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SEND & Computing

The subject of Computing plays a key part in preparing children for the future world they will move to beyond primary education. Secondary education, FE, HE and, of course, career prospects hinge increasingly on abilities to utilise and manipulate digital technologies successfully. Despite the fact that Computing includes the discreet and specific learning of Computer Science, it also contains a broad and rich range of relevant, modern skills. The many applied elements of Information Technology and Digital Literacy provide a varied menu of knowledge and skills, and can be particularly relevant for SEND children who may find engagement with such processes to be liberating and inspiring.

The aim of fostering independence and providing children with *skills for life* is a key reason for schools to make Computing an increasingly central part of their curriculum offering. For SEND children, sometimes harnessing tech-based functionality is a clear way to open-up access to learning, and points to self-motivating areas of interest for coming years.
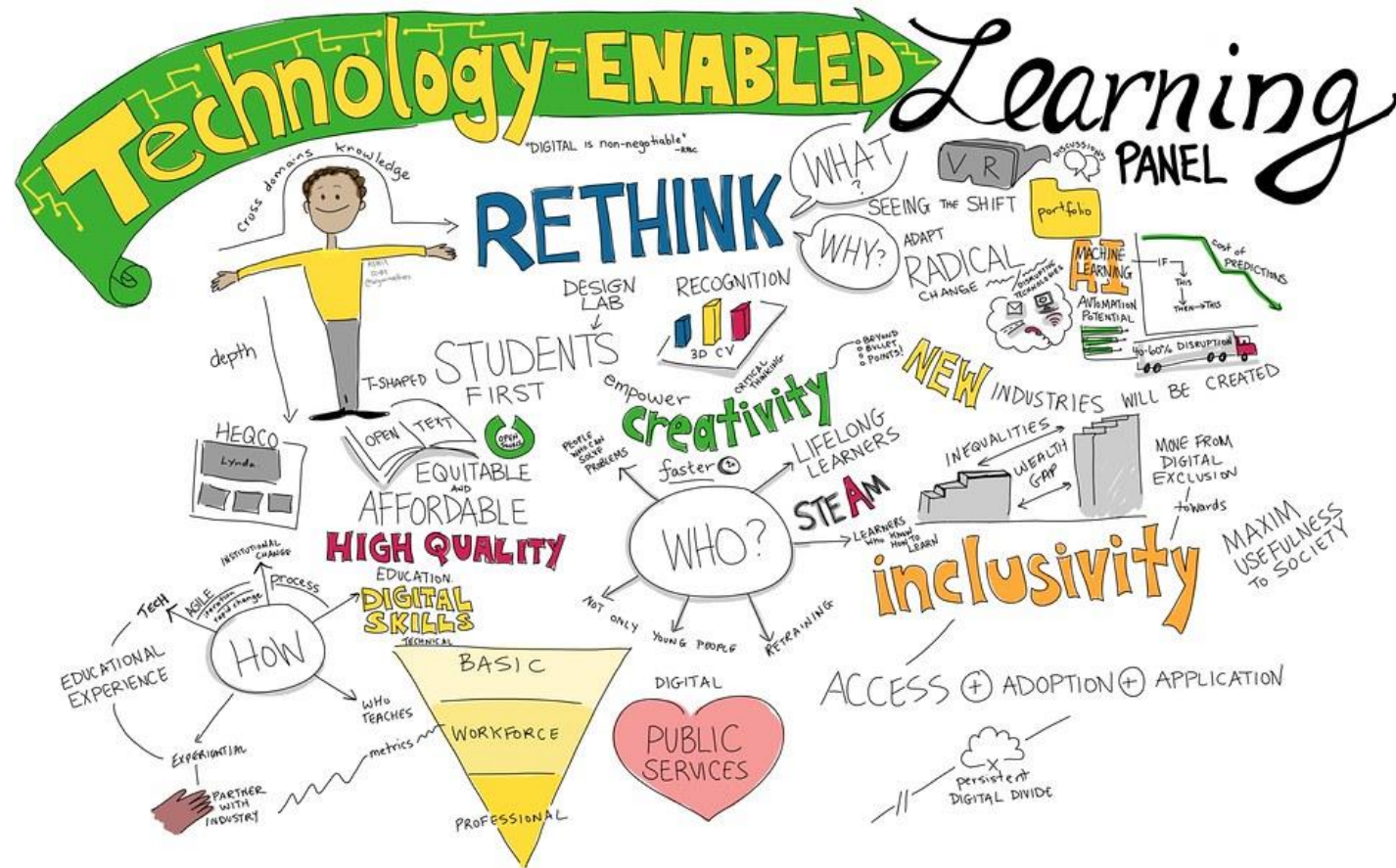
Children with SEND needs may benefit from a tech-enabled approach, and opening up eyes to such possibilities from an early age may be especially worthwhile. In truth, tech-enabled learning might prevent many children, particular SEND children, from becoming disenfranchised by more traditional learning methods and academia, and may assist such children to become more enabled and independent learners.

