



Joint Mathematical Council of the United Kingdom

Call for expressions of interest

A comparative analysis of 5-18 mathematics education across 4 countries of the UK

Background

The Joint Mathematical Council of the UK is concerned with mathematics education across the four jurisdictions of the United Kingdom. The Trustees and Council are repeatedly reminded of the need to avoid an overly England-centric view and, to that end, at the general meeting of JMC in summer 2019 four presentations were made on mathematics education in England, Northern Ireland, Scotland and Wales.

This discussion session opened up some interesting debates and led to invitations to write short, 4-page summaries for JMC members' information (see below). The trustees received these accounts in September 2019 and found them interesting and informative though quite different in style and coverage. Concern was expressed about publishing what are essentially short position papers. These concerns are understandable and, in any event, any such statements would need regular updating. However, the trustees are keen to pursue this opportunity for the Council to be informed by a comparative cross-UK analysis.

There are important differences in the educational contexts, curriculum structures and workforce and the Trustees would like to produce a succinct comparative summary that can inform the future work of the Council. Some of these differences highlight how pressing challenges are being addressed in different ways, for example: the position of 'quantitative literacy' (GCSE Numeracy in Wales, Functional Skills mathematics in England, etc); the development of alternative post-16 mathematics pathways (e.g. Core Maths or Scotland's Applications of Mathematics); frameworks for professional development.

The project

The Trustees of the Joint Mathematical Council are seeking expressions of interest to undertake a piece of work that will

- Develop an analytic framework for comparison (based upon the initial brief for the generation of country accounts)
- Analyse and synthesise the existing four jurisdiction reports against the above framework
- Identify missing information
- Engage with key stakeholders to ensure coverage
- Produce a summary table¹ and report

It is estimated that this is around 8 days' work and a fee of up to £3000 is available.

Expressions of interest in the form of a short CV and statement should be submitted to the Secretary of the JMC (secretary@jmc.org.uk) by 2359h on Friday 6 December 2019. Outcomes will be communicated to applicants by 13 December 2019.

¹ See the example in the Royal Society's [factsheet](#) 'Jobs are changing, so should education'

Guidelines for the description of Mathematics Education in England, Northern Ireland, Scotland or Wales

1. The description should be two to four A4 pages of 10-point Arial text with a preference for being closer to two rather than four pages, including any infographics². It may be appropriate to structure the description to provide short summaries of the curriculum (and, where appropriate, qualifications) available in each element of an infographic and to make clear the proportions of the cohort engaging in each pathway (as well as some indications of cohort and system size).
2. It would be useful to know also where responsibilities for curriculum, assessment, teacher development at all stages and curriculum resources lie, and also have an outline of the relative profiles of state funded vs independent provision (including at tertiary level). Also of interest are the current pressures, priorities and major initiatives (and their drivers). (It is envisaged that the descriptions would be revised after two years so they remain up-to-date.)
3. The content should be factual rather than expressing the personal opinions of the writer, although this should not exclude mention of issues that are considered to be problematic. It should help those working in other jurisdictions³ understand the situation of mathematics education in a particular jurisdiction. It should act as a draft briefing paper for a discussion session on *Mathematics Education in the Four Jurisdictions of the United Kingdom* at the next JMC meeting and it should be suitable (following peer feedback and editing) for publication on the JMC website as a public resource.
4. References (preferably online) for further reading would be helpful. They would be likely to be to official documents or research reports.
5. It is hoped that the descriptions could be received by 21 May to allow time for reviewing before the JMC meeting on 4 June 2020. It is hoped that the reviewers will be drawn from JMC Observing Bodies; they will be asked to check (but not take responsibility for) factual accuracy and it may be that they will be willing to engage with the writers prior to submission.

Supplementary advice

Following the presentations at the June JMC meeting, the following synthesises possible areas for consideration when drafting country reports (in no particular order)

- The nature of any overarching (educational) philosophy and its influence on policy and practice
- The broader political and educational context within which mathematics education operates, and a sense of its evolution over time
- The extent of curriculum and system coherence or fragmentation of the system
- Relationships between key stakeholders: ministers, civil servants, local authorities, awarding organisations, academics, head teachers, teacher unions, etc
- The prominence, and influence on practices, of testing and assessment including the purpose (e.g. accountability); timing (national testing ages); item design (who does it?); accountability (how are results used?); validity (what do they assess?)
- The use of tools in classrooms, e.g. calculators, dynamic geometry, spreadsheets
- The nature of 14-19 mathematics progression pathways (i.e. who gets what?)
- The preparation and supply of teachers of mathematics
- Models for professional development and the general state of the CPD landscape (e.g. national programmes, local markets, CPD deserts, etc.)
- Equality and diversity issues in the workforce and student participation and outcomes

Within the limited time frame it would be impossible to address all of the above in detail. However, identifying some high-level differences would be helpful.

² The Republic of Ireland has published a description of its education system at <https://www.education.ie/en/Publications/Education-Reports/A-Brief-Description-of-the-Irish-Education-System.pdf> which contains on page 2 a very helpful infographic summarising its education system; it is hoped something similar could be included.

³ The word 'jurisdiction' is used here as we have been advised that it is considered a neutral term.