

**BCS, The Chartered Institute for IT, Academy of Computing Board
School Curriculum and Assessment Committee**

Notes of the meeting held on Thursday 12 November 2020 at 11:00
Online meeting

Present

Prof	Muffy	Calder	MC	Chair, University of Glasgow
Mrs	Julia	Adamson	JA	BCS Director of Education, Academy of
Mr	Miles	Berry	MB	University of Roehampton
Dr	Jon	Chippindall	JC	Crumpsall Lane Primary School
Ms	Sharon	Cromie	SC	Wycombe High School Academies Trust
Mr	James	Donkin	JD	Ocado Technology
Ms	Catherine	Elliott	CE	Sheffield City Council
Mr	Dave	Gibbs	DG	STEM Learning
Dr	Helen	Harth	HH	Loughborough University
Mr	Peter	Kemp	PK	King's College London
Mr	Robert	Leeman	RL	Arm
Mr	Peter	Marshman	PM	BCS/Leighton Park School
Mr	Mark	Martin	MM	Urban Teacher
Mr	Niel	McLean	NMcL	BCS Head of Education
Ms	Nicola	Mounsey	NMo	Calday Grange Grammar School
Prof	Simon	Peyton Jones	SPJ	Microsoft
Dr	Saima	Rana	SR	GEMS World Academy, Dubai
Mr	Neil	Rickus	NR	University of Hertfordshire/BCS
Dr	Sue	Sentance	SS	Raspberry Pi Foundation
Mr	James	Spencer	JS	St Martins School
Ms	Zoë	Spilberg	ZS	BCS Head of Education (Product)
Mrs	Jane	Waite	JWa	CAS London, QMUL
Mr	Matthew	Wimpenny Smith	MWS	Headington School
Dr	John	Woollard	JWo	University of Southampton, CAS

In attendance

	Kirsty	McFaul	KMcF	Education Scotland
	Claire	Griffiths	CG	CAS Scotland GUEST
Dr	Simon	Gallacher	SG	Consultant
	Adrian	Mee	AM	UCL
Mrs	Maxine	Leslie	ML	Meeting Secretary

Apologies

Ms	Beverly	Clarke		BCS National Outreach Manager
Prof	Tom	Crick		Swansea University
Mr	Pete	Dring		Fulford School

Ms	Clare	Fowler	Department for Education
Sir	Mark	Grundy	Shireland Collegiate Academy Trust
Mr	Atif	Khan	Pearson
Ms	Kerensa	Jennings	BT
Ms	Samina	Kiddier	Department for Education
Dr	Bill	Mitchell	BCS Director of Public Affairs
Ms	Sarah	Old	Ofqual
Ms	Carrie Anne	Philbin	Raspberry Pi Foundation
Ms	Katy	Potts	Islington Council
Ms	Liz	Walters	Ofqual

1. **Welcome, apologies, declaration of conflicts of interests & Chair's Report [SCAC/2020/11]**

The Chair welcomed all attendees, in particular Sharon Cromie, Nicola Mounsey and Zoë Spilberg who were attending for the first time and Mark Martin, who had attended the last meeting as a speaker, but was now attending as a full Member. Apologies for absence were received as above. There were no conflicts of interest to note.

The Chair congratulated SS on being awarded the 2020 Maths and Computing Suffrage Science Award.

Members received and noted the Chair's report.

2. **Actions from previous meeting held on 15 July 2020 [SCAC/2020/09]**

Members APPROVED the notes from the previous meeting and the action list from previous meetings was reviewed (see Actions section below).

3. **Review of existing work**

- **Options Appraisal** – J Adamson updated Members on progress, indicating that there had been substantial positive discussions on this since the last SCAC meeting in July. A sub-group of SCAC had met with DfE at a brainstorming workshop where it was agreed that there would be no further redrafting of the Options Appraisal document. The sub-group is working directly with CF and her team to review options. Further active discussions and workshops are taking place, exploring the further potential for GCSE Computer Science and will be testing out the appetite for that with the Minister next week. Members had received notes of the workshop as a pre-read for this SCAC meeting.
- **Ofqual submission** – NMcL reported that some time had elapsed since the submission to Ofqual on the level of demand, but this was to be expected given the current situation. However, the conversation is continuing and Ofqual is starting to think about what GCSEs will look like in summer 2021. There will be a tactical decision to make about when to approach Ofqual on this, in view of their workload. It may make sense to wait until there is more clarity in England, but NMcL will remain in touch with Sarah Old. One benefit is that the groundwork has been done.

