

The Power of an iPad for Cortical Visual Impairments

Recently there was a study from the University of Kansas about the therapeutic effects of utilizing an iPad with students with CVI, and they were “absolutely shocked” by the results of the study.

“It was determined that the brightness of the tablet, along with some very basic infant applications, was engaging to the CVI study subjects. With its bright screen, the iPad replicated the lightbox so common in CVI therapy. Research from the study demonstrated that while CVI children generally would not respond to an action/object, or who would only respond after repeated attempts, appeared to be completely engaged by the iPads given to them for the study. Researchers remarked that these children behaved with the tablets in such a way that failed to demonstrate that they were visually impaired.”

<http://www.news.ku.edu/2011/october/5/ipad.shtml>

The following list of apps for iPads and iPod Touches were compiled from websites and therapists specializing in CVI and recommended for visual benefit and student interest from the students who used them. After investigating apps from multiple websites and sources, these are the ones that “made the mark.” All prices are subject to change:

Apps for student's with CVI --

Touch and response apps: All of these apps encourage interacting with the screen and visually tracking objects, as well as cause and effect and interaction skills.

I Love Fireworks -- \$0.99 -- fireworks and explosions

The Art of the Glow -- \$0.99 -- drawing fluorescent colors on black background

Fluidity HD -- Free -- looks like a lava lamp!

Uzu -- \$1.99 -- swirling shapes of all kinds

Koi Pond -- \$0.99 -- you interact with the water and fish; very engaging for students!!

Bubbles -- \$0.99 -- bubbles trail from fingers and then the student can pop the bubbles

Baby Silencer -- Free -- music and trailing colors

Paint Sparkles -- Free -- music and sparkles while drawing on a white background;
reads out the colors when touched

Visual development and educational concepts --

Sparkabilities -- \$4.99 -- works on shapes, big/little, colors, numbers, and tracking objects across the screen with increasingly difficult backgrounds

Baby Finger -- Free -- tracking objects with white background and fun sound effects; clear and contrasting shapes

Baby Look (peekaboo) -- \$1.99 -- this series of apps have black and white drawn faces that pop-up from different sides of the screen for visually tracking.

Baby Shapes -- \$0.99 -- black background with simple shapes, letters, and numbers in bright colors with audio narration

Baby Patterns -- Free -- no interaction with the app required, just slowly moving shapes, black on a white background, music in the background

Peekaboo Barn -- \$1.99 -- fun interaction with a barn and surprise animals that pop out and make sounds.

ABC Tracer -- Free (lite version) or \$1.99 (full version) -- tracing letters with visual and auditory feedback; if you use the one for the iPhone on the iPad it is much larger and easier to use

Music: There are hundreds of music apps, all very motivating for students!!

Baby Look Skills -- \$0.99 -- visually simple dots and lines on a black background that you can touch and strum for music

Piano Pals -- Free -- very simple piano; even has visual braille numbers as an option

Garage Band -- \$4.99 -- guitar, piano, drums and more instruments to play with plain backgrounds

Tips and tricks for using an iPad with students with disabilities:

1. To protect your device, get a strong and “bounce-able” case such as the “Big Grip” case.
2. Use a Ziplock bag or plastic cover for drool protection.
3. For students who don't engage initially, I have turned off the lights in the room to help them focus in on the iPad; then when the lights are on they begin to visually attend.
4. Try the iPad in alternative positions such as on the floor with the student laying on their stomach, in a stander, or tilted on a stand.



Apps for the iPad for the Visually Impaired

With titles of articles on the Internet and in magazines like “iPads Help Blind Children See,” teachers will start to see more and more parents wanting iPads.

The following are apps and adaptations that have made the iPad a very friendly device for a visually impaired student.

Voice Over -- Free

The biggest adaptation on the iPad for the visually impaired. Voice over allows for sight-free narration of the OS, the Internet and many apps. Here is a list of some of the features:

- access to iBooks as an ebook reader, including describing some pictures
- option to be a wireless braille display
- zoom features for screen enlargement
- contrast and White-on-Black options
- standard text can be increased to 56 font
- audible alerts



Apps for Visually Impaired -- There are many apps out there, and not all of the following have been tested by Assistive Technology (Note: Some apps may not be compatible with iPad 1)

Bookshare -- \$19.99 -- an app to download ebooks directly to your iPad and have them read out loud with multiple visual adaptations

Learning Ally -- \$19.99 -- sync recorded Daisy books to an iPad from Learning Ally

Talking Timer -- \$0.99 -- auditorially supported timer

Vision Hunt -- \$0.99 -- can detect colors for dressing, etc., light sources, light level, and currency detection

Color ID -- Free -- simply identifies colors like “light blue” or “fresh apricot...”

Eye Note -- Free -- from the US government to detect the denomination of bills.

Magnifying Glass With Light -- Free -- works exactly like a magnifying glass; students can take screen shots of enlarged texts

Prizmo -- \$9.99 -- an Optical Character Recognition reader; take a picture of a textbook and have it read to you through OCR; there are many other OCR readers, this is just the one the has been tried by Assistive Technology; it works well on the iPhone 4 and 4S but may not be as good with an iPad 2 because of lower camera resolution

Digit Eyes -- Free (lite version) or \$29.99 (full version) -- scans barcodes for any item for sale and tells you what the item is; also allows you to create barcodes for any item around the house or workplace to help you find what you need

TypeinBraille -- \$4.99 -- allows you to write in braille on your iPhone; you can enter a character through its braille representation using a sequence of three simple gestures; each gesture is used to enter one of the three rows of a braille character.

Ariadne GPS -- \$5.99 -- a GPS app for the iPad for street navigation; "Talking maps allow you to explore the world around you by moving your finger around the map. While exploring, crossing a street is signaled by vibration. It has a Favorites feature and can be used to announce stops on the bus or train."

Resources and Articles:

1. iPhone, iPad and iPod Touch apps for people who have low vision, and for teachers of students who have a vision impairment (Updated to include the iPad 2)

<http://www.spectronicsinoz.com/blog/web-links/iphone-ipad-and-itouch-apps-for-people-who-have-low-vision-and-teachers-of-students-who-have-a-vision-impairment/>

2. iPads May Help Kids with Severe Visual Impairments

<http://www.ipadnewsdaily.com/ipads-may-help-kids-with-severe-vision-impairments-1389/>

3. Apps for the Blind and Visually Impaired

<http://appadvice.com/applists/show/apps-for-the-visually-impaired>

4. Facebook pages that specialize in CVI or Visually Impaired apps and interventions

<https://www.facebook.com/techinspecial>

<https://www.facebook.com/Thinkingoutsidethelightbox>