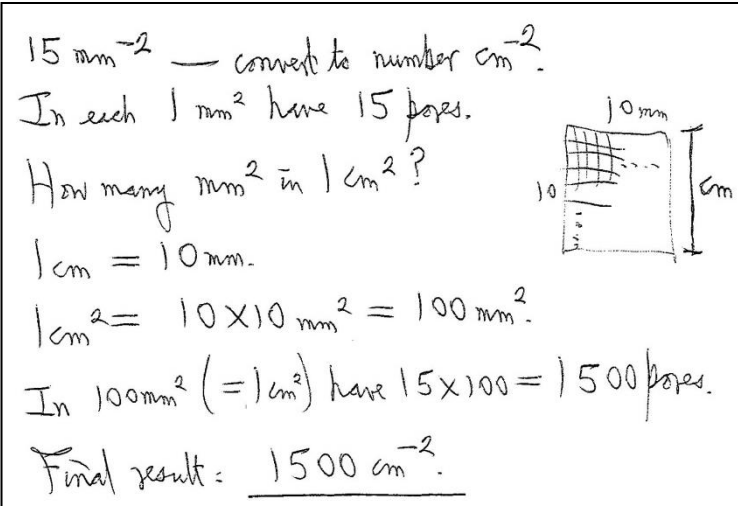## Calculation clinics for biology students

Peter Mitchell
Part-time tutor | University of Sheffield, Department of Animal and Plant Sciences, and Department for Lifelong Learning
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The article by Roseanne Quinnell in Issue 13 (spring 2017) was about a problem familiar to me: how to get biology students to think quantitatively and to carry out calculations confidently. For many years I ran practical classes for undergraduates taking biological degrees to introduce the use of dissecting and cytological microscopes. The biological theme was water loss from locusts and aloe leaves, which included examination of specimens to find the pores, and calculations about number per unit area and rates of water loss. Much explanation for the numerical work was provided in the practical schedule, and trained demonstrators were on hand. But with lots to do in the three-hour class it was inevitable that the slower workers made the measurements in the laboratory and left the calculations for later, at which many struggled.

I instituted drop-in Calculations Clinics on the day after the practical, for a couple of hours in the laboratory. In most years, 20-70 students turned up at the start of the clinic (10-40% of those taking the practicals) and I went over all the numerical work slowly, as a class, encouraging students to do the calculations as we went along. This satisfied many; the others required further explanations and I would work with successively smaller groups (tutorial style) on particular points and eventually with the last few individuals who had many difficulties. Face to face help, as long as it took, was the key to success, I believe.

In the clinic I was able to show in action the three important tips for biologists making calculations: step by step; write it out fully; take care of the units. For example, students were required to convert number of pores per square millimetre to number per square centimetre. You'd be surprised (or perhaps not) at how many students will make a guess and say "multiply by ten?" (thinking of 10 mm in 1 cm) or "times a thousand?" (thinking of multiples of S.I. units). The illustration shows how I would do it stepwise, written out, with units at each step and a little diagram to help.

15 mm^{-2} — convert to number cm^{-2}.
In each 1 mm^2 have 15 pores.
How many mm^2 in 1 cm^2?
$1 \text{ cm} = 10 \text{ mm}$.
$1 \text{ cm}^2 = 10 \times 10 \text{ mm}^2 = 100 \text{ mm}^2$.
In $100 \text{ mm}^2 \ (= 1 \text{ cm}^2)$ have $15 \times 100 = 1500$ pores.
Final result: 1500 cm^{-2}.

The Calculations Clinic was offered in what I call the **sigma** spirit of "how can I help?" instead of "why don't you know this already?" Naturally, Sheffield's MASH (Mathematics and Statistics Help) had been advertised to these students and the Calculations Clinic gave a further chance to commend its services. Did the clinics work? I have only anecdotal evidence: students left with the calculations done, I hope understood, and appeared more confident in their numeracy. Departmental administrators, however, did like the Calculations Clinics because, occurring at a defined time and place, they counted as contact hours!

