CLICK-EAST

Computer Learning In Children: the Edinburgh Autism Social-attention Trial
Final report, September 2013

The final appointment for a family enrolled in the Click-East trial took place at the end of June 2013. This letter aims to share the important information which came out of the study, and to let you know about some of the plans for what the research team might do next. It comes with heartfelt thanks for the contribution you made to the research and best wishes for the future. I hope you had a positive experience and will consider being involved in research projects again one day. With your help, we can slowly learn more and more about autism in order to help children and families now and in the future.
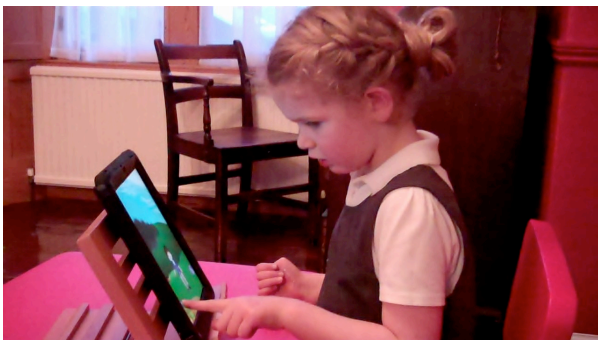
Background

Sue headed up a design team from computer science, psychology, medicine and education to create a new app. We worked with families and schools to make it as engaging and fun as possible. The app is essentially an iPad version of a therapeutic approach which has been used successfully with young kids with autism to promote social communication. The app aims to rehearse two key skills:

- looking at people (even when there are other exciting things to look at)
- following social cues - looking at things which someone is pointing at or looking at.

The idea was to create a way for children to practice these skills in the context of a fun game with interesting rewards. By repeating the learning over and over, we wanted to try to show children that these behaviours might be useful in the real world too.

The Children

54 families enrolled in the study and 49 children were able to come to all the sessions. The children come from a range of backgrounds and have different levels of experience with computer games. Children were aged 2 to 6 years and all of them showed a significant amount of autistic behaviours. In particular we aimed to recruit children who had problems with the target skills like looking at other people.

A young girl helping us out by playing an early version of the app

How did the study work?

- Children came in for a first appointment to check they met criteria for the study – i.e. that they showed a range of autistic behaviours.
- Then they were randomly put into one of two groups – the 'intervention' group had a go on the iPad app right away, for two months. The 'control' groups had to wait for their turn.
- All children were seen again six months later to see how their autistic-behaviours, social skills and language had changed.
- We also checked-up on language and social skills in the middle of the research period.

What did we find?

1. Both groups of children showed improvement in the targeted skills over the 6 months, and this was slightly bigger in the group who had played the Click-East app
2. The app only made a small difference though – it wasn't *'statistically significant'*.
3. Most children made improvements over the period of the study, in language and social skills – together the children learned to use more than 2000 new words
4. Most children played the app a lot – the most was 58 hours, or almost an hour per day! And the average was about 10 minutes per day. However, some kids didn't like it at all and hardly played.
5. Parents were very positive about the app on the whole, and most liked having the iPad. We got some very useful suggestions for how to improve it too.

If you haven't yet received a free copy of the commercial version of the app, please drop me a line. It is available for iPhone or iPad, but not Android yet – sorry!

You can check it out on iTunes by searching for FindMe autism.

So what does this mean?

- The app is not going to fix the difficulties experienced by children with autism – it only has small benefits and it doesn't suit everyone.
- However, because an iPad with some apps is much cheaper than a therapist, we think that apps like this could be a good way to help children with autism learn new skills, by providing a daily "top up" of practice to add to the support received from professionals.
- Apps might be a way to help parents who have concerns but are on a waiting list for diagnosis. The authorities can't afford to provide much support to these families and apps might be a way around that.
- The Click-East app (which is called FindMe on iTunes) only has a very specific focus – we could have more impact by expanding the range of skills we're trying to teach.

What's next?

We've learnt a lot from the study and over the coming year or two we'll be doing a range of follow-up projects such as:

- ✓ Working with our commercial partners, Interface 3, to create some more autism-specific apps which target different social skills. These might be more suited to slightly older or more able children.
- ✓ Looking at creating apps specifically designed for young children who don't have a diagnosis of autism but whose parents are worried about their development
- ✓ Working with speech and language therapists more closely to see how we could make apps to complement their work with pre-schoolers with autism
- ✓ Getting feedback from Click-East participants about what else we should be doing.
- ✓ Carrying out a survey and interviews with parents who already use a lot of computer games, apps or other technology to support their autistic children. The results will be published as guidance for parents by the National Autistic Society. You can fill in the survey at:

https://www.surveymonkey.com/s/technology_autism_at_home

Other info

The Click-East site has been moved to **www.dart.ed.ac.uk**

This is because we're now running a range of research projects to do with autism, child development and technology. Please do check it out and consider signing up to the blog. You'll get an email every time I post (once a fortnight at most). Posts include app reviews and accessible discussions on autism, technology and research.

I'll be posting soon with news from the Click-East Tea Party!

You can also follow me on Twitter: **@SueReviews**

We can't **thank you** all enough for your support for the Click-East project, which so many people have given their time and effort towards. Please do get in touch if you have any questions or comments or if you're interested in hearing more about our research:
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