SCEC meeting
Wednesday 2nd June 2021, 2pm, online

Attendees:
Kate Farrell (KF)
Fiona McNeill (FMc)
Peter Donaldson (PD)
Claire Griffiths (CGr)
Alastair Irons (AI)
Tommy Lawson (TL)
Greg Reid (GR)
Alasdair McGregor (AG)
Brian Clark (BC)
Debbie McCutchon (DMc), SDS
Sally Smith (SS)
Daria Tuhtar (DT), RSE

Apologies:
Quintin Cutts (QC)
Robbie Paterson (RP)
Claire Gillespie (CG SDS)
Iain Thomson (IT)
Brendan McCart (BMc)
Mark Zarb (MZ)
Judy Robertson (JR)

Meeting Notes:

Actions from previous meeting:
YPAG Actions:
KF is going to pass the recruitment advert onto CS teachers - **Done**
CMc will pass the advert on to Scottish Young Parliament young people. - **Done**
FMc will collate and pass round questions to the SCEC members - **Done**
CMc and KF to approach Young Scot about their data advisory panel - **Done**

Logan Report actions:
CG / SDS to invite ML to meet with the SCEC - **Done**

Mapping NCCE Actions:
JR, KF, FMc, JA, PD, GR/SQA to talk and plan a funding bid to CG / SDS - **Done**
CG will check if it's feasible for the work to be done in Easter by teachers - **Done**

Promoting CS Actions:
SCEC and **SDS** to promote MC and QC's poem video - **Done**

Covid 'catch-up' Action:
All - Supporting learners after covid to be discussed at next meeting

Agenda:

YPAG feedback
GR/KF - NCCE mapping
KF - BSL project
TL - SDS Feasibility on online courses for computing
GR - CSS update

Discussion - Activities we would like to do, funding to bid for
Covid 'catch-up' support?

YPAG (Young People's Advisory Group):
FMc thanked everyone for feedback on the questionnaire. The questionnaire is now being distributed to the young people's schools.

NCCE mapping project:
GR feedback - three phases of project.
Phase 1 - Mapping materials to CfE outcomes.
Phase 2 - update the TeachCS booklet and republish, and publish the mapping.
GR said he was hoping to speak to CSS representatives about Highland Drive resource bank that is now being used centrally and include those in the TeachCS guides.
Phase 3 - publish and distribute guides.

KF gave an update / overview of the TeachCS.Scot materials.

TL had spoken to Highland Drive organisers before and they had concerns about sharing the drive more widely but they were very happy to welcome individual teachers into the drive (concerns possibly due to copyright issues). They want to go through the resources first and check them before releasing more publicly.

BSL Glossary project
Video: https://twitter.com/bjfletcher/status/1392568835065188355
KF fed back on the BSL glossary project with SDS. Thanks to an amazing team of Deaf professionals who work in computing and data science roles, we have over 500 BSL signs created for Computing science, data science and cyber security terms. These will be recorded as well as definitions suitable for National 5 / Higher learners, then put online. There has been an enthusiastic response from BSL users in industry already, both in UK and abroad.

Feasibility study on Online courses
TL fed back on the report that has been written for SDS

Conclusions:
- There is a big improvement in the skill level of teaching professionals since COVID
- There's an increased requirement on technical and blended learning skills
- We need to do something about online environments for learning CS. Schools are struggling to even get programming languages on computers in school. Steps are

being taken to try to resolve this, but almost every teacher consulted was struggling to access environments and software.
- Production of high quality resources to deliver teaching and learning. You can't just use the same materials as in the class, it's not effective. We need to look at how we develop high quality resources
- Problem of remote assessment. If you have a young person in a remote setting, there needs to be some authentication and robust verification.
- In Scotland we still have a problem with equity and digital inclusion, in particular with broadband (due to both poverty and geography) and devices. Councils have taken huge steps forward in delivering devices.
- Increased partnership working (schools, FE, HE, industry) but we need more

Recommendations:
- High quality resources should be developed in Cyber security and Data science but also in other areas of computing. Needs to be a mix of types of materials
- An online environment for data science (processing and visualisation, including Python and R)
- An online environment for cyber security - there are pockets of FE online delivery but we need to look at one environment for multiple uses
- Assessment models
- Partnership working
- Timetable harmonisation (in particular Tue-Thu afternoons, "travelling column"), especially to ensure the synchronous elements can happen in the school day.
- Financial investment in online learning and developing materials.
- Promotion of cyber security and data science in schools. The NPAs have a hard job to survive in schools. We need to look at innovative ways of supporting them. We need to look at alternative models such as starting units in S3.
- Remote learning is great but for learners at Level 4/5 there is a need to bring learners together at some point, particularly at the start of the course, possibly bootcamp style.
- We need to do something about chromebooks and ipads in terms of ensuring compatibility of online environments
- A lot of this is happening elsewhere in the world, so there should be a review of international practices.

