

Avexa AGM 2015

Company Presentation

26th November 2015



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Forward-looking Statements

This presentation includes forward-looking statements that are subject to risks and uncertainties. Such statements involve known and unknown risks and important factors that may cause the actual results, performance or achievements of Avexa to be materially different from the statements in this presentation.

Actual results could differ materially depending on factors such as the availability of resources, the results of pre-clinical proof-of-concept studies, the timing and effects of regulatory actions, the strength of competition and the effectiveness of patent protection.

Additional information regarding risks and uncertainties is available from Avexa on request.





TALI – exciting new opportunity

⊗ TALI Health Acquisition

- ⊗ TALI technology is a breakthrough in the improvement and measuring of attention in children
- ⊗ An initial focus on developmental delay such as autism.
- ⊗ TALI has been proven to improve attention and school outcomes in a clinical trial
- ⊗ For the first time TALI provides a repeatable measure to replace the existing, often subjective, measures.
- ⊗ Monash University has developed TALI technology in conjunction with Grey innovation and Torus games



**TALI Presentation
by Professor Kim Cornish
And
Jefferson Harcourt**



Childhood Inattention and Developmental Delay

Inattention and developmental delay effect 15% of children

- There is a high prevalence of Australian children and adolescents with developmental disabilities, estimated conservatively at 650,000
- Each child suspected to be delayed requires treatment and assessment
- Ability to engage and hold attention is linked to social and educational outcomes in children of all abilities
- There is strong evidence that early (lower primary school and kindergarten) intervention in attention control greatly improves outcomes

“Unfortunately, many interventions and treatments being used with children with ASD do not have empirical evidence to substantiate their effectiveness”

‘Autism treatment survey: services received by children with autism spectrum disorders in public school classrooms’, *Journal of Autism and Developmental Disorders*, vol. 38, pp. 961-971.

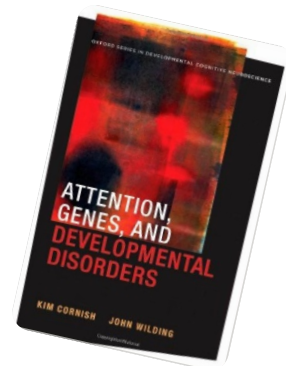


Background Research

- Worked in the field of attention research for over 20 years.
- High impact research with over 105 peer-reviewed papers.
- Led international, interdisciplinary research teams and pioneered studies demonstrating the role of attention in cognition and behaviour, as well as the interplay with genes.
- \$10 million in grant funding from leading international agencies in Canada, the UK, the USA and Australia.
- 7 years in one of Canada's most prestigious research chairs- the Canada Research Chair (Tier 1)
- Published a 560 page book on attention in typically developing children and children with developmental disorders



- - Cornish, K.M., & Wilding, J., (2010). Attention, Genes and Developmental Disorders. Oxford: Oxford University Press.



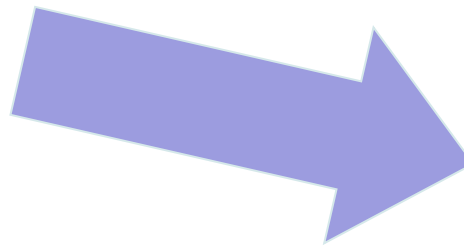
Significance of inattention in early childhood reading

387 children followed from
Kindergarten to grade 5



**Inattention in
kindergarten
reported by
teachers**

Even after controlling for IQ,
hyperactivity & emotional problems,
and reading ability in Grade 1



Poor reading in grade 5



Children with developmental problems or delays

- Attention difficulties are highly prevalent, debilitating and persist across the lifespan.
- Consequences for educational potential and well being if left untreated.
- Many children share similar features with behavioural disorders such as ADHD. - e.g. the prevalence of ADHD among children with Autism is shown to be as high as 70%.
- Similar behavioural features, but unique cognitive pathways.
- Current interventions for attention deficits often include medication but as yet no valid outcome measure to assess the efficacy of these interventions.



TALI Vision

- High quality game technology to train attention in children worldwide
- Unlock the research to help children with attention disorders
- Bring the resources into the community

