Response to RS report

BCS, The Chartered Institute for IT welcomes the Royal Society Report *After the Reboot: Computing Education in UK Schools*. The report states that computing education across the UK is patchy and fragile. Many teachers aren’t yet confident enough to teach the subject and the number of female pupils opting to take the subject remains very low.

The Institute strongly supports the report’s recommendations that steps must be taken to address these issues, vital if we are to ensure that every young person has the skills and knowledge to thrive in the digital world.

The report identifies 12 recommendations, four of which specifically refer to BCS, The Chartered Institute for IT. Here is how we will take forward each of these four recommendations, outlining our commitment and intention:

**ROYAL SOCIETY RECOMMENDATION 2**

*Ofqual and the government should work urgently with the learned societies in computing, awarding bodies, and other stakeholder groups, to ensure that the range of qualifications includes pathways suitable for all pupils, with an immediate focus on information technology qualifications at Key Stage 4.*

*The learned societies in computing should establish a curriculum committee, to provide government with ongoing advice on the content, qualifications, pedagogy, and assessment methods for computing.*

We will continue to collaborate with key stakeholders including awarding organisations, employers, universities and teachers, and have convened a working group to review the range of available and planned qualifications. It is imperative that a full range of qualifications are available that cover all of the computing curriculum including computer science. And we must ensure that this range of qualifications not only meets the needs of girls, students from poorer backgrounds and ethnic minorities, all of whom, are under-represented, but appeals to them. We have begun consulting with interested stakeholders to explore what a broad Computing GCSE specification could look like as well as revisiting the question of the most appropriate specifications for Information Technology qualifications at Key Stage 4.

Our Royal Charter to advance computing education for the benefit of the public means we are ideally placed to convene an alliance to establish a curriculum and assessment committee. BCS is also the home for computing communities including the Computing At School [CAS] community of over 28,500 members, over 75,000 IT professional members and a host of industry partners such as Microsoft, Google, BT, ARM and many others, which means we can call on the depth of knowledge and practice from truly national communities. Such an alliance will provide government with ongoing advice on the content, qualifications, pedagogy and assessment methods for computing. And so, in line with this recommendation we are reaching out to school leaders, classroom practitioners, professional institutions, and industry
representatives to establish our curriculum and assessment committee. This will be in place early in the new year.

**ROYAL SOCIETY RECOMMENDATION 6**

*Governments should work with higher education providers and the British Computer Society to develop and accredit preservice subject content courses to enable more people from a wider variety of backgrounds to become computing teachers.*

*Existing initiatives to support and develop computing degree courses with qualified teaching status should be continued and, if successful, expanded.*

BCS has many responsibilities under its Royal Charter. One is to develop and maintain standards in educational qualifications to ensure they equip students with the knowledge, understanding and skills needed to follow a career in computing. Courses are accredited toward our [Chartered IT Professional](#) status (CITP). We also offer a BCS Certificate in Computer Science Teaching, a qualification aimed at existing teachers to recognise high quality teaching practice that supports teachers progress towards CITP, as well as Teacher Training Scholarships which are intended to attract people into the teaching profession who have the potential to be future school leaders. To date we have awarded over 345 scholarships.

In line with this recommendation we will expand our accreditation programme to include preservice subject content courses.

**ROYAL SOCIETY RECOMMENDATION 9**

*Governments and industry need to play an active role in improving continuing professional development (CPD) for computing teachers, as exemplified by the Network of Excellence. Investment in a national network needs at least a tenfold increase to expand the reach, and to have rigorous evaluation measures in place to strengthen the offer of such networks. Importantly financial support should be made available to schools to release staff to attend professional development opportunities.*

The Network of Excellence is proven, cost-effective, tried and tested. We know that with the right support, such as the support the Network has provided in over 5000 schools to date, computing teachers become more effective at developing pupils’ advanced digital skills, increase the number of students gaining computing qualifications and improve the grades that students achieve.

The success of the Network is down to the dedication of a huge number of teachers, with the coordinated, locally tailored, support of world leading computer scientists in universities and industry and industry professionals from across the country. Much of that success has been due to the role CAS has played as the national community of practice, which has meant the Network could have a reach well beyond its funding from government.
BCS is committed to supporting CAS and ensuring it continues to fulfil its role as the community of practice for teachers, and will be able to fully support any enlarged Network that may come about in the future.

ROYAL SOCIETY RECOMMENDATION 10

*Industry and non-profit organisations need to work with and through the British Computer Society and STEM Learning to provide a coherent offer of teaching support to teachers and schools.*

BCS and STEM Learning have been working together for a number of years. We welcome the recommendation and will continue to deepen and expand our collaboration with all relevant stakeholders.

Computing skills are thinking skills, just as important as reading and writing. Every student must leave school with the necessary digital skills to thrive in the digital world. To enable them to thrive and take advantage of the huge technological changes they will be faced with, every child must have every opportunity to access an outstanding computing education taught by confident, qualified teachers. However, this will only happen where we make sure teachers are getting the right professional development, and the right support from their school leadership teams, to ensure computing is a success. The Government took the incredibly forward-thinking step of introducing computing to the curriculum over 3 years ago and since then many schools have made incredible progress, and whilst the report states that we urgently need to do much better we must not forget that just over 3 years ago the ICT curriculum had been disapplied and there was no compulsory computing curriculum. We have shown that we can make incredible progress in a short period of time, let’s keep going to reach all our schools.

The Institute provided a substantial submission and extensive data to the Royal Society. A number of board members from the BCS Academy of Computing also acted as members of the Royal Society’s advisory group.

A full response to all 12 Royal Society recommendations will be published shortly.