The Joy of Maths

Katy Dobson
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Since 2011, the Lifelong Learning Centre at the University of Leeds have run an outreach programme called Jumpstart which gets adults from disadvantaged backgrounds to reconsider education and specifically Higher Education (HE). Through Jumpstart and other initiatives, we identified that a large barrier to HE for mature learners was mathematics. Whether it was a lack of a formal qualification or a conscious effort to avoid mathematics due to anxiety, we identified that we could support these learners and re-energize them to find the joy in maths again.

Over the past 18 months, in parallel with the Jumpstart sessions we have been running a programme we named "The Joy of Maths". The programme consists of 10 weekly sessions were we look again at troublesome topics and try to demystify the processes involved while accentuating the beauty of mathematics. We advertised the sessions to mature learners and to local community groups.

In each year we have 2 groups of students, one per semester. Each week the students would choose a topic to investigate. Having the student-centred approach gave the students ownership of their learning journey and reduced previously experienced anxiety around specific topics. The groups chose to start with topics including fractions, percentages and dealing with negative numbers. Throughout the session the students grew in confidence and by the end they were happy to choose to look at algebra.

In feedback, 100% of participants said that they had a greater confidence in mathematics and enjoyed learning about maths again, one participant also said "maths was always a necessity for me but now it's fun". In the first year of running this, several have been spurred on to return to education to gain a mathematics GCSE and 7 have been inspired to apply to the University across a variety of degree programmes.

If you wish to find out more about the project my email address is included above.

We would love you to share your experiences of using new resources or learning activities. Make sure you let us know if you run or attend an event that would be of interest to the mathematics and statistics support community.

See http://www.sigma-network.ac.uk/sigma-newsletters/ for full details on how to submit an item.

Want to host a training event?
Get in touch! Drop an email to chair@sigma-network.ac.uk.
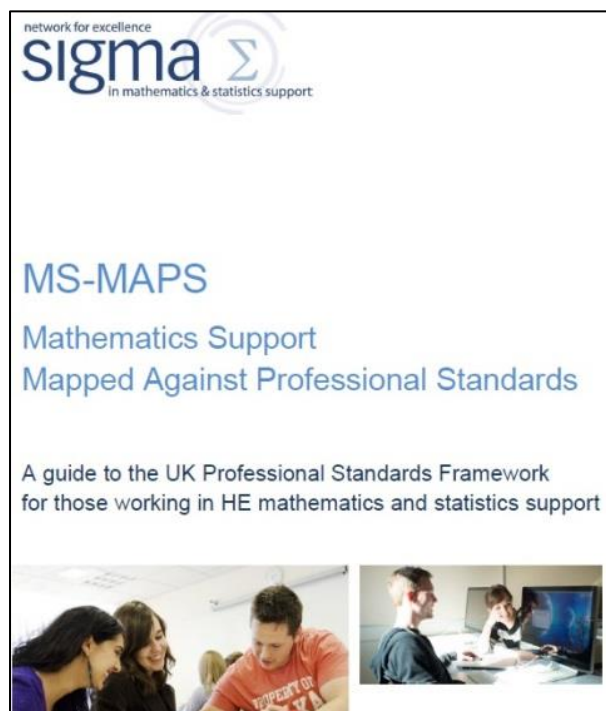
MS-MAPS

David Bowers
Chair | sigma Network
chair@sigma-network.ac.uk

The **sigma** Network is pleased to announce the publication of MS-MAPS: Maths Support Mapped Against Professional Standards.

This resource is aimed at maths and statistics support tutors in higher education who are working towards professional recognition in the form of an HEA Fellowship.

Many colleagues working in mathematics and statistics support tell us that they are being encouraged by their institution to apply for HEA Associate Fellowship, Fellowship or Senior Fellowship. But they also tell us that they find the wording of the UK Professional Standards Framework (which forms the basis of evidence for professional recognition) very general, and find it difficult to relate this to the everyday work of maths support.

MS-MAPS: Maths Support Mapped
Against Professional Standards

Therefore a working group of the **sigma** Network has produced MS-MAPS, which breaks down the dimensions of the UKPSF and cross-references them to tasks that maths support practitioners typically undertake. This should help maths and statistics support staff to identify relevant areas of everyday practice that can provide evidence against the UKPSF requirements.

