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## **iPads for Autism: A report on the development and efficacy of a new educational app for young children**

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# iPads for Autism

A report on the development and efficacy of a new educational app for young children

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Anne O'Hare



# Outline & Context

- ◆ Background
- ◆ Click-East development
- ◆ Click-East RCT
- ◆ Future research directions

# Background

- ◆ Development of social attention
  - ◆ Attention to people
  - ◆ Following gaze and pointing
  - ◆ Foundation of social and communication skills

# Design and Pilot Process

- ◆ Classroom-based participatory design
  - ◆ Building pictures: familiar versus exotic? People, animals, objects?



# Design and Pilot Process

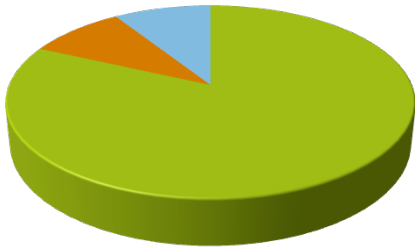
- ◆ Classroom-based participatory design
  - ◆ Building pictures: familiar versus exotic? People, animals, objects?
- ◆ Pilot tests: playgroups, nurseries, homes
  - ◆ Best motivation techniques
  - ◆ Accessible to non-verbal / very young children
  - ◆ Familiarity / repetition
- ◆ Advisors: teachers, parents, therapists, adults with ASD
  - ◆ Use-ability, family-friendly, trial design
- ◆ Expert input: LaerLab, Steering Group
  - ◆ Interface, structure, data recording

*Fletcher-Watson, Hammond & Pain, in prep, JADD*

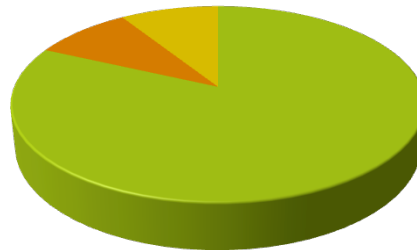
# The App: what do parents think?

What did you think of the app?

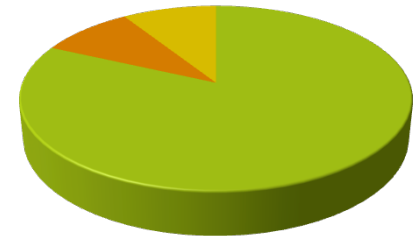
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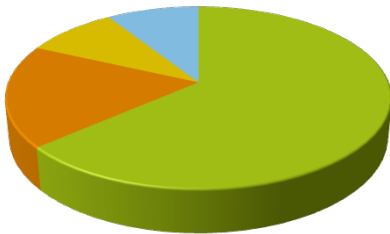
Easy to play



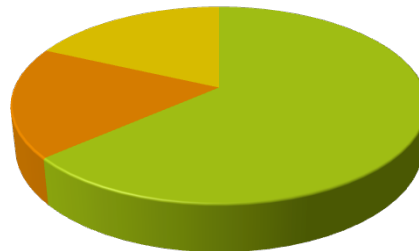
Accessible



Appealing



Fun



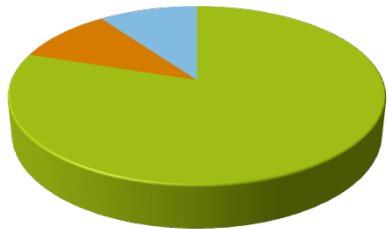
Attractive



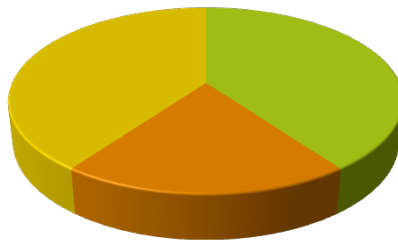
# The App: what do parents think?

Do you think your child...

