

Minutes of the JMC Council meeting held at the Royal Society on Tuesday 10 November 2009.

The JMC is grateful for the financial support of the Royal Society.

Present

*Officers*

Duncan Lawson	Chair
David Martin	Honorary Secretary
Adrian Oldknow	Honorary Treasurer

*Members*

Peter Johnston-Wilder	Association of Mathematics Education Teachers
George Knights	Association of Teachers of Mathematics
Janet Ainley	British Society for Research into Learning Mathematics
June Barrow-Green	British Society for the History of Mathematics
Elizabeth Winstanley	Conference of Heads of Departments of Mathematical Sciences and London Mathematical Society
Colin Campbell	Edinburgh Mathematical Society
Nigel Steele	Institute of Mathematics and its Applications
Stella Dudzic	Mathematics in Education and Industry
Sally Barton	National Association for Numeracy and Mathematics in Colleges
Brian Robinson	National Association of Mathematics Advisors
Gerald Goodall	Royal Statistical Society
Barry Lewis	The Mathematical Association

*Co-opted members*

James Nicholson	British Congress of Mathematics Education
Sue Sanders	International Commission on Mathematical Instruction
Ros Sutherland	Immediate Past Chair

*Observers*

Fiona Allan	Advisory Committee on Mathematics Education
Diana Coben	Adults Learning Mathematics
Tony Holloway	Department for Children, Education, Lifelong Learning and Skills
---	Department for Children, Schools and Families

--- The Maths, Stats & OR Network of the Higher Education Academy

Celia Hoyles National Centre for Excellence in the Teaching of Mathematics

--- Office for Standards in Education

Paul Harper Operational Research Society

Sue Pope Qualifications and Curriculum Development Agency

Nick von Behr Royal Society

--- School Mathematics Project

John Harris Sector Skills Council for science, engineering and manufacturing technologies in the UK

--- The National Strategies

Luke Graham Training and Development Agency for Schools

Bill Richardson United Kingdom Mathematics Trust

*Guests*

Sandie Blakesely Cre8ate

Colin Jackson Cre8ate

Lynne McClure Primary

Nick Todd Northern Ireland

*Visitors*

Nick Bowes Advisory Committee on Mathematics Education

<b>Item</b>	<b>Action</b>
<p><b>1. Apologies</b></p> <p>Jane Jones (OFSTED), John Marriott (HEA), David Montagu (RS), Andrew Osbaldestin (HoDoMS), Roger Porkess (MEI), Paul Scruton (SMP), Teresa Smart (NS), Stephen Stanton (DCSF) and Libby Steele (RS)</p>	
<p><b>2. Appreciation of departing representatives</b></p> <p>Martin Dore (TDA)</p>	
<p><b>3. Welcome to new guests, representatives, alternates and visitors</b></p> <p>New Chair: Duncan Lawson</p> <p>New representatives: Luke Graham (TDA)</p> <p>Alternates: Stella Dudzic (MEI), Nick von Behr (RS), Elizabeth Winstanley (HoDoMS + LMS)</p> <p>Guests: Sandie Blakesely (Cre8ate), Colin Jackson (Cre8ate), Lynne McClure (Primary), Nick Todd (Northern Ireland)</p>	

Visitors: Nick Bowes (ACME)	
<b>4. Minutes of the meeting of Thursday 11 June 2009</b> Accepted	
<b>5. Matters arising from the minutes</b> 13 MoreMathsGrads – STEM bid current position National HE STEM project with a wider brief than pilots to be led by the University of Birmingham. Official start: 01.08.09. Director -- Michael Grove (from 23.11.09). Partner institutions: Universities of Bath; Birmingham; Bradford; Manchester Metropolitan; Southampton; Swansea	
<b>6. Reports from Executive</b>  a. Chair: Proposed Working Group on ‘ICT for teaching and learning mathematics’ to be Chaired by Ros Sutherland. Will include members beyond JMC  b. Secretary: Two international representatives are needed: one the ICMI UK representative appointed by the LMS (JMC will supply three names in time for the May 2010 LMS IAC meeting) <i>{Definitions: ICMI is an on-going committee; ICME is a four-yearly event.}</i>  c. Treasurer: The usual expenses form was circulated.  d. Chair of Nominations Committee: New committee chair is Adrian Oldknow.	
<b>7. Cre8ate</b> Sandie Blakesely & Colin Jackson This was introduced by Nigel Steele and led by Colin Jackson of Sheffield Hallam University (substituting for Hilary Povey) and Sandie Blakesley, Local Authority Advisor, North Yorkshire. Colin Jackson introduced the project. Cre8ate is based in North Yorkshire and Humberside. Working closely with teachers, it has developed material for schools which has been very well received. Whilst the project had achieved much in the past it was faced with the issue of sustainability and no further development of materials is planned. It centred on 20 schools which had key practitioners who met regularly to produce materials. It is hoped that materials might be offered more widely, perhaps in twilight meetings or similar activities. Reaction from pupils who had used the materials was positive. Sandie Blakesely then added the following comments: <ul style="list-style-type: none"> <li>•for teachers, the impact and feedback were very positive;</li> </ul>	