MS-MAPS is based on the successful and well-established LD-MAPS format produced several years ago by the Association for Learning Development in Higher Education. We are grateful to ALDinHE for their permission to utilise this model.

MS-MAPS is freely available to download here.

We would welcome any feedback on the usefulness of this resource.

David Bowers (University of Essex)

Mark Hodds (Coventry University)

Mateja Presern (University of Portsmouth)

Morgiane Richard (University of Aberdeen)

MSOR Connections

Noel-Ann Bradshaw
Member of editorial team | MSOR Connections

We are pleased to announce that the latest 2018 issue of MSOR Connections has just been published. This is a practitioner journal that aims to publish peer-reviewed articles by and for those involved in learning, teaching, assessment and support of mathematics, statistics and operational research in higher education. The latest issue (Volume 16, Number 2) contains a varied mix of research articles, case studies, opinion pieces and resource reviews, all with very relevant and immediate applications to teaching in the MSOR subject area. All papers are free to read online at
https://journals.gre.ac.uk/index.php/msor/issue/view/66
or a full pdf of the entire issue can also be downloaded from that same web link.

We are always looking for contributions to MSOR Connections and details of how to submit contributions can be found at
https://journals.gre.ac.uk/index.php/msor/about

Submissions could include case studies, opinion pieces, research articles, student-authored or co-authored articles, resource reviews (technology, books, etc.), short updates (project, policy, etc.) or workshop reports. Please encourage staff in your Department to contribute.

Editorial Team:
Noel-Ann Bradshaw
Robert Wilson (Cardiff University)
Alun Owen (Coventry University)
Peter Rowlett (Sheffield Hallam University)
Tony Mann (University of Greenwich)

MSOR Connections
Volume 16 No. 2

IMA Higher Education Teaching and Learning Series 2018

Michael Grove
Honorary Secretary (Education) - The Institute of Mathematics and its Applications (IMA)
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The IMA Higher Education Teaching and Learning Series consist of a range of workshops and one-day events that are free for those working in the higher education (HE) sector. For 2018, there are three events currently scheduled.

Alternative Approaches to Teaching and Learning in the Mathematical Sciences

Date: 21st March 2018

Location: University of the West of England

With the trend in HE to move away from traditional didactic approaches to teaching, it is important and useful to teachers of mathematics to provide evidenced-based recommendations of alternative approaches for comparison. This workshop will focus on two alternative approaches: flipped-style teaching and problem-based learning. Attendees will have the opportunity to hear from academics who have successfully used both approaches in their teaching. In a flipped classroom, students work through material independently at their own pace before the formal class. Class time is then used for active learning, where students are able to deepen their understanding of the material. Attendance is free. To register to attend, please email Karen Henderson, stating any dietary or access requirements.

Transitions in the Mathematical Sciences

Date: 18th April 2018

Location: University of Warwick

Growing student numbers in mathematical sciences lead to significant challenges for teaching staff in particular when students are going through the transition from school to university education. This workshop aims to bring together staff to discuss key issues and share ideas and good practice.

For further details, including a full programme and details of how to register, please visit:

https://warwick.ac.uk/fac/sci/statistics/news/workshops/workshop

Mathematical Academic Malpractice in the Modern Age

Date: 21st May 2018

Location: University of Manchester

Academic malpractice is a problem plaguing university teaching of mathematics. Some methods of avoiding malpractice, for example, having in-class tests rather than take-home assignments may, in the long term, be detrimental, for example by not giving the students an in-depth investigation. Attention from central university authorities concentrates on software such as Turnitin which does not report the kinds of problems affecting mathematics. The advent of computerised assessment, while a very positive step, does introduce new malpractice problems. This workshop intends to bring together university mathematics teachers from across the UK to identify and share good practice in tackling malpractice.