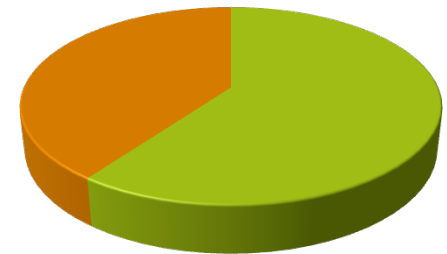
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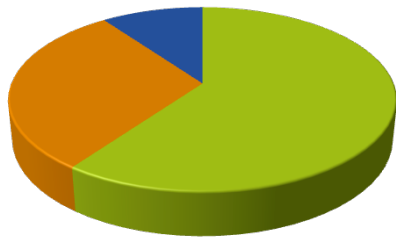
Enjoyed playing



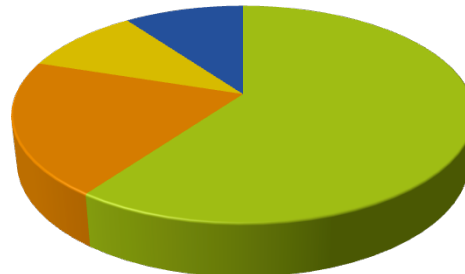
Learnt something new



Played for > 5mins



Easily understood



Benefitted

Yes, a lot

Yes, a bit

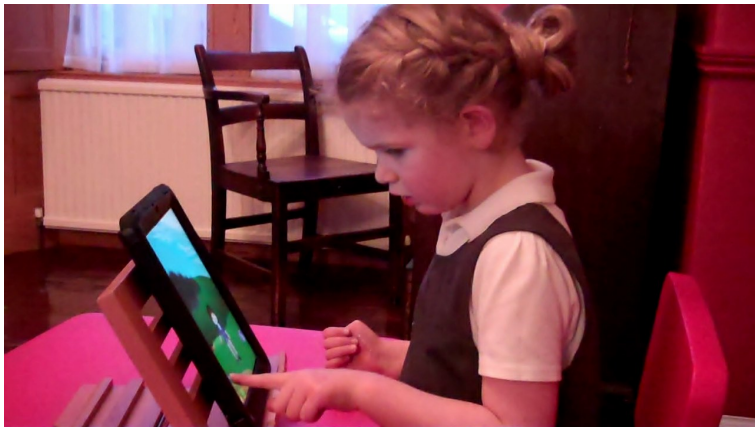
Maybe

Not much

Not at all



# The App: what do parents think?



*I wasn't sure if he would like it at first but he LOVES it! It is one of the few apps he wants to play every time he has the iPad!*

*...we were very impressed by the uncluttered screen, and the gentle, calm tone. Veronica loves apps she can figure out for herself ...*

*as soon as she sees the iPad come out she sits next to me ... and wants to play this game. I have enjoyed watching her have longer periods of concentration with this game. very well made, simple yet effective!*

*...he will often just go and click on the app when he wants some "chill out" time....*

# The App: is it really any good?

- ◆ Randomised controlled trial
  - ◆ 60 families: intervention now or later
  - ◆ Assessed before and after intervention period, plus at six month follow-up
  - ◆ ADOS, MCDI, ADOS-C, parent feedback
  - ◆ Expected completion: June 2013
- ◆ Early data
  - ◆ 9 participants have completed the intervention phase
  - ◆ Average game play of 13 hours over two months = 13 mins daily
  - ◆ Positive impact on family life
  - ◆ Signs of behavioural changes in pointing and vocabulary

# Moving forward: AWARE

AWARE: Autism Software, how to get it out there

- ◆ One day event in Edinburgh
- ◆ Input from academics, parents, teachers and industry
- ◆ Knowledge Transfer funding bid: app development
- ◆ CASE studentship: human-computer interaction and learning in autism
- ◆ Clinical trialing of all new output

<http://www.clickeast.co.uk/about/software-for-autism-event>

**Interface3**

**Smart MultiTouch Solutions**

Questions & feedback?

**[www.clickeast.co.uk](http://www.clickeast.co.uk)**