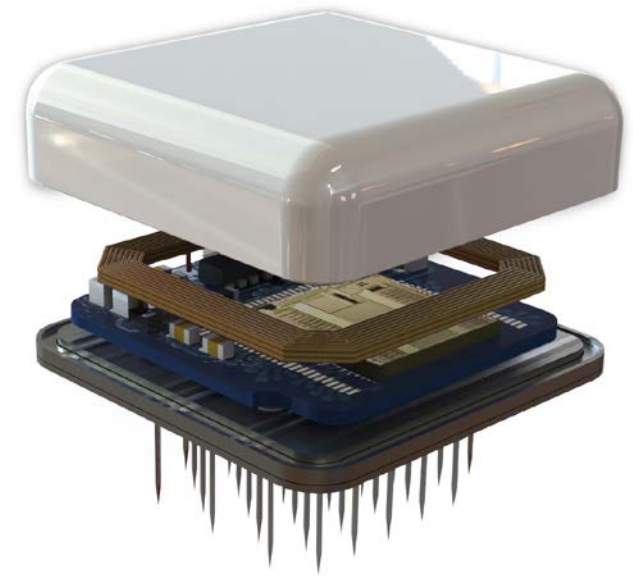


Grey Innovation

- Grey Innovation is a technology commercialisation company based in Melbourne
- Our focus is to translate research into new technologies and new technology companies
- We partner with Universities and Research Institutes in Australia and Germany in Health, Security & Safety and Environmental fields
- In house capabilities include Industrial Design, Mechanical, Electronic, Software and System Engineering, Project Management, Manufacturing and Legal Counsel



Bionic Eye



MONASHVISIONGROUP



TheAlfred



miniFAB™
The Micro - Nano - Bio Company



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Coming Together for TALI

- 2012: Prof Kim Cornish approached Grey to help commercialise her research
- Torus joined the team
 - Globally recognised games developer
 - Develop games for international clients such as Warner Bros. and DreamWorks
 - 2015 Disney Developer of the year
- 2012: Together, applied and received federal government funding for a \$1.3 project
- 2013-2014: Research ran parallel with product development including clinical trials
- 2014: Spun out Tali Health



Australian Government
Australian Research Council



AVEXA

Training Attention and Learning Initiative (TALI)

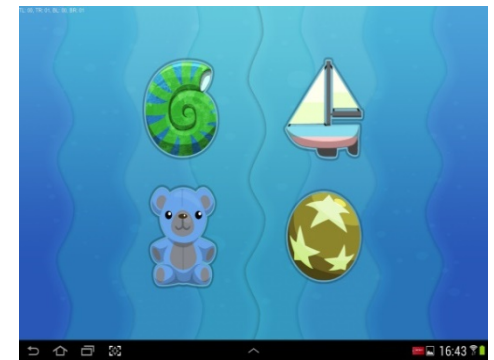
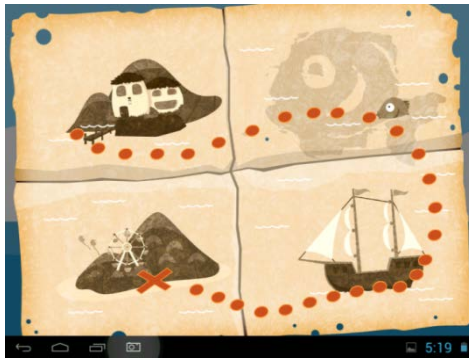


- ✓ More accurate measurement – measurements made thousands of times each gameplay
- ✓ More frequent assessment – TALI can be used several times each day
- ✓ Not subjective – a repeatable measurement
- ✓ Results stored – can return to results and observe changes in level of cognitive ability to measure effects of interventions and medications
- ✓ Scientifically validated- designed by researchers, trialled in a randomised control trial run by Monash University
- ✓ Convenience – can be used in the home



TALI Games

- Parameters based on evidence from over 100 peer review papers
- Engage the child- Pick a Character, Follow the Map, Earn Rewards



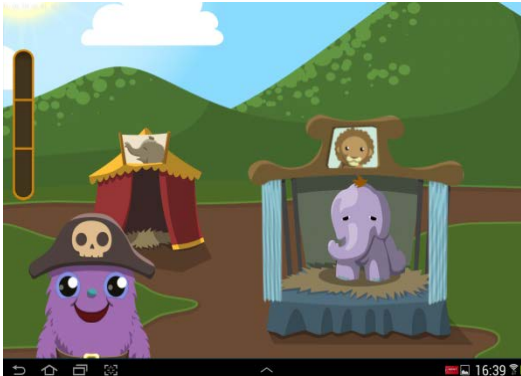
TALI Games



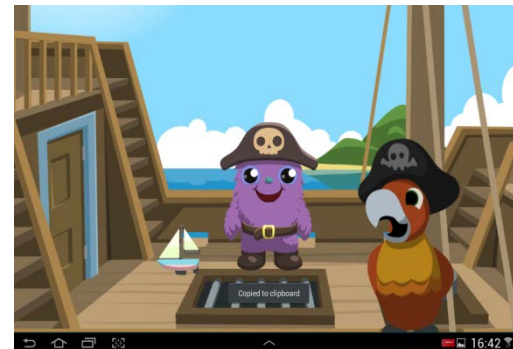
Selective attention- can you select relevant information?



Can you adapt and handle the rules of your game changing?



Can you hold back from touching the screen?