<p>•the resources were very flexible; they provided a starting point and were the focus of termly cluster meetings which were attended by around 80 teachers.</p> <p>Cre8ate has its own website (<a href="http://www.cre8atemaths.org.uk/">http://www.cre8atemaths.org.uk/</a> ) which describes its work and provides downloadable resources.</p> <p>The current funding is due to run out in March 2010.</p>	
<p><b>8. Report from ACME</b></p> <p>Fiona Allan: ACME has produced a paper ‘Towards Level 3 Mathematics in 2016’ to provoke discussion. As part of ACME's desire to be proactive and set an agenda it is working on a ‘Mathematical Needs’ project.</p> <p>Elizabeth Winstanley asked for an update on mathematics in the Science level 3 diplomas In response, Nick Bowes said the situation was unclear and that it seemed that the level 3 Science diploma was ‘slightly stuck’.</p> <p>Celia Hoyles commented on the A-level uptake. She said it was pleasing to be ‘bucking the trend’. This was giving rise to positive international comparisons.</p>	
<p><b>9. Working groups</b></p> <p>Nothing in addition to Chair’s report</p>	
<p><b>10. Report from NCETM</b></p> <p>In addition to the report, Celia Hoyles was pleased with the growing use of NCETM. She reminded the meeting about the NCETM, CPD conference in Nottingham on December 1<sup>st</sup>, where Chartered Mathematics Teacher status will be launched.</p>	
<p><b>11. Standing Committees</b></p> <p>a. BCME</p> <p>James Nicholson commented that it had been decided not to print programmes at this stage, but they would be printed for delegate packs. Details of speakers, sessions etc. are on the website. There are a total of 240 sessions on offer.</p> <p>b. ICMI</p> <p>Sue Sanders gave a verbal report. She had been informed by ICMI that expressions of interest had been received from several UK venues and organisations to host ICME 13 in 2016. These included: The City of Liverpool; the Edinburgh International Conference Centre; the Northwest Conference Research Unit.</p> <p>She asked if JMC were keen to support a bid, especially one by a commercial organisation. The response from the meeting was negative.</p>	

<p><b>12. Northern Ireland</b> Nick Todd had nothing to add to his written report.</p>	
<p><b>13. Higher Education</b> Elizabeth Winstanley was delighted to report an increase in undergraduate entrant numbers.</p>	
<p><b>14. Teacher Education</b> Over and above the written report, Peter Johnston-Wilder commented that Subject Knowledge Enhancement courses were in need of evaluation. These came in two versions: two-week courses aimed at brushing up the necessary skills of those who had a good mathematics background; six-month courses for those with a less strong background. Entry standards to courses are a concern.</p>	
<p><b>15. Operational Research</b> Paul Harper commented that the OR society had a new school outreach website <a href="http://www.LearnAboutOR.co.uk">www.LearnAboutOR.co.uk</a> containing a variety of school resources and a careers video. The video was recently awarded the Institute of Videography best corporate video for 2009. The society was in the process of filling a new post of Education Officer.</p>	
<p><b>16. JMC Website</b> JMC now owns the domain <a href="http://www.jmc.org.uk">www.jmc.org.uk</a> which redirects to its current JMC website looked after by the Open University. This will give JMC greater flexibility</p>	
<p><b>17. Update on current developments.</b></p> <p>a. <i>TDA</i> Luke Graham commented that there was cautious optimism due a current 13% over target for secondary trainee teachers. The quality seemed to be good as well.</p> <p>b. <i>QCDA</i> In addition to the written report, Sue Pope commented (i) As part of the Engaging Mathematics for all learners project TTV produced four programmes. During 2-6 November the 'Maths for all' programmes are being shown during Teachers' TV's 'maths week'. (ii) Primary: the level descriptions are on the QCDA website; parliamentary approval was needed. (iii) Level 3: there was a possibility of an online consultation.</p> <p>c. <i>DCELLS</i> Tony Holloway drew attention to his written report, and the fact that the</p>	

<p>proposed model for GCE mathematics was supported by only 15% of the respondents to the consultation in Wales. He suggested that the revised proposals build on the current successful pilot activity and must not jeopardise the increased entries for GCE mathematics that we have seen in recent years.</p> <p>d. Ofsted Jane Jones – written report submitted</p>	
<p><b>18. Reports from meetings</b> No additional reports</p>	
<p><b>18. Dates of future meetings at the Royal Society</b> Tuesday 23 February 2010 Tuesday 8 June 2010 Tuesday 9 November 2010</p>	
<p><b>19. AOB:</b> None</p>	

