London Schools Excellence Fund - Case Study

Queen Mary, University of London - Confidently Teaching Secondary Computing

Teaching Computer Science
Two of London's internationally-leading universities (Queen Mary, University of London and King's College London) will collaborate with industry to transform teachers' abilities and bring inspiring resources into secondary schools. The project will upskill London computing teachers' subject knowledge/computing pedagogy to teach effectively at secondary school curriculum level (KS3-KS5).

Value: £450,000

Summary: London's future economy depends on having a large number of highly trained computer scientists. To solve the current IT skills shortage we must start in schools. Admirable new curricula risk failure unless teacher knowledge and skills are strengthened so that they can teach this new subject and inspire their students. This will nurture a sustainable ecosystem in computing education in London.

Geography: This will be a Pan-London project and will reach 45 schools across the London boroughs.

Impact and Activities
Existing teachers:
- Expanding the CPD for GCSE collaboration between King's College London (KCL) and Queen Mary, University of London (QMUL),
- Developing new CPD to prepare teachers for A-level computing,
- Franchising these programmes, free, to other London providers,
- Enhancing subject knowledge for applicants to initial teacher training.

Inspiring resources:
- The project will produce engaging resources on computing for London's teachers and their students, developed via QMUL's internationally renowned Computer Science For Fun approach (more at www.cs4fn.org). Resources will contextualise curriculum concepts within current research topics, giving teachers needed deep understanding of the subject.
- Produce / distribute curriculum-linked lesson plans and inspiring activities jointly with the Digital Schoolhouse to engage students in class.

Future teachers:
- The project will introduce an academic module in computing pedagogy, giving QMUL undergraduates insight into teaching opportunities, and encourage undergraduates from other London universities to participate.

Collaboration with Digital Schoolhouse/UKIE:
- Share an advisory board with the Digital Schoolhouse project, co-ordinating efforts to improve London's computing education and including industry and other stakeholders.
- Train Digital Schoolhouse teachers via project courses and the KCL master's module in Computer Science Education.