# iPad Use & Learning

# Patterns observed in three age groups

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# Methodology

#### **Qualitative design**

- Structured Interview
- Direct Observation

Conducted at three sites in New York, NY, and Bridgeport, CT.

#### **Protocol**

- · Children allowed to explore the device on their own
- Then directed to three featured apps
- Followed by a freeplay section
- Closing discussion

The sample included a mix of ethnicities including Hispanic, African-American, and Caucasian. The sample was composed of children and caregivers from low and middle-income households.



Combined findings from 2 studies with 2 samples (same methodology)

Study 1: N= 60 children 65 caregivers Study 2: N= 33 children 28 caregivers

#### **Children's Age Distribution**

6-8 years: 23 4-5 years: 17 2-3 years: 20

#### **Children's Age Distribution**

7-8 years: 10 5-6 years: 10 3-4 years: 13

Children and caregivers were screened so that as least half had some experience playing with a touch-screen device (e.g. smartphone, iPad)







**1.** Consideration of children's development

2. Understanding of "features" that encourage engagement and comprehension

#### Ages 2 to 8 : iPad use and learning

	2 - 3 Yrs	4 - 5 Yrs	6 - 8 Yrs
Motor Skills			
Approach to Exploration			
Concept of Game			
Generalization of Skills			
Preferences for Activities & Design			
Grasp of app interface			

## Concept of Game

## 2 - 3 Yrs

## 4 - 5 Yrs

## 6 - 8 Yrs

"The game" is about "making things happen" Patterns of cause and effect are refined

Goal is "to do" and create an effect Curious but concepts of "game" play are limited to familiar (match, target)

Simple purpose, process and pay off, or making/ drawing. A "game" is expected Want a purpose, process and way to improve ('win' or master level). Enjoy making/drawing

### FORMAL FEATURES OF APPS







Level Time keeping Life meter Countdown clocks

## INTERACTIVE

Sensory effects User Controls Navigation Creative tools Hot spots

## FORMAL FEATURES OF APPS





# Apps for 3- to 4-year-olds

#### **Jump Start**

- Unresponsive interface
- A is for Audio, Also and Annoying
- Lots of effort, little reward
- Disconnected character
- Unstructured curriculum
- Lack of transition between literacy and numeracy
- Activity Soup





#### **Super Why!**

- Simple to understand
- Rewarding to master
- Cohesive gameplay
- Characters embedded in gameplay
- Accessible entry points
- Visible progress

# Apps for 5- to 6-year-olds

#### **Eddy's Number Party**

- Way finding
- Progress indicators
- Engaging characters
- Positive and instructive feedback
- Intuitive control schemas
- Visual guidance





#### **Dora Hops into Phonics!**

- Simple entry points
- Simple navigation
- Lack of consequence
- Excessive audio/voiceover
- Lack of reward
- Under utilizing iPad

# Apps for 7- to 8-year-olds

#### **Numbers League**

- Familiar game schema; fails expectations
- Demonstrates instructions with visuals
- Intro and narrative much too text-based
- Just a few screens leading to game play
- Neglects touch-screen capabilities





#### **Math Evolve**

- Menus designed for adults
- Text-only directions and narrative
- Familiar game mechanic with math on top
- Affords practice; with little understanding
- Utilizes the capabilities of touch-screen



#### **Experimental Studies**

- Which game/app features encourage engagement and comprehension?
- Can eBooks utilize these features to improve educational outcomes?

#### Imagination

- Integrated content exists in adult games (e.g., Sid Meier's "Civilization"); why not in children's games?
- We can learn from researching apps
- We all (academia, curriculum specialists, producers, researchers, developers, funders) can work together
- Researchers need creative, and creatives needs researchers!

#### **BEFORE THERE WAS THIS**



#### THERE WAS THIS



#### AND THE PEOPLE WHO ARE MAKING THESE



#### WHICH ARE CONSTANTLY BEING PLAYED BY THESE



#### DID A WHOLE LOT OF THIS



#### MORE THAN WHOLE LOTTA THAT



#### SO GO DO THIS



#### AND YOU'LL LEARN A WHOLE LOT ABOUT HOW THEY PLAY AND LEARN





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