



María Díez-Juan, MS.
maria.diez-juan@ucdmc.ucdavis.edu
Research Scholar **UC Davis MIND Institute**
Fragile X Research and Treatment Center
Supervisor: Randi J. Hagerman, MD.

Applications for toddlers with Fragile X Syndrome (FXS) & Autism Spectrum Disorders (ASD)

The main goal of this brief guide is to offer families a list of applications specifically designed for toddlers with developmental disorders and give them some advice about how to use the apps for educational purposes so they can enhance parent-child interaction.

Below we present helpful applications for toddlers to start using the iPad® at home with an educational and communication approach.

a. Sensory Apps for starting using the iPad®, getting your child interested in playing and interacting through the screen with you!

Press Here: The App, gives children instructions to follow involving printed dots and swirls. Simple and fun for promoting motor skills using the iPad®.

Bloom HD, it is not specifically aimed at toddlers; nevertheless, music can be played by simply tapping the screen, which also produces pleasing visuals.

PianoBall, this app hides a colorful piano with toddler-friendly sized keys. Users can also select instrument sounds and even play along with basic tunes by pressing the key highlighted by sparkling stars.

Balls, is a funny simple app in which a number of colored balls bounce around the screen making wind-chime-like noises as they hit each other. Children love changing the directions of the balls by touching them on the iPad® screen.

Balloonimals, explore smooth animations of balloons becoming different animals. Practice finger movements with your toddler, you can inflate, model and pop animals in a fun way. It is interesting for working on cause- effect process.

Fireworks, there are many fireworks applications for practicing finger movements with the children, most of them are free. This type of apps is used for starting to use the iPad because they are striking and simple.

Live Artist, ideal for starting coloring and tracing. It provides paint colors, shapes and fun figures.

Juno's Piano, for promoting the sense of music and motor control.

Bubbles apps: Fun bubbles, Baby bubbles, Playmatic, Bubbimals, there are many applications using bubbles as the main stimuli for enhancing tapping and first

movements. They are engaging and fun, some of them combine music with funny sounds.

Tracing & first drawing: Sand Drawing, Blackboard, Finger Paint, Uncolor explore touching the screen with color, sounds and music, it is a fun way to help young children practice their first interactions with a touch screen.

SAGO COLLECTION: <http://www.sagosago.com/>

Sago Mini Bug Builder

Sago Mini Forest Flyer

Sago Mini Sound Box

Sago Mini Doodlecast

These apps are based on kids' natural sense of wonder, creativity and curiosity. They are positive and fun and ideal for starting educational intervention since they are attractive and will help to maintain children's attention on the task.

Giggle Gang by Fisher-Price: Developed for babies and toddlers to interact with engaging animation and sound effects while introducing the Giggle Gang. Parents can practice tickling and soft fingers movements.

b. Early learning apps for promoting first competences (motor & language) **and early concepts** (colors, shapes, sorting, matching, families, animals...). This group of apps is design especially for young children to enhance awareness about the world around them. All the apps are aged appropriate and well prepared for toddlers with special needs.

- MOTOR CONTROL APPS:

BeBop Blox, Toca Builders, Play LAB, FingerFun, Dexteria Jr., Ready to Print, Let's Create, Write my Name, Wood Puzzle HD. These applications will help your child to improve his/her fine motor control on the screen by using his/her hands and fingers.

Children may learn to point at the screen (index finger) and tap specific images in the different games. Both fine motor skills and motor coordination are really important domains to exercise since they will be the base of future learning through touch-screen devices.

- LANGUAGE APPS:

100 words by Kizzu, Toddler's Seek and Find, Fiete, At the Park, Special Words, Bitsboard, My First Words Flashcards, Baby First Words, First words: Toddler Touch and Say, Speech with Milo, Articulation Bee PRO.

Language development is one of the most important areas in the child's life. Language facilitates communication and allows us to understand and express ideas, requests and preferences. The previous applications help parents to enhance their children's language development at both levels receptive and expressive.



BEST APPLICATIONS FOR TODDLERS & other resources

Receptive language involves understanding what other person says. For example: "Where's the ball? Touch the ball"

Expressive language (verbal or nonverbal (signs) involves express an answer. For example: "What is this?"

-**"TINY HANDS" COLLECTION:** <http://www.tinyhandsapps.com/>

1+ TinyHands Building 1, the game is designed to help children acquire basic concepts such as: big- small, before- after, bottom- top, first- then.

2+ TinyHands Sorting 1, 2, 3 these games include from basic concepts about simple classification and shape/color/size related activities to more complex sorting environments such as sorting by concept combinations and contextual classification.

-**"MY FIRST APP" COLLECTION:** <http://www.myfirstapp.com>

This group of applications is created based on children chronological level and they are divided in three main domains: 1.5+, 2.5+ and 3.5+

The web page contains practical information about the three developmental periods and provides with interesting descriptions about why and how to use the different apps.

All of them are striking and well designed and are appropriate to enhance the child's interest on the task.

They offer matching and sorting games as well as mazes, families and first memory games. Toddlers can also practice puzzles and opposites.

-**iSEQUENCES:** <http://www.iautism.info/en/2012/06/02/7729/>

This app is fabulous for introducing children in understanding sequences and organization. Parents and educators can use Level 1 for young children and go through Level 2 when they have already reached enough expertise. iSEQUENCES has been created by psychologist and designers who care and know about children with autism and other developmental disorders so images, rewards and screen's presentations are clear and accurate.

It is possible to practice "first, then, at the end..." and also emotions and appropriate endings.

Children need to have a developed receptive language to start using this app.

-**Nighty Night! HD** <http://www.apps4kids.com/>

This app is so engaging and soothing. Once inside the animal's stall, the user can turn off the light immediately, try touching the animal or wait, and the light switch will gently flash to get children's attention. Watching the animals go to sleep is a lovely way to set the mood for bedtime. Children can learn naming animals, saying "bye, bye" and "good night" and also particular actions/verbs such as: turn off or sleep. This app can be used for practicing turns and share the story together as in a book, so parents and children may turn off the lights and waiting for their turn.



-Injini <http://www.injini.net/>

Injini Child Development Game Suite's unique collection of games provides exceptional and engaging learning experiences to young children with developmental delays. Skills practiced: fine motor – cause and effect understanding – spatial awareness – memory – differentiation – response inhibition – visual processing – sequencing and more.

From the same developers we can also use **My First AAC** and **Write My Name**; parents can find more information regarding these apps through the same webpage.

-Find Me <http://www.interface3.com/findme/>

FindMe is a simple game that challenges children to find an onscreen character in different scenarios. Using the iPad®'s touch screen, players simply tap the character to receive a reward and move forwards onto a more complex level. Part of the CLICK-EAST Project, the research study focused on designing an iPad® app that would help autistic children to learn and practice basic social and communication skills in a fun way.

c. Fun Apps:

TOCA- BOCA collection <http://tocaboca.com/>

PepiPlay collection <http://www.pepiplay.com/apps/>

GO-GO GAMES <http://go-go-games.com/>

Happy Geese <http://www.happygeese.com/index.php/eng/>

d. Interesting & useful links:

<http://a4cwsn.com/>

<http://blog.momswithapps.com>

<http://www.iautism.info/en/>

<http://all4mychild.com/>

<http://www.commonensemedia.org/>

<http://bridgingapps.org/>

<http://www.tcischool.org/techtips>

<http://www.appfriday.com/>

<http://www.smartappsforkids.com/>

<http://theappacademy.org/>

<http://www.drtechmom.com/>