4. **Culturally responsive curriculum [SCAC/2020/12]**

N McLean introduced the paper, which had been previously circulated, explaining that it had been put together with help from JWa and MM, and looked to provide top level guidance on what culturally responsive curriculum means in the context of computing. Members were

invited to respond to the overall idea, across all four nations, particularly how the curriculum should be experienced by young people.

The Chair welcomed the paper. JD felt that it showed that computing is not separate from society and that getting help from outside may also be valuable. Feedback on the content and suggestions for membership of the Working Group are at [Appendix A](#).

Action: Members to provide contacts for possible membership of the Culturally responsive curriculum Working Group

5. UK four nations update [SCAC/2020/13]

SG had been invited to the meeting to update Members on the UK four nations workstream and a paper detailing the framework for a 4+ nations report on computer science had been circulated. A great deal of intelligence has been gathered including information on the Republic of Ireland, where experience and background suggests some parallels around STEM engagement. The aim is to look at whether the curriculum overlaps. The gender split is still quite marked and there are a lot of informal activities around getting girls and young women to take up coding, whether this works and feeds through to change perceptions in FE and HE.

Different country profiles will be pulled together in the report. This will involve talking to colleagues in different nations to ensure that the information and background is in place, to provide a report on what's happening rather than a critical appraisal. SG will aim to report back at future meetings.

NR suggested that, for the extra-curricular activities, it needs a statement on where to draw the line, as it may upset some organisations that don't know about it. The Chair expressed her frustration that there is no regular report on the state of play across the UK, it would be good to see more quantitative data on an annual basis on which qualitative reports can be based. SG responded that the aim is to put together four nations data, identifying the most reliable data sources with the aim of making them available to update every year. The current data set is bland, and it will help to engage with different administrations to access granular data, e.g., on gender, ethnicity. It is important to ensure that this is transparent, identify any gaps, monitor and make improvements.

JA indicated that JWo had set out the landscape which SG was now building on and appealed to Members to help SG with this difficult task, by imparting any knowledge, including any contacts. It would be good to have a single point of contact for each administration, for annual liaison. A fall-back position would be a Freedom of Information request.

Action: Members to provide SG with any knowledge or contacts for the four nations workstream

6. Focus on the Scotland curriculum

This item was taken after item 7, due to technical issues

The Chair welcomed guest speaker Kirsty McFaul from Education Scotland to provide Members with a focus on the Scotland curriculum for computing (see [slides](#) for KMcF's presentation).

KMcF noted that the SQA National Qualifications are quite different to technical awards in England and Wales. The [Logan report](#) about computing and digital industries was not focussed on education but a number of points about education came out, such as the

importance of more systematic and regular support for teachers. Examples of provision are through the government funded body SSERC, which delivers hands-on practical CS accessible throughout the year and also the BCE/ATQ for primary and secondary teachers, offered by the Highlands and Islands University, with BCS and Microsoft, which is a very popular course, most recently receiving 96 applications for 20 places. There is a chance for dual qualifications (CS/another subject) and this adds something extra to the pool as a lot of teachers are interested in being dual qualified. The challenge is to ensure that local authorities know this and can use teachers in that way.

For the Networks, the aim is to chat and share information with local authorities, both small and large. There are about 600 secondary teachers in Scotland for CS, but hear from very few, it would be good to encourage contributions from more, however this is on hold at the moment.

The new BCS Scottish Computing Education Committee (SCEC), which is a sister group to SCAC, is now established and it is hoped that this will help to bring the community together and give it a voice. Most of the CAS Scotland Board are on SCEC, which has responded to the Logan Report already. It is important that SCEC is backed by BCS, as it helps with asking the government for information.

The annual target for teacher recruitment of 50-60 is nowhere near being met. One key factor is where universities nearby don't offer programmes (e.g., Edinburgh). There is therefore a need to increase capacity across Scottish universities to deliver CS for teachers, encouraging alternative routes into teaching.

Other initiatives include Esgoil, an e-school (in Gaelic) which works like a normal school but students logon from anywhere to meet teachers. This has developed during this year and is a critical part of the response now and for the future. Cybersecurity is an important part of the team's work, for which it gets UK government funding. Digilearn.scot is the national offer to Scotland for digital learning and teaching which is supported by KMCF's team working with local authorities and in direct contact with teachers, bringing together elements of digital: 40 webinars to 7,000 teachers during lockdown, 3,000 hours of YouTube videos and over 100 teachers sharing practice.

