



Where Autism
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Technology and Autism

Technology and autism

It is a commonly held stereotype that autistic people are normally whizzes with computers. Unlike many public misconceptions of autism, this one seems to be pretty accurate. Research studies tell us that, relative to their age, level of learning and so on, people with autism frequently show a strong preference, and ability, for using technology. Alongside this area of strength, it is also known that autistic individuals need support to learn some specific skills to operate in the (predominantly) neurotypical world. So it makes perfect sense that we should have a go at teaching these skills through the medium of technology.

But how to create these technologies? And now to work out whether they are effective or not? On the whole, so far, there have been two main routes to the creation, evaluation and dissemination of innovative technologies for people with autism, their families and their teachers.

First, academics may create technologies in a university setting. The strength of these learning games or other supports is that they will normally be based on a sound theoretical principle. They will probably be extensively work-shopped, co-designed and tested with people with autism and those around them. And, less often, but sometimes, they will be subjected to really rigorous evaluation in a published trial. This is all well and good, except that the place where many of these technologies fall down is in dissemination. Given the time taken to create and evaluate innovations in academia, the technology risks being out of date before the data are out. Even if this is not the case, universities and researchers are not normally best placed to get a new computer game to market. If they can find a suitable distributor, it is rare that the design quality of the interface, graphics and animations will be up to the high standards of the commercial market. Nor will there be a budget available, either to market the product or to provide ongoing consumer support.

Could the second option be much better? Commercial operators, aware of the combination of a pressing need for quality autism-specific supports, a growing market of potential buyers, and the popularity of technology in this community, continue to jump on the bandwagon. Their

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technologies might be beautifully designed and effectively (even aggressively) marketed. But do they address a meaningful skill? And if they do, has anyone checked whether they work? (and no, a few endorsements from happy customers is not enough, especially if the app in question makes grand claims like “teach your child to speak”).

What’s the solution to this problem then? Well, perhaps it is obvious, but that doesn’t make it easy to achieve: academics and commercial developers need to work together in partnership. The most effective example – but challenging for both parties – would probably be to design a new technology from scratch as equal partners. Commercial developers can provide high standards of design, very fast turnarounds from concept to product, and expertise in bringing a product to market (as well as long-term support for consumers). Academic partners can provide theoretical foundations, identify target skills, areas requiring support and evidence-based learning systems, as well as provide scientifically rigorous consultation and evaluation. However, failing this ideal, there are also other options, the principal of which is probably to increase opportunities for researchers, commercial developers, practitioners and members of the autism community to come together to share ideas and working practices.

Another key goal for researchers should be to provide tools so that practitioners, parents and people with autism can critically assess the technologies they come across and work out what’s best – and especially how to use them. That was the logic behind our recently published guidelines for parents, which we hope to follow-up with similar evidence-based guidelines for teachers and autistic adults.

I strongly believe in the power of technology to provide transformative, effective, accessible supports to the autism community. To have the greatest benefit, these need to be grounded in research evidence, properly evaluated, but also meet with the high expectations of the consumer in design and functionality. I hope that researchers and commercial partners will strive to work together to innovate in a way which benefits the autism community, working to strengths and providing meaningful tools for a fulfilling life.