

Newsbulletin

Keeping you informed of the work of the committee | acme-uk.org

Spring 2010

The Advisory Committee on Mathematics Education (ACME) was established in January 2002 by the Royal Society and the Joint Mathematics Council of the UK. It is an independent standing committee, with members of its secretariat based at the Royal Society, with the aim of providing national policy advice in England on matters of mathematics education.

The purpose of setting up an ACME was to put in place an effective and constructive partnership between policy makers and the mathematics community. One of ACME's main aims has been to inform and advise the work of policy makers – particularly the Department for Children, Schools and Families (DCSF) and Department for Business, Innovation, and Skills (DBIS) – in order to assist in the drive to raise standards and promote mathematics at all levels within education in England. ACME is reactive to policy announcements, and provides constructive comments in an informal way, but the onus is also on the committee to be proactive in setting out positions on issues of current and future policy interest.

ACME was established by the Joint Mathematical Council of the UK and the Royal Society, and is supported by the Gatsby Charitable Foundation and the DCSF.



A Word from the Chair

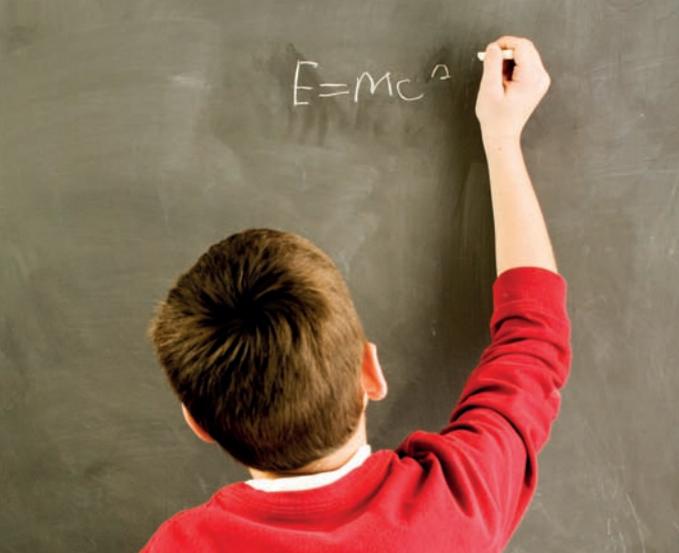
ACME has been very busy since I started as Chair of the committee and it is expected to get even busier in the coming months, with education policy likely to be high on the agenda in the run up to the general election. ACME's proactive work on 'mathematical needs' continues apace, alongside meetings with Ministers and civil servants to progress policy issues identified by the Committee and the community at large. Many of these issues are described in this News Bulletin, and we welcome comments from teachers and other education professionals to inform our work.

As a chemical engineer, I am well placed to appreciate and understand the importance of mathematics and its role across the STEM subjects (Science, Technology, Engineering and Mathematics) and beyond. Mathematics is so important that, in the context of compulsory education and training to age 18 being phased in over the next few years, our current thinking is that there should be an expectation that all students will include some element of mathematics as part of their post-16 study. With this in mind, we recently launched a discussion paper outlining a vision for different 'pathways' for Level 3 mathematics.



Through all these issues, there is a common theme: the teachers. To ensure that pupils receive the best mathematics education and that all the planned changes bring about sustainable improvement, we need our teachers to be well trained, well informed and recognised as professionals. Entitlement to Continuing Professional Development, effective Initial Teacher Training and teacher retention all are issues that won't go away and that are crucial to developing and maintaining quality mathematics education.

Professor Dame Julia Higgins FRS
Chair, ACME



ACME's Project – Mathematical Needs

ACME is currently working on a proactive project on 'Mathematical Needs' which will examine how both national and individual mathematical needs of 5-19 learners can best be met by a curriculum and delivery policy and implementation framework. The project is currently divided into two parallel themes looking at mathematical needs from a 'top down' and 'bottom up' perspective.

The 'top down' strand of the project is led jointly by Roger Porkess and Dr Jack Abramsky and is currently looking at the mathematical needs of business and Higher Education. This part of the project has successfully attracted financial support from the Nuffield Foundation and the Clothworkers' Foundation. Work has recently started on the mathematical needs research which will underpin the project. An Advisory Group, composed of stakeholders from a range of backgrounds relevant to the project such as engineering, sociology, statistics and business, has been set up in order to better inform the project and provide additional guidance and expertise.

