BCS Schools and Colleges Committee

Curriculum and Assessment Review and DfE response:

Report from Joint Meeting with England Computing Education Committee

Thursday 11th December 2025

Attendees/Contributors

BCS School and Colleges Committee (S&CC)

Joseph Arday
Miles Berry
Pete Dring
Jake Habgood
Mark Martin
Niel McLean
Simon Peyton Jones
Sue Sentance (Chair)
Katie Vanderpere-Brown
Matthew Wimpenny-Smith (offline)

England Computing Education Committee (one of four country panels aligned to the S&CC)

Miles Berry
Tim Brady
Stuart Davison
Simon Humphreys
Peter Kemp
Niel McLean
Simon Peyton Jones
Daniel Toms
Jane Waite
Eliot Williams

Not all members were present. For the full membership lists see https://www.bcs.org/about-us/people-and-governance/our-boards-and-committees/schools-and-colleges-committee/ and https://www.bcs.org/about-us/people-and-governance/our-boards-and-committees/england-computing-education-committee/committee-members/

Context

This document describes a variety of perspectives from members of the BCS S&CC committee (chaired by Sue Sentance) and from the BCS England Computing Education Committee (chaired by Miles Berry). These do not constitute a formal BCS response, but represent a range of the views held across this particular group of stakeholders.

The overarching goals of these groups are to

- represent the subject of computing as taught in schools and colleges
- advocate for computing education to be accessible to all young people
- help schools and teachers to understand what and how they should teach computing.
- inform policymakers, supporting them to ask the right questions and to know what good practice looks like.

We are interested in aspects of the recent Curriculum and Assessment Review (CAR) and subsequent DfE response that relate specifically to the teaching and learning of computing in England. We will be publishing further documents relating to computing teacher recruitment and retention and AI literacy and thus these are not included in the discussion notes below. However both are closely related to the discussion document below, particularly the shortage of specialist teachers for GCSE Computer Science/Computing.

We collectively discussed the following four aspects of the Curriculum and Assessment Review and subsequent DfE response:

- How digital literacy can be better introduced across curriculum areas
- The implications of the change from GCSE Computer Science to GCSE Computing.
- Computing for all at KS4
- A ‘proposed Level 3 qualification in AI and Data Science’

How digital literacy can be better introduced across curriculum areas

- While digital literacy should be taught in computing, it is also pertinent to all subjects. We believe that all students must leave school digitally literate, and that this requires whole school coordination as well as time in computing lessons.

- The DfE has identified that the computing curriculum is the primary place to deliver digital literacy. This highlights the importance of horizontal (cross-curricular) coherence ensuring that students can apply skills that they have learned in computing in other subjects.

- There is a lack of clarity about the core set of competences that comprise “digital literacy”. As computing professionals, we recognise the need to define core concepts, language, progression, and how digital literacy overlaps with AI literacy, data literacy, media literacy, and critical literacy.

- We recognised that digital literacy is very broad and is best delivered through a combination of curriculum requirements within computing and cross-subject practice. Digital literacy should be embedded in different ways in different subjects (e.g. geography, history), but not every subject needs to, or could be expected to, cover everything. We suggest that

discipline-specific ‘use cases’ for each subject, i.e. what is relevant to that specific subject, drive the implementation of digital literacy across the curriculum.

- Teachers highlighted barriers to cross-curricular approaches in schools including insufficient hardware/devices in schools, an increased pressure for screen-free approaches to education, a lack of shared tools and examples, and a need for subject specific CPD.. These present significant risks to proposed curriculum changes that should be addressed prior to implementation.

- Members also emphasised enabling creativity in the teaching of digital literacy, and supported the focus on oracy in computing, particularly given the amount of sometimes ambiguous technical language.

- In education, members suggested that digital literacy should include critical digital/media awareness, computational thinking, and introductory AI literacy and data literacy.

- School leadership will play an important role in enabling these whole-school changes to be implemented successfully. We would support whole-school strategies for digital literacy in the way that they have been put in place for numeracy, literacy and oracy in some schools/trusts, whilst making sure that schools retain discrete provision within computing.

