Cerebral Visual Impairment: The inside scoop

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Channeling the lived experience

- Difference between clinical and real-world settings
  - Assessment focused on basic visual functions
- Impact of clutter
- Impact of emotional responses
- OVI strategies not always effective
- Every child with CVI is unique
- Importance of understand what the world looks like to the individual with CVI
- CVI not just a visual impairment

The Austin Assessment

Made by the community for the community

A simple and fun matching activity over 5 levels

Two rounds - multicolored and single colored

Can be done on an iPad or iPhone

Underlying principles

- Child centred
- Empowering
- Strengths based

How does it work?

Key indicators of issues with higher visual functions

- Darting eye movements
- Slow processing of the visual scene as complexity increases
- Worsening performance with increased task demand
- Slower response time to visual stimuli
- Difficulties with visually guided movement

The app measures four variables

- Time taken to match the pairs in all five levels
- Accuracy in matching the pairs at each level
- The time taken to match the first pair at each level (dwell time)
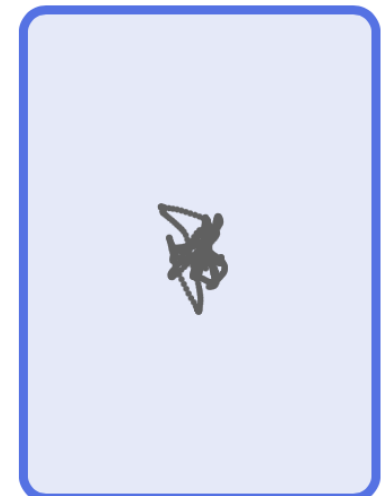- Eye movement while matching the pairs

Eye tracking

Multi-coloured

lucas

Typical 13 to 18 year old

Single-coloured

lucas

Typical 13 to 18 year old

Is it accurate?

Developed and validated over multiple research projects

- Pilot study (2018)
- Creating a normative range database (2021-2022)
- Assessing the effectiveness as a screening tool (2022)
- Validation research (2022)
- CVI in mainstream classrooms (supporting children the app had identified) (2022)

Assessed over 900 children aged 5-18

User testing / industry-based research

Working on an adult normative range currently

Screening with the Austin Assessment

When there is no CVI diagnosis

- When a vision issues is suspected
- At risk children
- When learning difficulties in the classroom have been reported

When CVI has been diagnosed

- Following a diagnosis of CVI to understand specific manifestations / visual issues
- Pre and post implementation of intervention
- To inform practice and approaches