The 'bottom up' strand of the project is led by Wendy Hoskin and has been looking at the mathematical needs of the learners. This part of the work has been informed so far by a series of research seminars with teachers and mathematics education specialists that were organised at the end of 2009 and beginning of 2010. These workshops considered issues such as values and principles for the effective learning of mathematics, an international vision for mathematics education, a core curriculum for 5-19 mathematics and effective mathematics teaching.

Together, these themes will provide a comprehensive understanding of 'mathematical needs' and will provide evidence and grounding for more detailed work on qualifications and curricula.

If you are interested in the project, please contact us at acme@royalsociety.org or visit our website at www.acme-uk.org

A linked pair of Mathematics GCSEs

Since summer 2008, ACME has been actively supporting the development of a second GCSE in mathematics, to go some way to addressing one of the key recommendations in Adrian Smith's 2004 report, *Making Mathematics Count*. The hard work of ACME and the community was rewarded when DCSF agreed in December 2008 to a pilot from 2010.

The linked pair of GCSEs has been designed to emphasise the process skills of applications of mathematics in one GCSE and the process skills of reasoning in mathematics in the other. Each of the component GCSEs is a worthwhile qualification in its own right. It is expected that those students who obtain both qualifications will be better equipped for further study at Level 3 and beyond. It is the intention that the majority of students will study for both GCSEs, with mathematics continuing to be taught as a single subject.

We will continue to liaise with organisations in the mathematics education community and the awarding bodies in order to help improve the quality of the pilot qualifications and facilitate the communication of best practice. We are represented on the steering group overseeing the piloting process, and remain deeply committed to the success of the pair of GCSEs.

If you would like to know more about the philosophy behind the twin GCSEs, visit our website at www.acme-uk.org

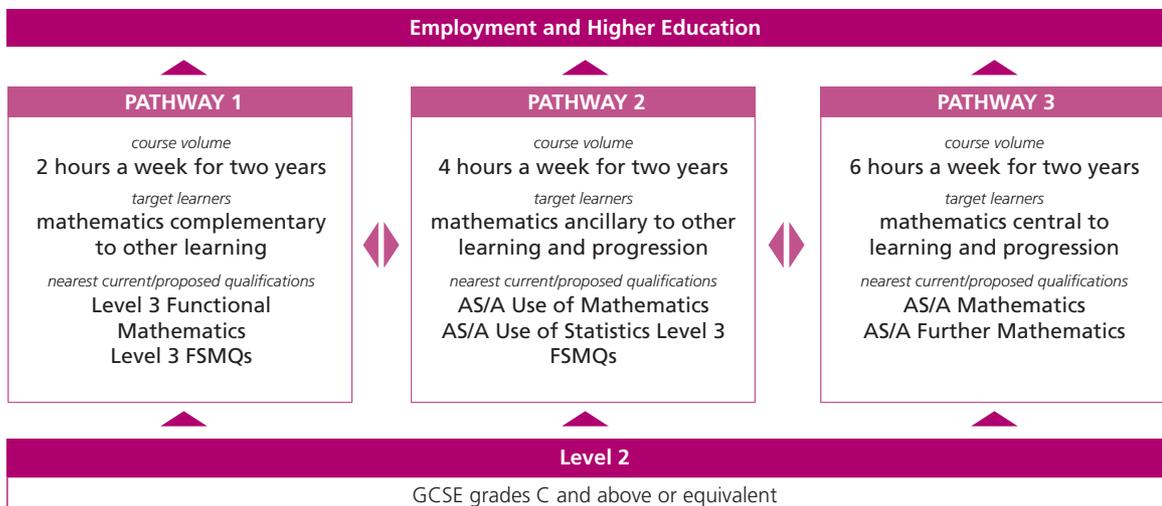




Level 3 Mathematics Project

In October 2009, ACME published a document which aimed to be an early contribution to the thinking which will inevitably precede the 2013 review of 14-19 qualifications. It offered a possible model for Level 3 Mathematics, and the context in which it lies, from about 2016. It was anticipated that the paper would act as stimulus for discussion both inside and outside the mathematics community. The main element of this work was an outline of a framework in which there will be an *expectation* that everyone in full time education and training up to 19 will study mathematics in a way which is appropriate to individual learner needs. In order to support this, a set of three mathematics pathways was suggested, to be part of a larger programme of study, which was called an 'Advanced Diploma'.

