Introducing the SIGMA Mathematics Support Research Programme

http://www.sigma-cetl.ac.uk

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Following on from my article in the last Newsletter, which introduced mathematics support research in general [1], this article introduces the strategy for SIGMA’s mathematics support research programme and some of the other researchers who are involved in carrying out this programme.

SIGMA’s Research Strategy

SIGMA has devised a six point research strategy:

1. To increase capacity and expertise in answering fundamental research questions to do with mathematics support, such as, what is mathematics support and in what forms does it appear?

2. To carry our research into SIGMA’s new support initiatives, such as its proactive teaching programme [2] and its statistical advisory service [3].

3. To carry out educational research into mathematics support – a wider objective than the previous one which will explore educational theories, pedagogical theories and teaching methods relating to mathematics support.

4. To engage with the UK Higher Education research community, including both mathematics support researchers and educational researchers.

5. To increase and exploit SIGMA’s current research capacity, by following a systematic research strategy to develop research projects and themes and apply for new funding.

6. To develop a repository of mathematics support research resources, where possible, to be made available at the SIGMA website.

A full version of this strategy is published at the SIGMA website (www.sigma-cetl.ac.uk). It is a ‘working’ research strategy and is expected to evolve over time.

Fig 1 – SIGMA website
Visiting Research Fellow

SIGMA is pleased to announce the appointment of Dr. Yvette Solomon from Lancaster University as a Visiting Research Fellow. Her research in the next academic year will focus on two main strands:

Research Strand 1: Building on Yvette’s work with honours mathematics students at Lancaster University concerning mathematical identities and their perceptions of membership of a community of practice [4], we aim to extend this work to mathematics students at Loughborough and Coventry Universities. As most of the previous work in this area to date has been carried out at universities with high entry requirements, we feel that a comparison of institutions with lower entry requirements could yield interesting results.

Research Strand 2: To explore the mathematical identities of students who are studying courses outside the mathematical sciences. We plan to focus on engineering and nursing as courses which are, in one sense, at opposite ends of the spectrum. In particular, we want to explore the prevalence of the view that “you can either do maths or you can’t” and since most students would put themselves in the “can’t” category, the impact that this has on their engagement with mathematics.

Both strands of this research will be carried out using interviews and focus groups at Coventry and Loughborough Universities.

(Partly) SIGMA-Funded PhD Students

Following last year’s appointment of Ria Symonds at Loughborough University, SIGMA is pleased to announce the appointment of 3 new PhD students who began their research in October 2006: two at Loughborough University and one at University of Birmingham. We hope to recruit a further PhD student at Coventry University in the near future. Table 1 gives a summary of SIGMA’s current PhD studentship capacity.

<table>
<thead>
<tr>
<th>Name</th>
<th>University</th>
<th>Subject</th>
</tr>
</thead>
<tbody>
<tr>
<td>Daniela Bright</td>
<td>Loughborough</td>
<td>Improving the domestic supply of mathematics PhD students through academic support for the more able</td>
</tr>
<tr>
<td>Eligio Cerval-Peña</td>
<td>Birmingham</td>
<td>Applications of computer aided assessment in mathematics support for non-specialist students</td>
</tr>
<tr>
<td>Not yet appointed</td>
<td>Coventry</td>
<td>Innovative uses of technology in mathematics support</td>
</tr>
<tr>
<td>Ria Symonds</td>
<td>Loughborough</td>
<td>Evaluating the effectiveness of mathematics support structures</td>
</tr>
<tr>
<td>Marijn Waaijer</td>
<td>Loughborough</td>
<td>Strategies for teaching and learning statistics</td>
</tr>
</tbody>
</table>

Table 1 – (Partly) SIGMA-Funded PhD Students (as of October 2006)

I plan to write about some of these research projects in more detail in future MSOR Connections Newsletter articles.

The SIGMA PhD students group will be holding bi-monthly research seminars. The details of these will be posted at the Loughborough Mathematics Education Centre website (http://mec.lboro.ac.uk/). All are welcome to attend.

Please feel free to contact me if you have an interest in our research programme.

References