For further details, including how to register, please visit:

http://www.maths.manchester.ac.uk/~cds/malpractice/meeting.php

Statistics Training for Mathematics and Statistics Support Tutors – 20 April 2018, Coventry University

Alun Owen
Associate Head of School of Computing, Electronics and Mathematics | Coventry University
aa5845@coventry.ac.uk

Ellen Marshall
Senior Lecturer in Statistics Support | Sheffield Hallam University
ellen.marshall@shu.ac.uk

Statistics Training for Mathematics and Statistics Support Tutors

Date: 20th April 2018, 10:00 – 16:00

Location: Coventry University

The **sigma** Network Special Interest Group (SIG) in Statistics Support is delighted to announce a workshop on 'Statistics Training for Mathematics and Statistics Support Tutors' to offer an overview of Meta-Analysis and Factor Analysis. These have been highlighted as two topics that students are increasingly asking for assistance with in the context of in mathematics and statistics support. Unfortunately, many support staff report having little or no expertise or experience of these topics. The aim of the workshop is therefore to provide mathematics and statistics tutors with an overview of these two topics, where the focus will be as much on how to assist students with them as it is on technical content.

The event is hosted by Coventry University's **sigma** centre and closes with an open discussion about issues relating to mathematics and statistics support. Hence there will be opportunities to look at the mathematics and statistics support facilities offered at Coventry University and to also network with other mathematics and statistics support staff with interests in this area.

Everyone is welcome to attend and can register for free by emailing Alun Owen at aa5845@coventry.ac.uk with the following information: name, work contact details including email and telephone number, any specific access or dietary requirements required on the day. If you require car parking, please provide car make, model and registration number. An indicative programme for the workshop is shown provided below:

10:00: Arrival, registration and refreshments

10:25: Welcome and Housekeeping

10:30: An overview of Meta-Analysis, David Bowers
  • General principles and underlying theory
  • Using computer software for meta-analysis
  • Examples and case studies
  • Commonly asked questions from students

12:30: Networking Lunch

13:15: An overview of Factor Analysis, Jonathan Gillard
  • General ideas behind factor analysis
  • How to implement a factor analysis in SPSS and R

15:15: Open Discussion and Depart
  • Emerging issues in mathematics and statistics support
  • Maths and Stats support in action – a visit to Coventry University's **sigma** Centre

Designing Effective Learning Spaces for Mathematics and Statistics Support – 25 April 2018, Sheffield Hallam University

Jeff Waldock
Mathematics Subject Group Leader | Sheffield Hallam University
j.waldock@shu.ac.uk

Designing Effective Learning Spaces for Mathematics and Statistics Support

Date: Wednesday 25th April 2018, 10:30 – 16:00

Location: Sheffield Hallam University

The space in which students work and are supported by staff makes a significant difference to their engagement. Carefully designed shared open learning spaces can help create a partnership learning community within which student engagement can flourish.

The capacity for us as academics to design and create learning spaces for mathematics and statistics support is however often limited, but it is possible both to influence university thinking when new spaces are being designed and to make innovative use of existing space at minimal cost. When doing so, it can help to be able to identify successful approaches that have been adopted elsewhere.

This **sigma** workshop is intended to provide a chance for delegates to hear some examples of such successful practices and to discuss ways in which their own spaces can be better utilised to enhance student engagement. To register to attend, please email Jeff Waldock (j.waldock@shu.ac.uk), stating any dietary or access requirements. Attendance is free.

 Schedule:

10:00: Arrival and registration.

10:30: Welcome

10:40: 'Designing ideal open learning spaces to enhance student engagement with mathematics and statistics', Jeff Waldock (Sheffield Hallam).

11:10: 'Finding space for Maths Support – making the most of what you've got'. Tony Mann (Greenwich)

11:40: 'Designing a new space for mathematics and statistics at the University of the West of England', Karen Henderson (UWE)

12:10: Lunch.

13:10: "Differing Approaches and Uses of Learning Spaces – their Strengths and Weaknesses", Chetna Patel (De Montfort)

13:40: "Mobile Maths Support", Simon Massey (Manchester Metropolitan University)

14:10: Open "Show and Tell" session.

This is an opportunity for delegates to review their own learning spaces and what they would like to be able to offer to their students and staff, and to reflect on approaches towards achieving these goals.

15:30: Closing remarks – are we closer to identifying how to achieve an ideal learning space in different contexts?