Report will hopefully be released soon.

BC - asked TL if he's aware the Noteable product is available under GLOW for some learners. Computational notebooks can then be developed, and this is in progress. BC says they have discussed how to support learners to be independent confident learners when working remotely, with strategies that help in every subject, not just CS

TL - for school pupils the GLOW authentication is essential. The number of learners without access is very small. We think we want a one-stop-shop environment, so you go in and get a cyber button (with resources delivered by Napier, for example), a Games Dev button, a data button. This portal should be available to FE learners too

BC - EducScot were hoping to work with Napier with materials development but this didn't happen this year unfortunately.

TL - teachers' first response when questioned felt that it would be impossible to deliver cyber security online unless you knew the learner very well. You need the pastoral support to be shared between the school and the provider.

PD - Picking up on support for self-regulation skills in learners. From research when learners have difficulties in this area it impacts in their ability to learn. PD also wanted to add his support for an online environment for teaching data science. UoG developed an online environment as part of their FutureLearn data science teaching MOOC. Teachers could access the notebooks by clicking a button using a stripped back environment.

CGr - talked about funding her daughter's Adobe licence - prohibitively expensive. National Licences would be so valuable. It's an equity issue. It's a jobs issue, using industry standard software.

BC responded about national software licences and explained the costs were too massive, even with national bulk savings. Licences are chosen by local authorities and access provided through the GLOW portal. It becomes difficult where some LAs don't use a package and don't want to pay for it, so instead LAs opt-in to packages they want and just pay for those.

GR thanks TL for his work on the report and says it echoes statements he has heard from teachers.

TL - there's procurement and technical aspects. He understands the procurement difficulties, particularly when reaching the end of a contract. We'd need to do another study and figure out who would pay.
The technical side is a problem too. A teacher saying they weren't allowed to set up computers, even if they weren't connected to the network. Other teachers were spending lots of time setting up computers. An online solution would resolve both of these issues.

National Digital Education Charter (CSS/Dresscode)
How do we work together and support each other (NDEC and SCEC)?
GR - the remit of the group is yet to be decided, at the moment it's a publicity push. There's a lot of signatures so far, and a fair amount of industry involvement. The final idea is a link for work placements and industry involvement.
GR encouraged committee members to look at the website to see the charter.
https://www.dtecharter.org/

CPHC report
FMc - PD sent out a document for review but many attendees have not had a chance to review this yet. Draft format currently. Waiting on it being professionally designed before launching. Possibly August / September. This will go to every school of CS in the UK.
Action: to be discussed at the next meeting

Discussion - Activities we would like to do, funding to bid for
FMc - it would be good to have a repository of ideas that we can be proactive and bid for small pots of funding and do small projects

PD - suggested developing computational notebooks activities for use in Noteable in GLOW
BC - EducScot have asked a number of people to develop notebooks for senior phase, but it would be great to have more for IDL projects, such as social sciences.
PD - UoG have datasets that could be used, such as street data and road potholes.
BD - a library of computational notebooks to support BGE would be incredible
TL - there's thousands of these notebooks in universities and some of them might just need a little bit of work to tweak them. Can we pull together the lessons learnt from lockdown - can we support pilots in teaching CS?

FMc - reflections on uni teaching - would this be useful, or is this more for SICSA.
TL - the report research showed there's a huge need for PL for CS teachers, well beyond other subject's needs. We need to keep up with the pace of change. ScotGov, EducScot, LAs need be more aware of the need for PL. Both FE and school teachers look to HE to provide that learning.
PD - there's an interesting paper in Maths that shows there's knowledge that Maths teachers need that Mathematicians don't need. PCK is needed.
KF suggested talking to SICSA

AI - BCS Academy are doing a series of workshops for academics, but it might be useful to teachers too. He is happy to share the content to see if there's overlap. KP is also involved in this initiative.
Action: AI to share BCS Academy information

PD - PCK is needed and makes a big difference to effectiveness.

CGr - suggests gathering materials and put into the same format as the Teach Computing NCCE materials.

TL - there's been huge progress in Scotland with the national resources. The feedback from the young people has been good - and some young people preferring this method of delivery. He mentioned students from China who reviewed lessons videos every evening as a method of reviewing and summing knowledge.

BC - the last 15 months the profession have made huge advances in PL. Is it worth looking at areas like Rosenshine's Principles in Action and looking at exemplifying this in a CS context to help teachers better deliver

Action: **KF and FMc** - work out how to collate repository of ideas, then share and ask for ideas from **all**

Action: **KF and FMc** - send out dates for next meeting, ideally at times that school teachers can more easily attend