

Mr Tom Hamilton,  
Director of Education and Professional Learning  
The General Teaching Council for Scotland,  
Clerwood House,  
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Edinburgh EH 12 6UT

17 May 2013

## Memorandum on Entry Requirements to Programmes of Initial Teacher Education in Scotland

Dear Mr Hamilton,

The Scottish Science Advisory Council has been taking a significant interest in recent developments in education in Scotland and we welcome the opportunity to respond to this consultation. In particular we wish to discuss the area of entry qualifications for entry to Primary ITE programmes.

We welcome the requirement for a mathematics qualification and are pleased to see that qualifications in English and a modern language, albeit at a higher level than for mathematics, are also required. These are areas that are clearly very important for those who educate our primary children.

Up until recently, under curriculum guidance<sup>1</sup>, there has been a general requirement that all students should study a science to SCQF level 5 – equivalent to Standard Grade Credit level. However, with the advent of CfE the requirement to study science now ends at SCQF level 3 or 4. Although we hope that many will continue to study science beyond this level nevertheless entrants to primary ITE in the future may have less understanding of science than has previously been the case!

The lack of subject knowledge and confidence many primary teachers have in teaching science is a long standing issue<sup>2</sup>. Many discussions in recent years, as well as research evidence from sources such as TIMSS<sup>3</sup> and Royal Society State of the Nations reports<sup>4</sup>, show

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<sup>1</sup> *Curriculum Design for the Secondary Stages, Guidelines for Schools*, Scottish Consultative Council on the Curriculum, 1999.

<sup>2</sup> Harlen, W., Holroyd, C. and Byrne, M. *Confidence and Understanding in teaching Science and Technology in Primary Schools*. Scottish Council for Research in Education, 1995.

<sup>3</sup> *Trends in International Maths and Science Survey (TIMSS) 2007*. [http://timss.bc.edu/timss2007/intl\\_reports.html](http://timss.bc.edu/timss2007/intl_reports.html)  
*Trends in International Maths and Science Survey (TIMSS) 2007 – Highlights From Scotland's Results*  
<http://www.scotland.gov.uk/Resource/Doc/288097/0088001.pdf>

<sup>4</sup> The Royal Society, State of the Nation Reports, <http://royalsociety.org/education/policy/state-of-nation/>

this to be a continuing problem and therefore the omission of a science entry requirement does not seem logical.

Indeed we note that one of the SEEAG report<sup>5</sup> *Supporting Scotland's STEM Education and Culture* recommendations (2.4) from last year contained the bullet:

'raising now the qualification requirement for Primary Teaching students to include a minimum of SCQF level 5 or above in a science and mathematics, increasing to SCQF level 6 or above in a science and mathematics within five years.'

The SEEAG report was produced as a direct result of concerns about Scotland's performance in mathematics and science education following the 2007 TIMSS results and the subsequent Science Summit held in Dunfermline. We believe that it is exceedingly important that the SEEAG mathematics and science recommendation for entry to Primary ITE is implemented.

It is necessary for the future prosperity of Scotland that children are exposed to scientific ideas throughout their education, and this aim is best served by having teachers who themselves have a good background in science. We hope that it may be possible for more consideration to be given to this issue.

Yours sincerely,



**Professor Muffy Calder and Dr Chris Masters**  
**Co-Chairs of the Scottish Science Advisory Council**

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<sup>5</sup> *Supporting Scotland's STEM Education and Culture* (February 2012): <http://www.scotland.gov.uk/Publications/2012/02/4589/0>