

## Computing in key stage 4

### Determining the way forward

The survey of CAS members Key findings  
Survey June 2017; analysis July 2017; published August 2017

#### Key findings

- Respondents thought that the most important purposes of taking an academic qualification in computing or computer science were to develop interest in the subject, and to develop computational thinking. While these reasons for taking a technical or vocational qualification in ICT/IT were considered similarly important, developing digital literacy and preparing for employment were more likely to be considered important or very important. A minority of respondents thought that developing programming skills was important or very important for vocational/technical qualifications. *The design of future qualifications should reflect the purpose of these qualifications.*
- Teacher confidence, knowledge and availability encouraged schools to offer GCSE (9-1) computer science qualifications, while the level of difficulty was more likely to be considered a discouraging factor, albeit by a minority of respondents.
- *Less than half of respondents indicated that they have appropriate CPD, either related to the subject content or the examination process.*
- However, combined with option constraints, a shortage of subject specialist teachers was a limiting factor the number of students taking a computing qualification.
- Shortage of appropriate accommodation (computing labs, etc.) and technical support were not limiting factors for most respondents.
- *Student experience at key stage 3 was considered to be an important influence on students' decisions to take a computing qualification, as well as the enthusiasm of the teachers and an understanding of what the subject entails.* This suggests that work to support students' experiences at key stage 3 could have a positive impact on key stage 4 uptake. The form of assessment was considered important by a large minority of respondents.
- Most respondents reported that their school allows students free choice about taking qualifications computer science/ICT, indicating that these qualifications are not normally restricted to particular ability groups.
- *Respondents indicated strong support for the use of written examinations in terms of their impact on teaching and learning, followed by (in order of preference) a practical programming exam, then controlled assessment/coursework. Modular assessment had more support than linear assessment.*
- *Written examinations were thought to support reliable and valid assessment, again followed by a practical programming exam, then controlled assessment/coursework.*
- Respondents indicated that they were more likely to find it more challenging delivering NEA for GCSE computer science than for vocational ICT qualifications. The most important reasons included the time required to complete assessments, the accessibility of the tasks for students, and regulations that prevent teachers giving feedback to students.
- *Over half of respondents indicated support for exploring alternative assessment models similar to science for computer science and ICT qualifications at KS4.*
- *About half of respondents stated that their school was not willing to offer qualifications that are not on the current Progress 8 or similar accountability measures.*
- *Respondents thought that a range of qualifications should be available at KS4, with the most support for a GCSE computer science, GCSE ICT and vocational/technical qualifications in ICT.*

Frances Wilson  
Andrew Csizmadia  
John Woollard  
August 2017