

Global Computer Science Education

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As a Computing/ICT Head of Department in a large secondary comprehensive school in Birmingham England, crystal ball gazing was an exercise in which I had to be skilled. One of the things that I prided myself upon was my ability to predict new developments before they happened, and better still, begin implementing subtle changes so that when the crunch truly came, we were ready.

So, when the then Secretary of State Michael Gove made a speech at the BETT Show in 2012 and said those words that would define and shape our future; that the Department for Education were to consult upon “withdrawing the existing National Curriculum Programme of Study for ICT from September” (<http://bit.ly/gove12>), it wasn't a shock to me. The timescale surprised me, but then again, educational policy adjustment timescales often do.

I had already begun to make assessments of various factors regarding our current practice. I had identified two years' previously that we were doing our students a disservice by simply offering a 'one size fits all' approach in the vocational qualification sector of ICT. In order to bring some rigour into our offering and also provide opportunities for students to achieve a different type of qualification, I introduced GCSE ICT in 2011 after it had been re-validated by Ofqual. This turned out to be a wise move, as it also enabled me and my staff to begin thinking about things that we had not had to consider for a while; examination technique, controlled assessment and grade boundaries.

The next thing that I had to quickly do was assess my staff's readiness for delivering the new type of curriculum. Computing is not ICT. One of the most difficult jobs was trying to convince senior leaders that the two subjects were entirely different; one of my favourite phrases at this time was that it was like a “French linguist delivering Latin”. I agree that there are similarities and crossovers; however the subject knowledge and curricular content were almost unrecognisable.

I suppose you could say that it was a blessing in disguise that I had a large department. By the time 2012 had rolled around, my department was 9 teaching staff strong. This meant that I had a vast array of talent and skills at my fingertips. A quick tally of specialisms led me to realise that we had 3 computer scientists, 4 ICT teachers and 2 business studies teachers in the ranks. I needed a strategy.

My first port of call was to avoid the new wave of qualifications that began quickly flooding the 14-16 market. This would have been the natural and obvious thing to do, but I felt it was a dangerous move to immediately expose all of my staff and the school to a new qualification that would have had potential ramifications for both the students and the school's league table position. I decided that the best course of action would be to begin with our 16-19 offering, and so I utilised the skills of two computer scientists within the department, and they immediately began work preparing the new Computing A-Level to deliver from September 2012. At the same time, I also enabled my Key Stage 3 co-ordinator to begin looking at our Year 8 offering. We took the decision to begin Year 8 studying an entry-level style programme for Computing, covering various aspects of the new curriculum such as computational thinking, binary, algorithms, hardware and software and visual and textual programming.

The thinking behind all of this was simple; my computer science specialist staff could challenge themselves and work with talented post-16 students who saw Computer Science as a field of interest despite not having any previous experience. During this time, all of my ICT and Business specialists could begin teaching entry level computing at Year 8, whilst also embarking upon their own personal professional development. All of my staff had professional development targets explicitly written into their performance management that were tailored to their own areas of need.

I invited Miles Berry of the University of Roehampton to work with my staff for a training day, and his input from a standpoint of being an eminent voice in the negotiations over the new curriculum was invaluable as I sought to dictate the direction that my department moved in.

Following a successful first cohort of post-16 students, we were ready to begin delivering the new GCSE Computing from September 2014. My staff now had the confidence to have delivered Computing at both a lower level and they were now in a position to make a good job of delivering the crucial GCSE.

I began the article by talking about crystal ball gazing. I suppose the other key factor that I failed to mention is that without the flexibility and willingness of my staff to adapt and improve, none of the above would have happened. A successful middle leader has to instil confidence, trust and a leading example. The road from ICT to Computing was not an easy route, but well timed alterations and a good eye for spotting upcoming changes will see you through.