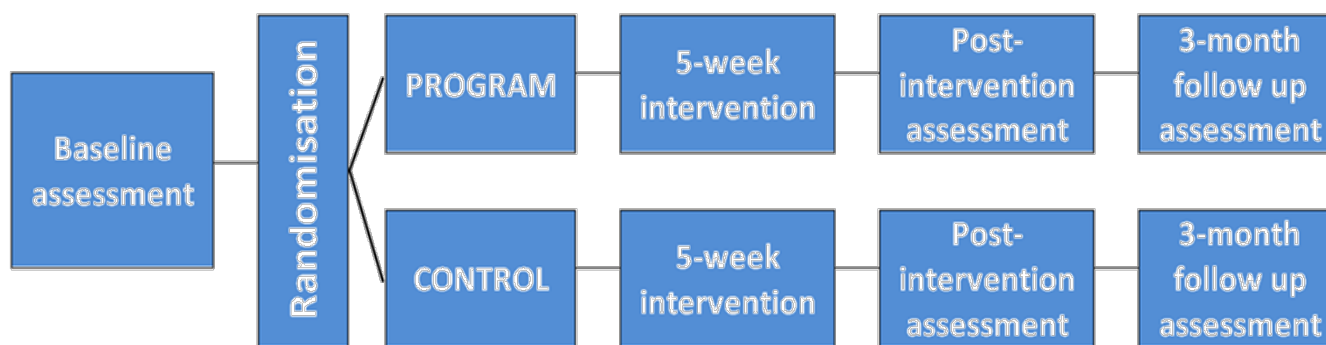
Sustained attention- can you be focused and vigilant?



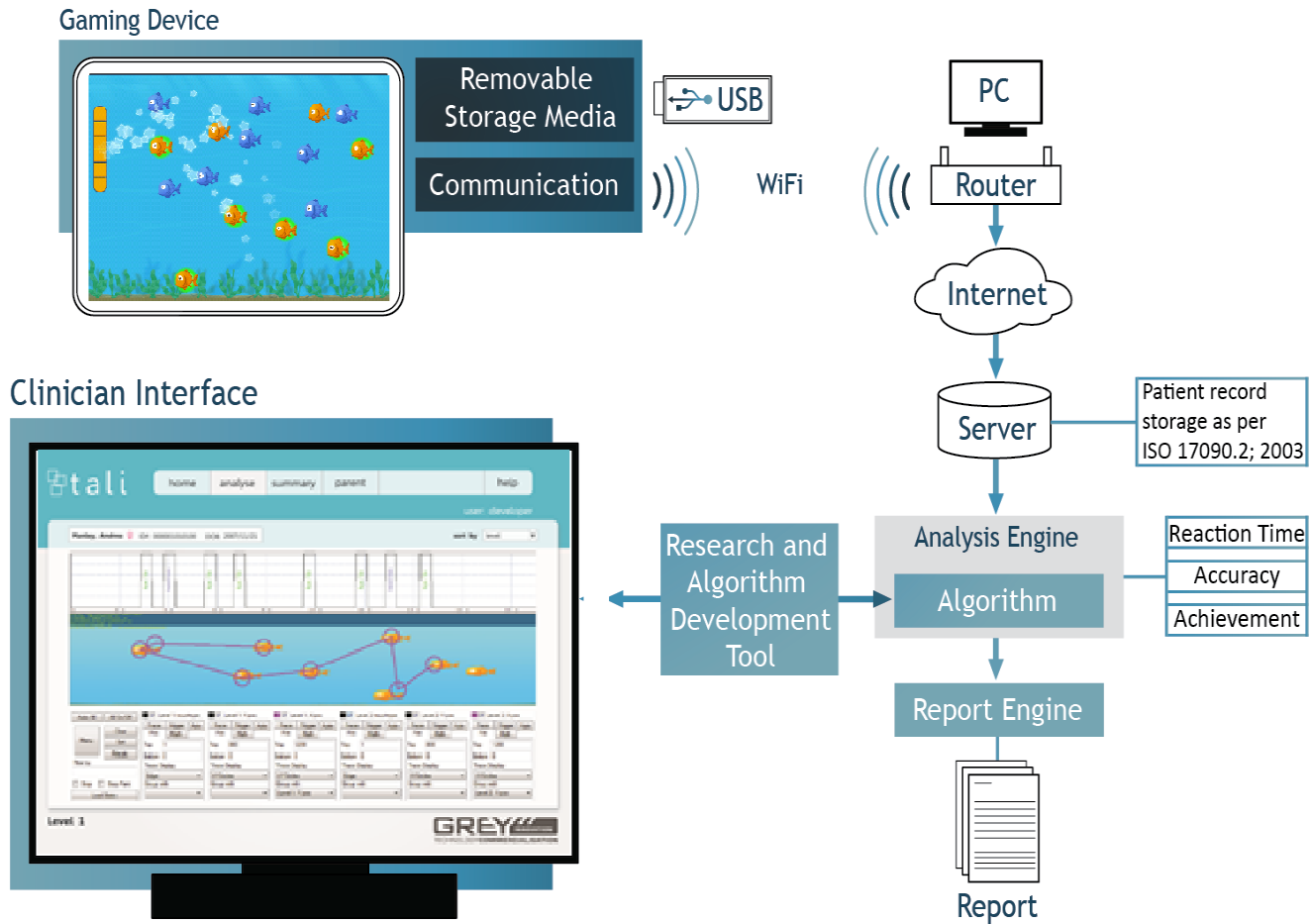
Attention Training and Diagnoses in Children with Intellectual Disabilities