Future uses

- Vision screening programmes (i.e. B4 school check)
- School wide screening

CVI practice framework
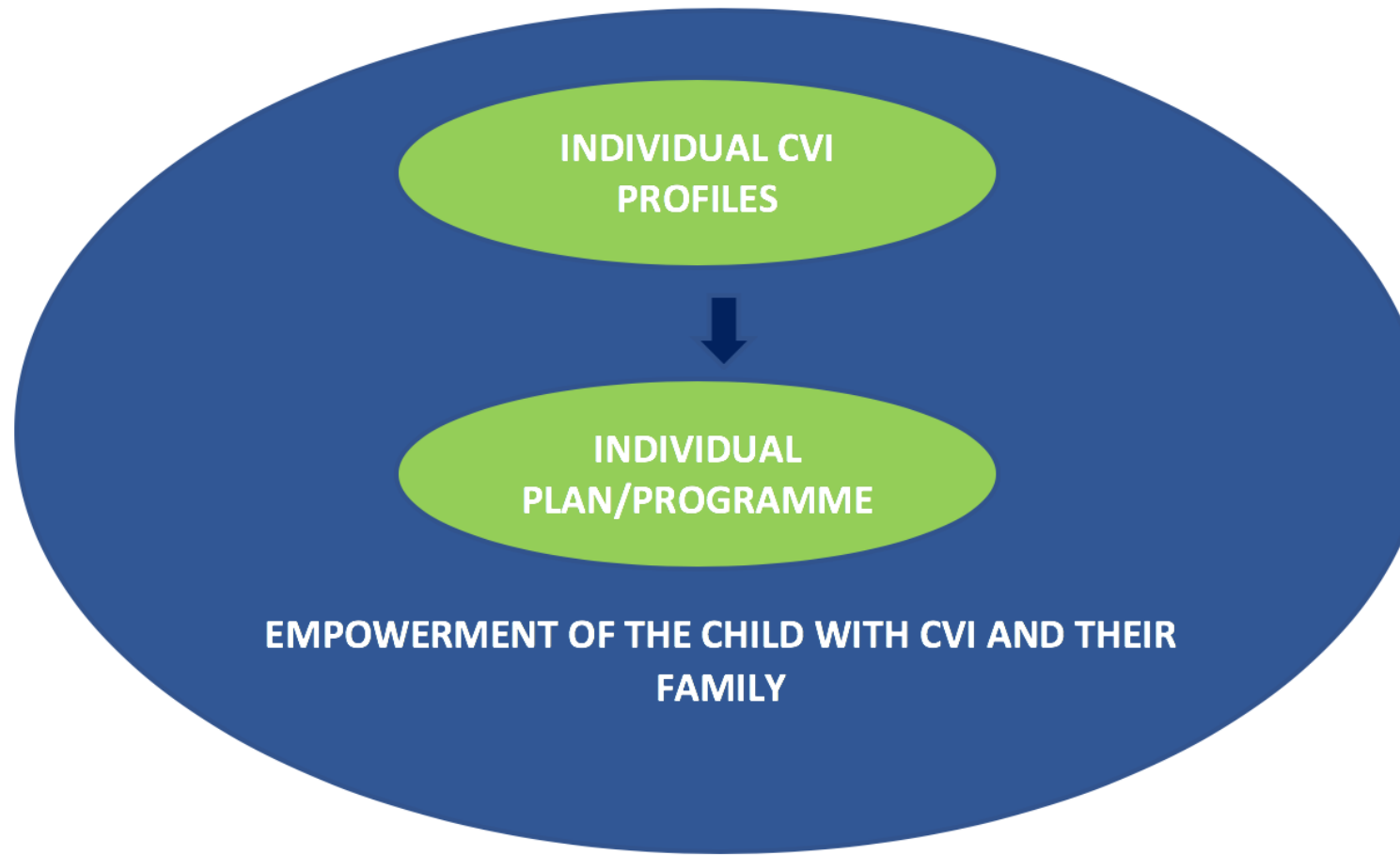
Individual CVI profiles

Looking at the child holistically

Need to include information on:

- Visual needs
- Emotional needs
- Behavioral needs

In different contexts:

- Home
- School
- Community

Individual plan / programme

IEP developed based in CVI profile, needs and wants of the child/family

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Research (children with CVI in the classroom)

| 80% had learning support needs | 100% had emotional support needs | 91% had difficulties making and maintaining friendships |

Strategies to support a child with CVI

- Every child with CVI is unique

- ADAPT the environment, not the child
  - CVI is not a behaviour problem that needs to be fixed
  - CVI is not a learning problem requiring more practice
  - CVI is not an effort problem requiring more motivation

- CVI is a visual processing problem requiring environmental modification and understanding

- Ask yourself – would this help the child access learning?

Strategies to support – underlying principles

- Reduce visual clutter and complexity

- One thing at a time and allow time for visual processing

- Education and empowerment

- Consistency and predictability

- Work within fatigue limitations

- Success comes from understanding how the CVI brain works and adapting the world to match

Empowerment

- What impact does the attainment of relevant information have on empowering individuals with CVI, parent?
    - How do we acknowledge and respect their expertise?
    - How do we support them to make informed decisions?

- Online survey for parents of children with CVI (of any age) from around the world

Parents involvement in the services their child receives

When asked whether they had a clear understanding of the role of the service providers:

- Informed parents most frequent response was always
- Not informed parents most frequent response was often

When asked if they felt they were able to ask for more information from the professionals working with their child

- Informed parents 68% said yes
- Not informed parents 44% said yes

Thank you – contact information

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