The implications of the change from GCSE Computer Science to GCSE Computing.

- The committees understand that the DfE has accepted the CAR proposal to change the name and content of the current GCSE Computer Science, and the language used suggests that this change will go ahead, with a timeline of first teaching in 2029.

- A range of views are held about the change from both teachers and other stakeholders amongst the committees’ members. It will be an important aspect of the change management process to address concerns,mitigate the risks and exploit the opportunities highlighted by experienced CS teachers.

- Although the intention is to increase participation in computing at KS4, some members feel that there are risks of narrowing participation within some groups of students. A broader qualification may even deter students who currently appreciate the depth included in the current GCSE Computer Science.

- There were different views held regarding the benefits and risks of the change to a GCSE Computing. Larger schools currently can offer two qualifications, the GCSE Computer Science and a more creative or ICT-focused option, in order that students can choose the level of specialisation in computer science that suits them through these different pathways. The removal of GCSE CS will narrow the offer in these schools. In contrast, in smaller schools committee members saw the proposal for a GCSEComputing as a way to increase participation in computing-related KS4 qualifications.

- Some members worried that the new qualification could be ‘dumbed down’ or ‘bland’ as it could increase breadth at the expense of depth. Some members expressed the view that

specialist teachers themselves might be frustrated at not being able to teach their subject in depth. It will be important to select rigorous, academic and relevant computing content for the new qualification that covers to mitigate this risk.

- Another risk identified was that independent schools might move to the international GCSE, so hence be able to take a computer science option. This would mean that there will be a smaller set of students who will have better preparation for A-Level Computer Science in its current form, and this could reduce equity for those intending to go further in the subject.

- The DfE response makes clear that programming and algorithms would still be included in the new GCSE. The group was in favour of this, but some members were concerned that, given the amount of time seen as needed to understand programming concepts at this level, there would be a reduction in focus which could impact on pedagogy and depth of understanding.

- Other than programming, discussions did not extend to discussion of content ideas for the new version of the GCSE, and future meetings will return to this.

Computing for all at KS4

- The intent of the new GCSE Computing is to broaden participation in a computing-related subject at KS4, which is currently around 16%. Increasing the number of students taking a computing-related subject at GCSE would be very welcome, but it is likely to leave a large percentage of students who do not study computing at all. As Computing is a mandatory element of the national curriculum at KS4, we agree with the CAR that this is an area where policy and practice are misaligned.

- There was therefore a strong consensus around the need for all young people to have access to computing at KS4. Embedding compulsory digital elements within all GCSEs was one option discussed. Other mechanisms to ensure that computing be offered to all at KS4 would include additional funding or enforcing through school inspections.

- There was some enthusiasm for a new qualification at KS4 that would include critical thinking, meda literacy and data literacy as a broad computing offer; some options of this nature already exist and we are aware that a number of schools already offer courses for all students that ensures data and digital literacy.

- In order to ensure that Computing at KS4 is delivered, the Programme of Study at KS4 for computing should explicitly detail what all young people should know in such a way that a qualification could be developed.

- A first step to investigate these options might be to elicit good practice from schools who are currently able to offer computing to all KS4 students, as well as hear from students themselves.

A ‘proposed Level 3 qualification in AI and Data Science’

- The DfE response to the CAR described a proposal for a Level 3 qualification in AI and data science (although not a proposal in the CAR itself). The committees offer broad support to the idea of teaching AI and data science at this level.

- Risks were identified about the introduction of a new A-Level which would ‘compete’ with other A-Levels, such as Maths, Further Maths and Computer Science, in an already crowded space. The idea of introducing a specialist EPQ, in a similar format to the Cyber EPQ, with a built-in teaching component, was more popular with the committees in general, although there were concerns raised about school capacity to deliver any teaching element in the absence of appropriate funding.

- Members were in favour of including appropriate AI content within A-Level Computer Science, and ensuring that any potential AI and data science qualification was carefully aligned.

- The committees are in the process of discussing content ideas around AI literacy in more detail, with further reports to follow.