The Three Mathematical Pathways



Our paper, which was intended to provoke discussion, was published and circulated to an extensive list of stakeholders. Views were sought by 11 January 2010 and we would like to thank all the organisations and individuals who responded. The key comments received will help us refine our thinking on the issue in order to produce a final document in the spring.

We still welcome any comments on the project; you can email us at acme@royalsociety.org



Recent policy submissions

(available electronically):

Response to the Science and Learning Consultation: <http://www.acme-uk.org/downloadaddoc.asp?id=174>

Response to the QCDA Consultation on Primary Curriculum: <http://www.acme-uk.org/downloadaddoc.asp?id=164>

Response to the QCA Consultation on Level 3 Mathematics: <http://www.acme-uk.org/downloadaddoc.asp?id=144>

Future of Key Stage 2 Assessment in Mathematics

ACME contributed to the Expert Group on Assessment's 2009 work on the future of KS2 assessment in mathematics. We expressed our concern at the final report's recommendation to retain external written tests at the end of KS2 in mathematics and subsequently secured a meeting with the Secretary of State for Children, Schools and Families, Rt. Hon Ed Balls MP on 18 January 2010 to discuss the issue further.

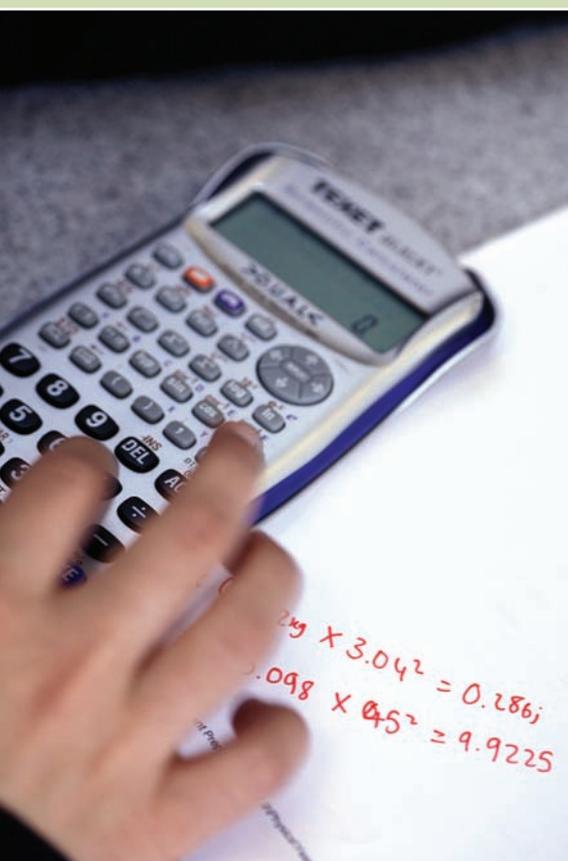
In order to inform our thinking in advance of this meeting, ACME organised a seminar at which a frank discussion on the issues related to KS2 Assessment and on possible alternative models of assessment took place. It was generally agreed that there needed to be a much greater role for teacher-led assessment, and this message was conveyed to the Secretary of State at the recent meeting. We agreed that we would reconvene our assessment group to look at the proposed report card, and report back to DCSF with our views. If you'd like to know more about our work on assessment, please contact us on acme@royalsociety.org

Other Work

ACME is active across the whole range of 5-19 mathematics education issues, and other areas of work include:

- Primary mathematics and monitoring the implementation of the recommendations of the Williams Review,
- Leading on mathematics enhancement and enrichment activities (action programme 7 of the National STEM programme),
- Pressing the importance of CPD entitlement for teachers, and working with the NCETM,
- Liaising with high profile working groups producing reports relating to mathematics and science education, including those being led by Carol Vorderman, Sir Mark Walport and Sir Richard Sykes.

We don't claim to be exhaustive in the work we do, but ACME relies on intelligence from the community. If you think there are issues we are not addressing, or have views on things we are working on, we would be very pleased to hear from you.



For more information, please contact: Dr Nick Bowes • ACME Head of Secretariat
E nick.bowes@royalsociety.org • W www.acme-uk.org