SSE reiterated the availability of [NCCE resources](#) which are all freely available, which might help, although the Scottish curriculum is slightly different.

The Chair thanked KMCF for her interesting and relevant presentation.

7. Clarifying digital literacy [SCAC/2020/14(1)&(2)]

NMcL introduced the two previously circulated documents, a cover paper introducing the issue, proposal and next steps in the context of SPJ's paper on the big picture for digital literacy. Covid has shone a light on this issue, particularly in England where there is a feeling that it doesn't get the attention it deserves, partly in the drafting of the National Curriculum (NC). There are hyper-dense paragraphs that need unpacking and a significant focus on a Computer Science curriculum rather than Digital Literacy. SPJ indicated that this is a topic of DfE discussions and it would be good if SCAC could advise government on how any funding in this area could be spent. This paper is a discussion starter for all to unpack what is it and what it really means.

The Chair indicated that Quintin Cutts (Glasgow uni) has done a lot of work in this area as well. MB flagged two areas worth considering: there is so little digital literacy in the NC as ministers wanted the focus moved and this has not served young people well. Core computing is needed in digital skills so that it is included for all students. Also, it is important

to step away from technology to think of implications for wider life eg, tech companies and governments keeping data on us, who pays for it and who uses the data. This is different to driving spreadsheets and word processors. Both are needed, but currently students do not get enough of either.

Other comments are at [Appendix B](#).

Members agreed that they would welcome a workstream to take this forward in the form of a white paper. It would be important to ensure that this is not rushed, to maximise impact with influential parties.

BCS staff undertook to set this up and Members were invited to volunteer for the Working Group [*post meeting note: volunteers from the chat and those that emailed all noted*]

Action: BCS staff to set up the Digital Literacy Working Group to take this work forward

8. Agreed actions and AOB

Agreed actions as above and below.

In addition, JWa asked about following up about the need for research in computing education, as raised by the Chair and SPJ with the new DfE Director Graham Archer and the potential for a white paper. The Chair indicated that this had been raised at UKRI and a decision on which Research Council it would come under was awaited. SPJ flagged that Graham Archer had understood the need for such research, was happy to report to research funders but indicated it was unlikely that DfE would fund it. It was agreed that this would be included on the agenda for the next meeting.

Action: ML to add research into computing education to March 2021 meeting agenda

9. Date of next and other 2021 meetings

Monday 15 March 2021
Wednesday 7 July 2021
Tuesday 9 November 2021

All 11:00 – 13:00, F2F/online TBC

Actions - responsible people in red

November2020.1 Culturally responsive curriculum

Provide contacts for possible membership of the Culturally responsive curriculum Working Group.

Members

November2020.2 UK four nations update

Provide SG with any knowledge or contacts for the four nations workstream. Members

November2020.3 Clarifying Digital Literacy

Set up the Digital Literacy Working Group to take this work forward. BCS Staff

November2020.4 Agreed actions and AOB

Add research into computing education to March 2021 meeting agenda. ML

July2020.3 Computing Curriculum and BAME

Agenda setters to incorporate diversity issues within every future agenda item. **Chair/BCS staff**

July2020.4 Agreed actions & AOB

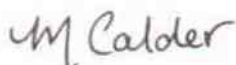
See if can find out new Ofsted computing subject contact and inform SCAC Chair/secretary. **CF**

November2019.1 Chair's Report

Look at compiling a glossary of terms for 'workbook' terminology and a paper to frame textbook usage questions with input from SS, Phil Bagge and Mark Dorling. **MWS**

November2019.5 Parents brochure

Test the updated draft brochure with key people. **MC**



Signed: _____

Prof Dame Muffy Calder

Chair of School Curriculum and Assessment Committee

Appendix A

Item 4 – Culturally responsive curriculum

The following feedback was provided on the content:

- It would be good to separate out ethnicity from social class (AM)
- See reference <https://k12cs.org/equity-in-computer-science-education/> Equity in Computer Science Education. The full version of this chapter can be found in the complete K–12 Computer Science Framework. Computer science for all students requires that equity be at the forefront of any reform effort. (SPJ)
- Schools are developing rationales for every subject and Ofsted look for this rationale. These should cover cultural relevance and this work would be very useful to Heads of Department in ensuring the advice and impact hits the classroom ie, as a driver of grassroots change (SC)
- The overarching issue is one of social justice and this articulates with the later issue of 'digital literacy'.(AM)
- Context, curriculum/concepts and pedagogy can be reviewed. I am very keen we have concrete examples that are valid for schools for all students not just those who might be high achievers (JWa)
- See <https://code.org/diversity> and <https://code.org/equity> (SPJ)
- We could talk to the CSTA too <https://www.csteachers.org/Stories/black-lives-matter-to-csta> and www.csteachers.org (JWa); CSTA's equity fellows have produced some useful outputs: <https://www.csteachers.org/page/csta-equity-fellowship> and www.csteachers.org (MB)
- Maybe Jane Margolis, who developed Exploring CS? - <http://www.exploringcs.org/about/about-ecs> and www.exploringcs.org (NR)
- This may be worth a look <https://www.adalovelaceinstitute.org/black-data-matters-how-missing-data-undermines-equitable-societies/><https://www.adalovelaceinstitute.org/black-data-matters-how-missing-data-undermines-equitable-societies/> (SG)
- We must engage the pupils and more broadly within the context of the current exam system, availability of exams to different groups, impact of exams as a driver on general computing provision. This links in with the Ofqual work.
- Welcome this and think paper is excellent. All schools working on rationale but making us in school look at what want to achieve in teaching each subject. Looking at what want to achieve brings change in the classroom. Good advice in here (SC)
- The document mentions culture but not justice and equity. All carry slightly different resonance – used by colleagues in US. Ethnicity, justice and equity – who might inform/contribute? (SPJ)
- MM and NM can look at how good practice can be shared, not just localised to a talking shop, but ensuring schools are doing it at all different levels. Perhaps using demonstrators?
- Context, curriculum and pedagogy – then case studies, but need concrete examples, maybe US research and curriculum ideas? (JWa)

The following suggestions were made for membership of the Working Group:

- Contacts from industry e.g., UK Black Tech, PwC, Goldman Sachs and leading companies with talent pipeline. Can recommend individuals (MM)

- Useful to approach Carly Kind at Ada Lovelace Institute? (SG)
- Good to have a key group that is not too big, with a range of voices (MC)
- This would be a useful time to produce guidance around the core curriculum in Scotland as this is not really happening at present, so someone with specific knowledge of Scottish curriculum would be good.(KMcF)
- Would be useful to involve young people too.

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Appendix B

Item 7 – Digital Literacy

Comments

- Need to develop activities where pupils must use different applications to design solutions, this is critical for teachers and pupils. (CG)
- May be useful to include driving own learning with technology in the document. (JC)
- It would be good to demystify buzz words such as touch screens, self-service checkouts – do people understand what is happening and how it is affecting them, other than Wikipedia and BBC Bitesize? (MM)
- All subjects have elements of DL. The IDEA award fits well with DL or short course ECDL. But DL is not a two year course. (JS)
- Often Dig-Lit / Dig-Skills frameworks focus on employability skills and those needed for functioning as adults in society. Should we equally promote digital skills for learning, young people's creativity and expression? Skills for now, and later? (DG)
- For digital would the term 'competency' be useful? Then we get knowledge and skills. (JWa) Or capability? (NMcL) 'Competency' seems in vogue with maths competency etc. Is data competency different to digital literacy too? (JWa)
- Interesting perspective. "Digital literacy" (digital capability) can be seen through a variety of lenses. An "engineering lens" will show different things to a sociological lens and an anthropological lens. Probably a school curriculum for everyone needs to encompass all of these. The EU and JISC "visions" are well developed. (AM)
- Additionally, if the exams were asking for it, then it would happen. If general computing (DL/IT/CS) provision was audited by Ofsted in all schools, then a lot of this would happen. (PK)
- But what we see on the ground is that they lack digital skills at GCSE and A-Level. (NMo)
- The nature of a "literacy" has to be seen to extend beyond "reading and writing". MB is outlining CRITICAL digital literacy. (AM)
- Grillenberger's data competency model is lovely. We need to have very clear definitions of what we are talking about. (JWa)
- We might consider if the equation $C=CS+IT+DL$ is part of the problem rather than part of the solution. I have a short paper I can share later if it will help. The EU digital capability framework 2.0 has done this. (AM)
- I don't think it's an issue with the equation, more the over focus of people/exams/industry/government/us on CS and the assumption by many that the digital natives don't need this. (PK)

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