

## Shut down or restart? The transition from ICT to Computer Science in Schools

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Four years ago, a small group of concerned individuals from schools, higher education, exam boards and industry met at Microsoft Research Cambridge to discuss the disaster that Information and Computer Technology (ICT) education had become in schools throughout Britain and indeed the world.



Driven by the desire to acquaint young people with that all-important and life-changing field of digital information processing, educators had introduced ICT as a compulsory subject into school curricula. Yet, the results of this innovation were not highly-motivated tech-savvy young entrepreneurs but a generation of school leavers who tried to stay away from Computing as best as they could – while all the time enjoying the fruits of the digital revolution, of course. Applications to computer science degrees plummeted, and those who did choose this career were subject to ridicule by their peers. How could things have become so bad and what could be done to reverse this development?

These were the questions that motivated Professor Simon Peyton-Jones of Microsoft Research to invite a group of like-minded colleagues and friends, myself included, to come to Cambridge for that first meeting in April 2008. The result was the tentative creation of the 'Computing at School' (CAS) consortium. From these small beginnings, an organisation has grown with more than 1,600 members, many of them school teachers, but also academics and industrialists, as well as educators working for examination boards.

Some of the work of CAS is entirely practical, aimed at changing computing in schools within the boundaries of existing curricula. Members organise local 'hubs' where teachers can get together to share ideas and teaching material. They explore software developed in other countries and create online repositories. The other side of CAS is its work towards policy change. The last year has seen a breakthrough on this front. In February, the Royal Society published its report into computing teaching in schools, called 'Shut down or restart', calling for there to be a distinction between 'digital literacy' (a necessary skill) and 'computer science' as proper academic disciplines. Michael Gove neatly summarised the Royal Society report in his speech to BETT (British Education and Training Technology exhibition), where he stated that 'ICT in schools is a mess', and proposed to withdraw ICT from the National Curriculum and to replace it with 'rigorous computer science courses'.

So when some 250 CAS members met at the University of Birmingham last week for their annual conference, there was much to celebrate, and the mood was more upbeat than at any of the previous events we organised for CAS. In just four years the grass-roots organisation CAS had achieved a major policy shift, and was recognised by Government as the natural partner to help implementing these changes.

The message was not lost on secondary schools around the country and when CAS, together with the British Computer Society, wrote to head teachers about the idea of creating a 'network of excellence' to help schools make the transition from ICT to computer science, the response was overwhelming with nearly 500 schools wanting to become members within a few weeks. They clearly recognised the challenge of up-skilling their staff so that they can deliver the new curriculum. It is here where universities must play their part, by offering CPD courses and by encouraging their graduates to take up a teaching career.

Birmingham, together with other institutions, has already declared its intention to help, but more will be required.

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