Our inclusion of Operational Core Skills, with an emphasis on *fine motor skills*, feeds directly into the target-set provision that is often in place for SEND children. Some SEND children will access a typed and/or spoken approach to their writing from an earlier age than other non-SEND children, and these children may indeed accelerate through the range of skills that are suggested within the curriculum milestones progression.

Activities that naturally suit SEND
While we need to be careful not to generalise on the requirements and needs of children with SEND (by definition there is huge broadness within this category of learning), it is clear that the practical, hands-on nature of Computing can suit a number of children who fall within SEND provision.

For example, in conversation with a year 2 teacher of a child with down's syndrome, it was quite obvious to the teacher that the hands-on nature of the learning (in this case, a Computing unit involving Beebots) was enabling a positive sequence of discovery and learning for the child. In contrast to the more formalised, often written approach pursued in other areas of the curriculum, this child was able to engage fully with the objectives involved in the sequence of learning.

Indeed, Computing is a subject that can healthily flip the expectations teachers have of the children in their class. Sometimes it is the children with SEND needs who excel in a discipline such as learning to program; sometimes design flare is brought out by digital tools that enable children to explore this area; sometimes understanding how IT systems work can turn a switch of enthusiasm on for young learners – again, sometimes revealing talents and interests that other subjects are not revealing. The broadness of approach within Computing, and those specifically unique approaches that are sometimes not explored in other subjects, are a key reason to feel that Computing might suit children with SEND, and indeed this subject might unlock doors for future prospects and motivated learning. It is undoubtedly worth celebrating the success of such learners, and however you are assessing Computing, worth noting those key successes by learners with SEND. The digital floor books approach includes prompts for recording how specific groups of children might be recorded and celebrated.

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Assistive technologies

Technology can provide new ways of working that have the ability to unlock learning for many SEND children. When considering such access technologies, though, it's important to remember that every child is an individual; what works for one child may well not work so well for another. A process of trialling technological approaches with such children becomes absolutely necessary – the adults working with such children need to keep an open mind as to how such technologies might fit in with their practise, to make everyone's school life better.

We must also keep ourselves open to the fact that introducing technologies at the wrong point may cause children to stop developing in particular areas. The example of using a handwritten or typed approach is one of the easiest to describe in these terms – if we encourage children to type too early (or rely on a typed approach too soon) we may prevent those fine motor skills associated with handwriting from developing. For this reason, it is often the case that dictation, or a reliance on typing, is put off until the later years in a typical primary school setting. Again, no case is the same as another, but this is certainly a key part of the careful consideration that needs to be made when introducing a tech-enabled approach.

Text-to-speech is an important element that can be introduced for children who are struggling to read at sufficient speed to access their learning. Typically, older children will use such facilities. Further information here. Text-to-speech accessibility can also be found using tablet-based apps such as Envision. For partially sighted children, this approach can also be of great benefit.

Dictation (or speech-to-text) can be accessed easily through both iPads and Chromebooks. With Chromebooks, a USB-enabled headset, combining headphones and microphone, can become an important part of how to achieve this seamlessly within a busy classroom of children learning. The headset approach allows the technology to remain accurate for dictation, and if text-to-speech is also being used, it prevents the computer-voiced reading from becoming a distraction.

Assistive technologies is a specialist area that presents many opportunities for children to enhance access to learning in specific ways. As with many areas of SEND provision, it is absolutely the case that children need to be treated as individuals, and sometimes a process of trial and adjustment can be a good way to proceed to find the best provision. Reports such as this from AT Today provide a general summary of different categories and options, and can make a good starting point for schools to explore this area further.