<p><b>Discussion item one</b> <b>A view from the bridge – primary perspectives</b> introduced by Lynne McClure</p> <p>1 Setting the scene Mathematics only one of many subjects Not necessarily confident (or knowledgeable) – not terribly high level of mathematics knowledge required to get onto primary courses.</p> <p>2 New curriculum and opportunities/risks +Rose - mathematical understanding this is a bonus and a good message +Big ideas – starting to make links between the mathematics curriculum areas overtly in the curriculum documents +Research – lots out recently e.g. Cambridge Primary Review, Nuffield which needs to be disseminated and acted upon by government +Relationship between numeracy and mathematical understanding still a muddle +Cross curricular expectations -Similar attainment targets which may undermine changes in practice -Risk of mapping old onto new -teaching for mathematical understanding/problem solving is an issue now and likely to continue unless high quality CPD</p> <p>3 Future of strategy/framework Possible polarising some teachers very sad and worried that support will disappear. Others delighted at possible freeing up (Framework has never been statutory but is treated as such) Good resources – perhaps look into where these are going to be located after demise? Challenges/opportunities in planning – but many teachers have been deskilled as pre-developed plans mean less in-depth engagement with the progression</p>	
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#### 4 Assessment

Elephant in the room/tail that wags the dog year 6 reported as being little new and mostly consolidation

Disproportionate energy/time

Assessing Pupils' Progress (APP) not statutory, originally 3 pupils then 6 now looks like all. Huge workload shift until it becomes embedded.

Single level tests another polarisation – some say this will reinforce teaching to the test, others say test when ready is better.

Expert group retaining national mathematics tests at KS2 despite so much opposition. ACME meeting with Government to discuss

#### 5. Other mathematics challenges

Intervention - Every Child Counts has parallel research strand to evaluate effectiveness. Very expensive. Short term results good. Masters level training.

Gifted and talented still cause for concern amongst teachers – tend to accelerate rather than teach for depth, which has knock on effects for progression to next year and into KS3

#### 6 Opportunities for CPD

Economic stop on supply cover means it is very hard for teachers to get out of school

Varied and confusing - joined up thinking?

Pathfinder - first lot of Williams' specialist teachers (henceforth called MaST) based in HEI consortia Masters level

ECC Edge Hill leading training at Masters level

HEIs - lots already have masters level courses, some now being renamed as specialist teachers courses, hence confusion

Subject leaders' training materials on NCETM website to be written by Subject Associations. Confusion amongst teachers about how this is different to MaST

#### 7 Raising the profile

CMaST requires half mathematics honours or equivalent so unlikely to be many primary

Membership issues/competition tension between Subject Association offering and that from NCETM which is all free. Should NCETM be a membership organisation?

Opportunities - so many new things coming on board

Subject Associations should be able to be much higher profile.

Further reading

Williams Review

<http://publications.teachernet.gov.uk/eOrderingDownload/Williams%20Mathematics.pdf>

Rose review

<http://publications.teachernet.gov.uk/default.aspx?PageFunction=productdetails&PageMode=publications&ProductId=DCSF-00499-2009>

Every Child Counts

<http://www.everychildachancetrust.org/counts/index.cfm>

CMaST

<http://www.ima.org.uk/cmathteach/>

Key understandings in Mathematical learning

[http://www.nuffieldfoundation.org/fileLibrary/pdf/MATHS\\_INTRO\\_v\\_FINAL.pdf](http://www.nuffieldfoundation.org/fileLibrary/pdf/MATHS_INTRO_v_FINAL.pdf)

### Discussion item two

**A level Mathematics & Further Mathematics. An investigation into the reasons for increased uptake in 2009** introduced by Stella Dudzic

The increase in A Level numbers in England from 2008 to 2009 was 12.2% for Mathematics and 15.2% for Further Mathematics. To look into the underlying reasons for these large changes, MEI conducted an online survey of teachers; this fed into ACME's investigation; the results of the survey are also on the MEI web site.

([http://www.mei.org.uk/files/pdf/A\\_Level\\_uptake.pdf](http://www.mei.org.uk/files/pdf/A_Level_uptake.pdf) )

The survey was widely publicised and attracted 180 responses, representing 636 teachers who taught 7738 A Level students (this is over 10% of the cohort). The survey listed possible explanations and asked teachers to choose the ones which they thought were important for their students. There were also two free response boxes; one for additional explanations and one for further information. In addition to this, information was requested about the school or college and a question was asked about double counting. Due to the introduction of the no-decline rule in January 2008, students who certificate for A Level Mathematics before the end of year 13 (typically because they are also taking Further Mathematics) will certificate A Level Mathematics again at the end of year 13. The A Level figure is no longer equal to the number of students with an A Level. The survey showed that 73 of the 7738 students had been double counted, less than 1%. Teaching Mathematics in year 12 followed by Further Mathematics in year 13 is not a common pattern of delivery; where it does occur, schools have been used to certificating everything at the end of the course and some are continuing to do so.

In MEI's report on the survey, the explanations are categorised into one of four types: establishing a favourable environment, the mathematics curriculum, in-house reputation and career progression. The explanations relating to career progression were most commonly chosen, followed by those relating to the curriculum. This does not give the full picture because it does not say how students are getting the information that mathematics is good for their future prospects. Information from the free response boxes showed that some students with grade B GCSE are finding it difficult to progress to A Level study.