

## Results of a study into effects of home based visual therapy

Leonard Fine  
Chatswood NSW

## Objective

- To determine the incidence of visual anomalies in a group of primary school children identified with reading difficulties and determine effects of an 8 week home based program on 4 specific measures of reading ability

ICBO 2006

2

## Hypothesis

- Children will show gains after 8 week intervention program
- Childrens' behaviour and general psychological functioning will improve over program course

ICBO 2006

3

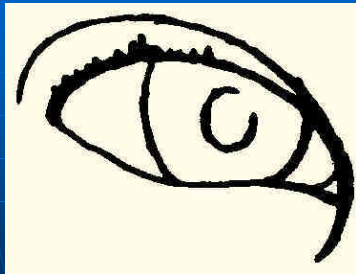
## Purpose

- To measure the impact of vision therapy on the reading ability and psychological functioning of children with reading difficulties

ICBO 2006

4

incidence of visual anomalies?



Effect of therapy

ICBO 2006

5

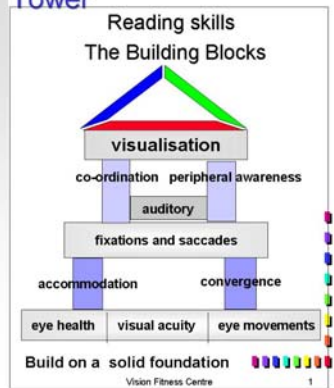
## Method

- A within subject repeated measures design was employed each child serving as their own control
- Children were assessed on three occasions over the 16 week period
- 8 week non intervention period followed by 8 week intervention period
- Measures were done at each juncture

ICBO 2006

6

## The Reading Skills Tower



## Protocol of Vision Fitness Program

7

## Some points

- Conducted at Sydney University in the Department of Psychology
- Completed as requirement for Masters degree in Clinical Psychology.
- Program administered by parents and teachers.
- Psychological functioning and behaviour measured 3 times

ICBO 2006

8

## Selection

- Children in primary school
- Referred by special education teacher
- Parental approval
- Identified with difficulties in reading
- Cognitive abilities (CAS) test score in average to below average range

ICBO 2006

9

## Data collection

- Teachers reported on
  - Teachers report form (Auerbach Edelbrock)
  - Optometric Symptom checklist on two occasions
- Parents reported on
  - Child behaviour checklist (Auerbach)
  - Optometric Symptom checklist

ICBO 2006

10

## The measures were

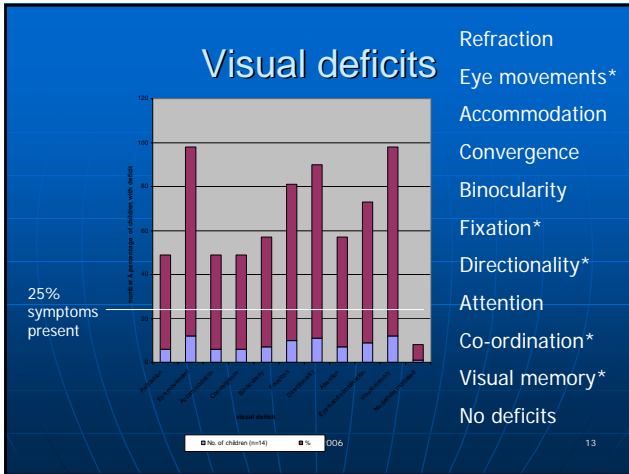
reading accuracy  
comprehension  
reading rate  
total reading score

## Data


- Male to female distribution 50% each
- 92% of group displayed deficits in at least one visual skill area.
- Many had multiple deficits
- All had reading difficulties

ICBO 2006

12



- ## Research control tests
- Cognitive Assessment System (CAS)
  - Woodcock Reading Mastery Test-Revised
  - Neale Analysis
  - Child Behaviour Checklist
  - Optometric Symptom Checklist
    - Note no optometric evaluation was included
- ICBO 2006

- ## Results
- 
- **Total reading score**  $t=-7.4$   $df=1$   $p=0.0005$
  - **Reading rate**  $t=-2.53$   $df=15$   $p=0.023$   
power .62  $\eta^2=.92$
  - **Reduced visual symptoms**  $t=3.4$   $df=7$   $p<.05$
  - **Reading comprehension**  $t=-1.35$   $df=15$   $p=.019$
  - **Reading accuracy**  $t=-6.22$   $df=15$   $p=0.000$
- Significant gains evident in 3 of 4 measures after the intervention program
- ICBO 2006

- ## Conclusions
- School places great emphasis on visual processing
  - Sub-groups experience reading difficulties
  - Literature indicates visual anomalies may contribute to reading failure
  - Psychological behaviour remained stable
  - **Home based programs are beneficial**
  - **Vision therapy may help many children in this sub group**
- ICBO 2006

## More information?

- Visit [www.deyegnostics.com](http://www.deyegnostics.com)
- Call 02 9413 1749
- University of Sydney Psych. Department
- With thanks Deyegnostics



ICBO 2006

17