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How iPads could help 'blind' children to see

Every visually impaired child tested was 'enthralled' by the device, say scientists

By Claire Bates

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Children with cortical visual impairment find it easier to interpret lights and objects in high contrast (posed)

Children living with severe vision problems could transform the way they communicate simply by using an iPad, researchers say.

A team from the University of Kansas gave the tablet computers to a group of children with a cortical visual impairment (CVI).

The severe neurological disorder results from brain damage which prevents them from interpreting visual information, making them essentially 'blind.'

'We tested 15 children and were absolutely shocked,' said lead researcher Muriel Saunders.

'Every single child was enthralled with the iPad. Children that typically didn't look at people, didn't respond with objects or responded in a very repetitious fashion, were absolutely glued to the iPad. It was an amazing experience.'

Professor Saunders, who works with children with CVI to help them develop language skills, said that traditionally such children work with therapists and parents using a light box.

This is because children with CVI have an easier time seeing lights and objects in high contrast.

'Someone with a severe CVI will spend a lot of time looking at lights,' Saunders said.

With its bright screen, the iPad replicates a light box - but its interactivity, sound and color are a great deal more engaging to the children with CVI.

'We were using some very simple infant applications,' said Saunders.

'One was called 'Baby Finger,' where you just touch the screen, and sounds and images and colored shapes appear on the white background.

'So, in many ways, it was similar to a light box except for instead of black and white, there were bright colors. We also looked at a Dr. Seuss book.'

Word of the device's promise had begun to spread among parents of children with CVI online, but no formal research has been conducted.

Professor Saunders is now writing a grant proposal to the National Institutes of Health to conduct a thorough study.

'Using the iPad, not only can they interact with a screen, but we can teach them through a series of steps to control things on that screen,' the researcher said.

'There are so many apps already available; we don't have to go out and make our own apps. There are apps available to make a communication board. There are apps available that have different levels of difficulty.

'Parents of children with CVI are already learning that the iPad works well. There are blogs that say, "Look at that one! My child is responding to this app."'

Early intervention in the lives of children living with CVI is not just crucial to their development; it also could help them to gain better vision as they grow. Saunders said the iPad could be a crucial part of this life-changing therapy.

'With the proper intervention techniques, the amazing thing is that the child's brain grows the brain cells needed in the cerebral cortex,' she said.

'It grows the brain cells necessary to begin understanding what their eye is seeing. So they develop the ability to interpret images, sometimes just partially, sometimes fully.'

Saunders is conducting the initial tests of the iPad in cooperation with the Junior Blind of America in Los Angeles.