Double Blind Randomised Control Trial

- Children are assessed at Baseline, Post training and 3 months later
- Both parent and teacher reports are collected plus cognitive measures of WM and numeracy/literacy
- The child uses the training program **5 days a week over a 5 week period.** The daily session runs for 15 minutes.



TALI data collection and analysis



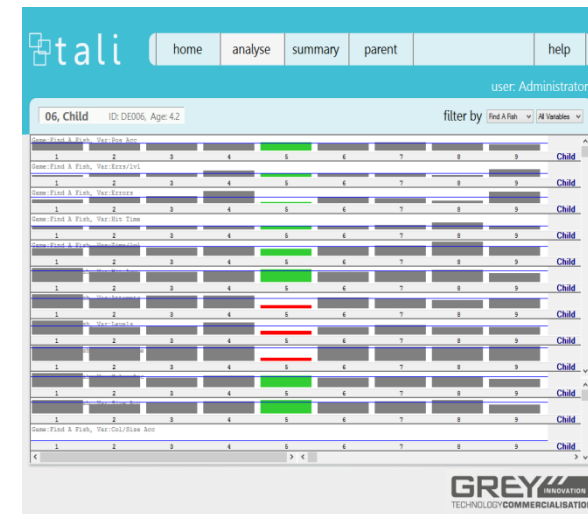
Individual & Group comparison



Play by play analysis



Individual play statistics over time



Comparison of target child against the group



Grouping Results

Preliminary Clinical Trial Results

- **Typical children** are clearly differentiated from atypical children
- Autistic children are spread on ability with **high functioning autism** differentiated from **low functioning autism**
- The lower abilities of **down syndrome** children are also identified



Clinical Trial Findings

—●— Intervention
—■— Control

Improvement: Selective attention skills

- Children who received the training program showed significantly greater improvements in selection than children in the control group.
- These effects were present 3 months after training ceased

Improvement: Mathematical Abilities

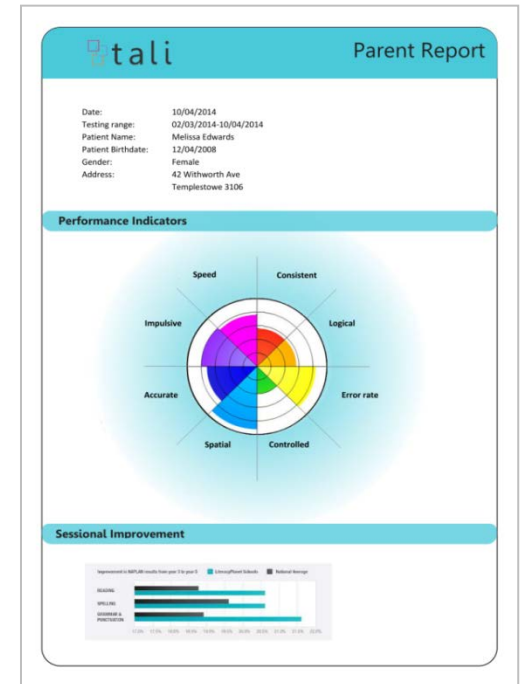
- At the 3 month follow up children who received the training program showed significantly greater improvements in numeracy than children in the control group.



Report

Key revenue stream

- Pay per report model
- Separate clinician and parent reports
- Allows a record of child progress and ability to track improvement from external intervention
- Displays a comparison of the child against the wider population, continuously optimised as data is added to the TALI data servers
- Format and content of report to be driven by key opinion leaders and leading clinicians



Conclusions



- ✓ TALI – improves attention, behaviour and academics.
- ✓ TALI – improvements appear to be sustained over time.
- ✓ TALI - can be used in preschool children (3 yr>) and in children with developmental difficulties.
- ✓ TALI- first personalised intervention tool to improve cognitive and academic skills from kindergarten upwards, in typically developing children and in clinical populations, and across cultures.
- ✓ TALI – potential to be a world first attention clinical outcome measure for pharma trials in children with ASD and other developmental disorders.



Any Questions?



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