Mathematics and Statistics Support for Economics and Finance – 21 May 2018, Bournemouth University

Marta Disegna
Senior Lecturer in Statistics and Econometrics | Bournemouth University

Mathematics and Statistics Support for Economics and Finance

Date: 21st May 2018

Location: Bournemouth University

Mathematics and statistics are key subjects for students who study for a degree in Accounting, Finance or Economics. Are students fully aware of this? Are students willing and able to apply their existing mathematical knowledge to other disciplines like accounting, economics and finance? Students have different backgrounds and it can difficult to establish what is familiar to them and what is new. Therefore, designing an attractive unit for the entire cohort is quite challenging. How can we help students in the difficult process of transition from secondary school to university? What are the most effective models of maths and stats support? How can we efficiently use the range of resources available online?

This **sigma** workshop is intended to provide a chance for delegates to hear examples of online platforms, projects, and resources for maths and stats related to the needs of economics and finance. We will share and discuss approaches adopted to teach and support quantitative methods, especially at undergraduate level, and identify approaches and resources that can be better utilised to enhance student engagement.

Schedule:

12:00: Arrival, registration and lunch

12:30: Welcome, David Bowers (Chair, **sigma** Network for Excellence in Mathematics and Statistics Support)

12:45: What is special about maths and statistics for Economics and Finance? (Bournemouth University staff)

13:30: Different resources for supporting mathematics and statistics skills in Economics and Finance, Francis Duah (University of York) and Martin Greenhow (Brunel University).

14:20: An Introduction to the Q-Step initiative, Guest speaker to be confirmed.

14:45: Coffee & Networking.

15:15: Showcase and open discussion on attendees' own teaching approaches and experiences of offering maths support to Economics and Finance students, with the opportunity to share good practice and reach out for advice.

16:15: Action planning. How can I apply today's insights to my own teaching or maths support provision? What future collaborative/developmental activities would be useful?

Invitations and links to booking information will be sent out in due course. Meanwhile, please note the date in your diaries.

Using social media for mathematics and statistics support – 27 June 2018, Staffordshire University

Angela Evans
Academic Skills Tutor | Staffordshire University

Using social media for mathematics and statistics support

Date: 27th June 2018

Location: Staffordshire University

The aim of this one-day event is to provide ideas and inspiration to delegates as to how they can use social media to enhance their maths support provision, as well as giving confidence in using some of the most popular social media tools.

We are delighted to have an opening keynote presentation from Sue Beckingham (National Teaching Fellow) from Sheffield Hallam University. Sue has extensive experience in encouraging staff and students to adopt social media to support and enhance learning and will provide an inspirational start to the day.

Social Media tools

The Beacon building at Staffordshire University, where the event will be held

This will be followed by a 'hands-on' session in which attendees will be able to experience using various social media platforms first-hand. In the second half of the event, **sigma** Network members will present case studies to give further ideas for discussion.

The event is free and a light lunch will be included. It will be held in The Beacon building, on the College Road site just two minutes' walk from Stoke-on-Trent railway station.

Invitations and links to booking information will be sent out in due course. Meanwhile, please note the date in your diaries.

CETL-MSOR 2018: Evidencing Excellence in the Mathematical Sciences – 5 to 6 September 2018, University of Glasgow

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CETL-MSOR 2018: Evidencing Excellence in the Mathematical Sciences

Date: 5th – 6th September 2018

Location: University of Glasgow

We are pleased to announce that the CETL-MSOR 2018 conference will take place on 5th –6th September 2018 at the University of Glasgow. The principle themes of the conference include:

- Current developments in mathematics and statistics support within, and across, the disciplines.
- Using data and evidence to enhance teaching, learning and support.
- Encouraging and preparing future teachers of mathematics.
- Engaging students in learning and teaching enhancement and innovation, including the specialist mathematician and more-able student.

Please save the dates, and we will be in touch with a call for abstracts in due course.

