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Call for Evidence – Computing in Schools

The Royal Society seeks your input to our recently launched Computing in Schools inquiry. We welcome evidence from individuals or organisations as soon as possible, and before Friday 5 November 2010.

Background to the project

On 5 August 2010, the Royal Society announced the start of an 18-month project investigating the way that computing is taught in schools. The project is supported by 24 organisations from across the computing community including learned societies, professional bodies, universities and industry, and represents an unprecedented drawing together of common interests in this area.

The study has been launched against the backdrop of plummeting levels of applications to study computing at university and a dramatic fall in the numbers of students studying ICT and computing at GCSE and A-level. There is a growing concern within the community that the way that computing is presented at school through the ICT computing curriculum and associated qualifications is extinguishing young people's enthusiasm for computing – despite the best efforts of the teaching workforce, many of whom are not specialists and receive little subject-specific training and support. The Society is particularly concerned that the effect on the economy of this decline will be felt for years to come, both in terms of the supply of specialist teachers and the UK's ability to equip young people with the skills that they will need to prosper in the digital economy.

The study will be led by Professor Steve Furber FRS, with an Advisory Group bringing together school teachers, academics and industrialists to steer the project. This open call for evidence precedes a series of stakeholder engagement events which will take place later in 2010 and early 2011, and will help the Society focus these sessions and identify where new research is needed.

Call for Evidence

This call for evidence seeks input in the form of ideas, evidence and suggestions from all organisations and individuals with an interest in computing. We are particularly keen to gather robust evidence to be included in the final report, and would be grateful for links to published data. We would also be pleased to receive other data – please specify how the data have been collected and how we may use the information.

Some topics that you may wish to comment on are listed below. The study will not be able to cover all issues in equal depth, and will have to prioritise. The list below is by no means exhaustive, and we welcome comments on other issues that you think we should consider:

1. Is computing a discipline, in the same way that mathematics, physics, chemistry are?
2. Is programming a fundamental form of literacy for the modern age?
3. What purpose should the teaching of ICT and Computing in schools serve?
4. Is the teaching of ICT (and accompanying qualifications, such as ICT GCSE) fit for purpose for all students? What should be done to address this?
5. Is computing and ICT best 'taught' in classrooms or 'learnt' by other means? How do learners learn computing and ICT skills?
6. What motivates students to study computing? Is it what they learn in school or something else?

7. How is computing presented at school, and is there a variation between schools? Why?
8. Who is teaching computing, and what qualifications do they hold? Are teachers sufficiently supported with subject-specific CPD? Are there enough specialist teachers? Why do they leave/join the profession? What are the barriers to improving the situation?
9. Why do some universities prefer their undergraduate applicants to have studied mathematics rather than computing at A-level?
10. What are the perceptions of computing and ICT amongst learners, teachers and headteachers? How can information, advice and guidance be improved?
11. Are these issues unique to the UK?
12. What can universities do to improve the situation?
13. Is there a case for curriculum reform? Is this the barrier?
14. Is there a need for an increased recognition of ICT and computing as part of the T in STEM, through representation in STEM forums and increased funding?
15. What happens if we do nothing?

Submissions

We would be happy to receive submissions in the form of electronic copies (preferred format), links to electronic copies, or hard copies.

The deadline for submissions is **5 November 2010,** either by email to: **martin.smith@royalsociety.org** *or by post to:* **Martin Smith, Education Section, The Royal Society, 6-9 Carlton House Terrace, London SW1Y 5AG, UK**

Confidentiality

A list of organisations and individuals who have submitted views will be listed in our website and the submissions may be published. Please inform us if you **do not** want your name or your submission to be made public. If you are submitting information on behalf of an organisation, please include details of the relevant person to contact should we wish to discuss issues raised in your submission.

If you would like to submit your views but are unable to meet the deadline, or if you have any questions, please contact us on the details above.

Please circulate this document to other interested parties.

Terminology

We are aware that different communities use the terms 'computing' 'ICT', 'IT' and others to encompass different aspects of 'using computers' and 'how computers work' – to assist us in interpreting your response please specify how you have used these words and what we should assume them to mean in the context of your submission.