Are We Really Providing For The Next (Two) Generation in ICT?

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I will start off by saying that this is all personal experience and opinion. I have not taught outside of Post 16 education, but is based on supporting research and experiences.

ICT in Education has, is and will be going through the biggest, most fundamental set of changes since it was adopted as part of the National Curriculum. And the irony is, that change has been it's dropping from the National Curriculum. Fortunately, this is, in my opinion, a positive step. For ICT has not in itself been removed from being taught to children in schools, but rather it has joined the equally important life skills of reading, writing and arithmetic (or literacy and numeracy, depending on the age of the children) in being embedded in everything that a child does throughout their school life. Announced by the Secretary for Education in January 2012, and initially absorbed by many as a defeat for ICT in education, this move has, is and will continue to prove positive for the entire country in every sector.

Children today are accustom to being in and around technology, My own daughter from the age of 2 could use my smartphone, open YouTube and find the cartoon she wanted to watch. Technology really is all around in embedded in our lives already, so it is vital that that embedded nature is realised in the learning children experience so that they are equally as accustom to using it when they finally leave school and in the working world. Utilising smart devices, computers, software applications, coding languages, appropriate social and professional networking skills and awareness, for this is here now and will only grow as time goes on, and it is critical that these technologies are not considered alien, rewards or in any other way unusual to be used in almost any given circumstance.

Diversity

But more so than this, there needs to be diversity in what technology is used and taught, even in an embedded way, in schools. Reflecting on practices in schools currently, an article focusing on the video games industry targets schools and education as a whole as the linchpin to why that industry in the UK is failing.

"The industries suffer from an education system that doesn't understand their needs. This is reinforced by a school curriculum that focuses in ICT on office skills rather than the more rigorous computer science and programming skills which high-tech industries like video games and visual effects need."[1]

The report concludes that UK education of ICT skills particularly in so called ‘high-tech’ areas, must not only be brought into line with the other leading nations particularly the far east, to avoid being left behind, but to diversify those skills and experiences to promote innovation in the next generation.

Second Generation

This is actually worse than just providing for the next generation of school leavers, but actually has to aim for the generation after that. The current TEACHERS of the current learners do not have the life-long skills and experience to be able to appropriately embed and teach how to truly get the most out of technology and use it to innovate and educate, because they have not lived with the technology for their upbringing. The current learners will be, and so what is crucial is the technology is embraced and made a part of daily lives and learning now. This will not be the best it could be, but it will set up that generation whole will leave, become teachers for the next generation and have the experiences of always having access to the internet, stream multimedia, use technology to communicate to the world, having coding languages as second a nature as perhaps French or Spanish might be.

Riding the Wave

Since this report (2011), Computer Science has become part of the curriculum, ICT is being embedded and used throughout all subject in all phases of schooling. Schools for the most part are managing to ‘ride this wave’ of ICT popularity. What is just as critical now is that schools and education as a whole do not fall off and the knowledge of both ICT and Technology is kept current, latest developments are embraced and explored and education and ICT work in harmony. Failure to achieve this balance will likely result in falling back behind the world and stalling the generational plans outlined above. If schools begin to lose interest in using mobile devices for example, do not continue to promote and use appropriately, with staff and students, then they stop becoming embedded and return to being distractions or rewards. When any technology returns to this, it is often seen as a failure and a stigma placed upon innovation, which further pushes back technological development. The development of curriculums and content to support these curriculums must equally support, promote and embed ICT within their design so that teaching and learning, and innovation can be harmonised in the easiest way possible for teachers.

The net result in not appropriately preparing todays children, and tomorrows, is that every industry bar none currently and will increasingly embed technology into every aspect of that sector, and will have a generation approaching that are not fully equipped to take on those roles, as was expressed in the Next Gen Report. Skills will be forced in from other countries, and our own skillsets will be lost in a growing myriad of the generic.

Practicality

In another report, this time away from the use for technology, is citing a lack of emphasis and understanding of hands on, real world experience particularly at the later stages of school life, and pupils leaving the education system ill-prepared for the working world.

“Only very recently, the director–general of the CBI criticised GCSEs for producing ‘a proscribed form of learning which seems to be teaching for the test’ and creating young people who are not the ‘rounded’ individuals that businesses are in desperate need of.”[2]

Other sources also support this widely held belief that school leavers are taught the academics without being able to apply those skills to practical situation. Traditionally, the academic aspects of a skill have been promoted within schools, due to lack of experienced staff, facilities, resources and practicality (I’m sure every school would love a volcano on site to teach geology!). In my own experiences teaching and mentoring apprentices in vocational ICT qualifications, the theory and practice went hand in hand. To me, coming from working in industry for years seemed like an obvious step, but did have to adjust my own professional development to adapt to changes in the qualifications, updates in technology and practices in teaching. The research in the Hyper Island report aligns exactly with the practices I pursued in training the student to utilise technology, understand it and use it, and apply it to situations and scenarios.

Baby Steps

The need to continue to stay one (baby) step behind the latest innovations and technology, and at least one big step ahead of the pupils and students being taught, who are learning about those new innovations just as quickly as you are, is at the very core of making the new ICT curriculum and education as a whole the success it needs to be.

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[1] Next Gen. NESTA Report http://www.nesta.org.uk/sites/default/files/next_gen.pdf

[2] Hyper Island NESTA Report http://www.nesta.org.uk/sites/default/files/hyper_island_uk.pdf