Shazia Ahmed (University Of Glasgow)

Michael Grove (University of Birmingham)

Ciarán Mac an Bhaird (Maynooth University)

Rob Wilson (University of Cardiff)

University of Glasgow
(www.gla.ac.uk)

Employability development for HE mathematics and statistics – Friday 16th February 2018

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Jeff Waldock
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In 2016/17, members of the **sigma** Network Employability SIG worked to write a report and collect a set of case studies of successful practice in employability development. Employability includes all aspects of readiness for employment, whether this is the career management skills that help graduates to get jobs or the broader skills required to succeed in a career.
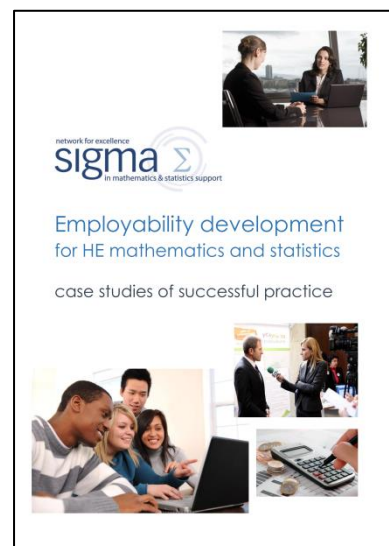
This work resulted in a booklet, 'Employability development for HE mathematics and statistics – case studies of successful practice', edited by Peter Rowlett and Jeff Waldock (ISBN 978-1-84387-414-0. On Friday 16th February 2018, Sheffield Hallam University held a **sigma** workshop to launch this booklet. Seven case study authors gave talks based on their contributions to the booklet.

Talks represented the range of interests in the SIG and the range of case studies in the booklet, including those working to: support development of numeracy for the workplace and for graduate recruitment testing; prepare students for work placements; prepare students for the transition to employment; develop graduate skills through the curriculum, via mathematics degrees and through mathematics and statistics in other subjects.

Employability development for HE mathematics and statistics booklet cover

The workshop was attended by 30 delegates from 17 institutions around the UK. The speakers were Jeff Waldock (Sheffield Hallam University), Julia Paci and Ray Vitali (University of Exeter), Carol Calvert (Open University), Jonathan Cole (Queen's University Belfast), Dafydd Evans (Cardiff University), Karen Henderson (University of the West of England, Bristol) and Peter Rowlett (Sheffield Hallam University).

Use this link to access the workshop slides and to download the booklet.

Discussion at the workshop led to agreement about the need to continue to share ideas and information in this area. There is a sufficiently large community of interest within HE Maths and Stats to warrant the creation of a discussion forum and file repository. This led to the launch of the HE Maths and Stats Employability Network, coordinated via a JISCMail list which you are all welcome to join!

Maynooth University Mathematics Support Centre Celebrates its 10th Birthday

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On the 12th of October 2017, the Mathematics Support Centre (MSC) in Maynooth University celebrated its 10th birthday. To mark the occasion, both students and staff, past and present, were invited to the MSC in the Library. The MSC Director, Dr. Ciarán Mac an Bhaird and the President of Maynooth University, Professor Philip Nolan spoke about the MSC at MU and its impact on students. A selection of student and staff testimonials were on display throughout the evening, and these are available, along with photographs, from the MSC website: http://supportcentre.maths.nuim.ie/tenth_birthday

The Director and the President highlighted the significant contribution of MSC tutors, the new MSC location in the Library and paid special tribute to Dr. Ann O'Shea. Ann was instrumental to the establishment of the MSC in 2007 and served as Director until 2016. Her guidance and support were pivotal to the success of the MSC, and in particular our focus on practice driven by research.

Dr. Mac an Bhaird also reminded those present of the significant contributions of certain members of the Irish and UK Networks, especially in terms of advice, the sharing of resources and collaboration, and thanked Maynooth University for their significant investment in the MSC.

The MSC in Maynooth University first opened in October 2007. Since then, it has grown significantly and reached over 145,000 student visits in December 2017. The main service that the MSC provides during term time is a drop-in centre for undergraduate students who need assistance with any aspects of mathematics or mathematics related subjects, and there are 125 tutor hours available each week. The MSC's services also include four on demand workshops, the provision of extensive online supports as well as a weekly drop-in service for second level students. For further information see: http://supportcentre.maths.nuim.ie

Presentation to Dr Ann O'Shea by Dr Ciarán Mac an Bhaird (left) and Professor Philip Nolan (right).