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Re: Functional Skills Mathematics

The Royal Society welcomes the Government's commitment to reform Functional Skills qualifications. As Sir Adrian Smith made clear in his recent review,[i] FSQs have an essential role in the mathematics qualifications landscape. They are the most common mathematics qualifications after GCSEs at level 2 and below and they have a high take-up with apprentices, adults and 16-18 year olds. Given their important role, it is essential that the new FSQs have a clear purpose, relate to each other closely and fit appropriately alongside other qualifications in the 16-18 mathematics landscape.

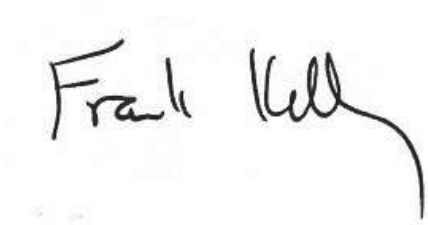
The success of the FSQs depends on them attaining credibility with learners, learning institutions and employers. They should contribute to a much needed cultural change in people's attitude to and confidence in using mathematics.[ii] The government and its agencies must ensure that there is (i) appropriate regulation by the awarding organisations; (ii) research and development so that the FSQs have the desired impact, including meeting the needs of learners who have not achieved a standard GCSE pass; and (iii) teachers receive the necessary professional development.

The proposed mathematics subject content places emphasis on mathematical problem solving, in keeping with the principles we established previously.[iii] However, it is vital that the practical application of these principles is well-thought-out to avoid a simplistic or mechanistic interpretation. In addition, given the transformational impact of data and digital technologies on society and work, the FSQs should emphasise data literacy, particularly the interpretation of data to meet the skills needs of 21st century employers and, crucially, allow students to function mathematically in everyday life. Digital technologies, including calculators, have the potential to support students in exploring how numbers work at all ages and levels.

The expertise of the relevant mathematics education bodies should be harnessed to achieve these ends. The Society's Advisory Committee on Mathematics Education is setting up a number of expert groups to provide advice across the mathematics qualifications suite. If it would be helpful, the Society would be pleased to host a meeting to provide further input and help ensure the reform's success, particularly in

the area of data literacy. If this would be useful, please get in touch with Rebecca Veitch, Senior Policy Adviser at the Society (rebecca.veitch@royalsociety.org; 020 7451 2585).

Yours sincerely,



Professor Frank Kelly CBE FRS
Chair of the Royal Society Advisory Committee on Mathematics Education

[i] Smith A (2017) Report of Professor Sir Adrian Smith's review of post-16 mathematics
[ii] Royal Society (2014) Vision for science and mathematics education (see https://royalsociety.org/topics-policy/projects/vision/)
[iii] ACME (2016) Problem solving in mathematics: realising the vision through better assessment (see https://royalsociety.org/topics-policy/publications/2016/problem-solving-through-mathematics-realising-the-vision-through-better-assessment/)