



**UNIVERSITY OF LEEDS**

## School of Computing

### CS2008, Cambridge: teachers' session 15th December

20 people met in the teachers' session as part of the CS2008 undergraduate research conference. Other than teachers, Beth Massey (University of Lincoln), Roger Boyle (University of Leeds), Clare Molinaro (IET) and Peter Dickman (Google) were present.

A lot was discussed in an hour. Notable points were:

1. It was felt that undue antipathy to CS was not evident among 11 year olds. KS3 had opportunities for nurturing computational thinking and there was scope for building on this, especially under the head 'sequencing instructions'; KS5 offered the option of A level computing. KS4 was seen as a problematic gap during which many were lost.
2. There is a misperception among some pupils of the nature of the computing profession – jobs are not seen as hard to come by, but often only the lower-skilled opportunities are detected. Work placements in computing at all levels should excite, & guard against this misperception.
3. The attraction of degrees in, for example, Games and Forensics was discussed: pupils should be advised to confirm the acceptability of degrees to relevant employers.
4. Programming environments: universities would be pleased to see any real computer programming take place at school and college level. Environments and languages such as Alice, Logo and Scratch are agreed as worthwhile. The wave of popularity for Python in HE was noted, and its accessibility to programming novices.
5. Diplomas: the 14-19 Diplomas were seen as both as an opportunity to 'get things right', and as a potential threat if they attracted only weaker pupils.
6. The gender issue was agreed as a regrettable reality. CC4Girls (and similar) notwithstanding, no immediate solution was known.
7. Teachers agreed on a definite role for university-led CPD: while programming languages and techniques were agreed as important, many other topics were also seen as useful candidates. Horses for courses.
8. Mathematics: universities seek mathematical aptitude among candidates rather than specific curricular experience. Currently this is best exhibited by A-level, but this does not preclude CS degree study without a maths A-level.

Forward actions were:

1. The HE community should seek ways to be more openly positive about the A-level in Computing; it can provide a head start to degree study and open up PT job opportunities. More

importantly, it would provide a political aid to CS teachers inside schools and colleges.

**Action:** RDB to raise with UKCRC<sup>1</sup> and CPHC<sup>2</sup>. This is a long game.

2. A programming competition for KS3/4 age pupils was seen as an excellent vehicle for gingering interest and publicity.

**Action:** RDB to raise UKCRC, CPHC, CAS<sup>3</sup>, IET and BCS to determine possibilities. ‘Organisation’ would be a significant hurdle.

3. CPD: structured sessions inside universities for teachers of all levels and backgrounds were seen as beneficial.

**Action:** CPHC and HEA-ICS Higher Education Academy ICS, based in University of Ulster. to publicise. These activities are very often dependent on goodwill . . . . The merits of Python as a programming option are an obvious candidate.

4. The Professional Bodies (BCS and IET) share the concerns of HEIs and Schools about the direction of CS and may well be able to lend support politically (or even more tangibly).

**Action:** RDB to notify the Professional Bodies of the Conference’s discussions.

5. All agreed that a forum for discussion had been most useful. Preliminary conversations were held about a national meeting of CS teachers.

**Action:** Simon Humphreys and RDB to carry this idea to CAS in February.

All: maintain contact!

Roger Boyle  
School of Computing  
university of Leeds  
Leeds LS2 9JT  
*R.D.Boyle@leeds.ac.uk*

---

<sup>1</sup>UK Computing Research Committee – an expert panel of the IET and the BCS for computing research in the UK. Its members are leading computing researchers from academia and industry.

<sup>2</sup>The Council of Professors and Heads of Computing exists to promote public education in Computing and its applications and to provide a forum for those responsible for management and research in university computing departments.

<sup>3</sup>‘Computing at Schools’, a group convened in Cambridge by MS research.