

Developmentally Appropriate Use of iPads in an Early Childhood Program



**Family and Consumer Science Summer Conference
June 18, 2014**

Trevor Hicks-Collins, Chelsea Cassel, & Wei Qiu

Summary of Presentation:

This session will address the needs and potential issues related to using iPads in early childhood programs. Findings of an experimental study of iPad use in preschool classrooms will be reported. Audience will practice on sample educational apps for preschool-age children and be informed of ways to use iPads based on developmentally appropriate practice.

Items in the Handouts:

- PowerPoint slides for presentation
- Evaluations of apps for presentation
- URLs of apps for presentation
- Two circle time lesson plans
 - Musical Instruments
 - The Four Seasons
- Two small group/individual activities using the iPad

Contact Person:

Wei Qiu, Ph.D.
Associate Professor
Weber State University
Department of Child and Family Studies
1301 University Circle
Ogden, UT 84408-1301
Phone: (801) 626-7386
Email: weiqiu@weber.edu

Developmentally Appropriate Use of iPads in an Early Childhood Program

Family and Consumer Science Summer Conference
June 18, 2014

Trevor Hicks, Chelsea Baker, & Wei Qiu,
Department of Child and Family Studies
Weber State University

Why iPads may be used in early childhood programs?



The Digital Age

- About **75%** of U.S. children under 8 years now have access to iPad, video iPod, smartphone, or other tablet device.
- About **40%** own an iPad or similar tablet device in their home.
- Time spent using a mobile device in a typical day was **1:07**.
- Time spent with "traditional" screen media dropped by more than half an hour daily from 2011 to 2013.

Common Sense Media. (October 28, 2013). *Zero to eight: Children's media use in America 2013*. Retrieved from <http://www.commonsensemedia.org/research>

Digital Literacy for Children

- Encompasses both technology and media literacy
- Critical thinking about the use of technology and media
- Early childhood educators have the responsibility of helping children become **appropriate**, **responsible**, and **ethical** digital citizens.

NAEYC, & Fred Rogers Center for Early Learning and Children's Media. (2012). *Joint Position Statement: Technology and interactive media as tools in early childhood programs serving children from birth through age 8*. Washington, DC: NAEYC.

The Constructivist Approach

- Young children are able to construct their knowledge and understanding of the world from a variety of settings.
- The iPad may serve as a unique setting.
 - Multi-touch display, movement, individually based user experience

NAEYC. (2009). *Position statement: DAP in early childhood programs serving children from birth through age 8*. Washington, DC: NAEYC.

Digital Literacy for Teachers

- To improve classroom learning and prepare children for the digital age, it is essential for teachers to have the knowledge and experience to think critically about technology/media:
 - Selection
 - Use
 - Integration
 - Evaluation

NAEYC, & Fred Rogers Center for Early Learning and Children's Media. (2012). *Joint Position Statement: Technology and interactive media as tools in early childhood programs serving children from birth through age 8*. Washington, DC: NAEYC.

Effects of iPad Use in Early Childhood Programs

- <https://www.youtube.com/watch?v=C7HL5wYqAbU>
- <https://www.youtube.com/watch?v=NCOFFwh7Xbl>
- <https://www.youtube.com/watch?v=Ef1K3wYf1cM>
- <https://www.youtube.com/watch?v=rB7C0zvJu0U>

Impact of Interactive Media

- Mixed views
- iPad - an effective technique for teaching children with autism
- Lack of evidence to show negative effects of iPad use in early childhood classrooms on child outcomes

Cardon, T. A. (2012). Teaching caregivers to implement video modeling imitation training via iPad for their children with autism. *Research In Autism Spectrum Disorders*, 6(4), 1389-1400. doi:10.1016/j.rasd.2012.06.002

Jowett, E. L., Moore, D. W., & Anderson, A. A. (2012). Using an iPad-based video modelling package to teach numeracy skills to a child with an autism spectrum disorder. *Developmental Neurorehabilitation*, 15(4), 304-312. doi:10.3109/17518423.2012.682168

Criteria for Choosing a Good iPad App for Children

- Educational apps
- DAP-based content
- Open-ended
- Allow children to explore and create their own pace

iPad Rules For The Classroom

Do's

- Wash hands before and after using the iPad.
- Keep the iPad on the table,
- Follow teacher's instructions
- Obey the time limit.
- Share and take turns with others.
- Treat the iPads with gentle hands
- Turn off the iPad when finished.







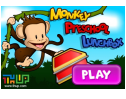

Don'ts



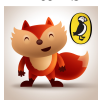




- Do not carry the iPad around.
- No food or liquids by the iPad.
- Do not color on the iPad with markers.
- Do not adjust the volume on the iPad.
- Don't hit or throw the iPad.
- Don't lie on the iPad.
- Don't take the cover off the iPad.






Considerations in Developmentally Appropriate Use of iPads

- Children's age, individual needs, and social and cultural contexts stay as the core considerations.
- If used appropriately, the iPad may be a useful way of enhancing children's development and learning.
- The role of teacher-child interactions or play in the daily curriculum cannot be replaced.

Evaluations of Apps for Presentation

<i>Name of App</i>	<i>Descriptions</i>	<i>Uses</i>
First Words Deluxe 	<p>This app focuses on spelling and phonic awareness. The child is given a scene and the letters to spell a word that pertains to the scene. They just have to drag and drop the letters into the word to complete the task. This game can grow with the child as it can go from three letter words up to ten letter words.</p>	<ul style="list-style-type: none"> • Letter recognition • Spelling • Phonic awareness
Handwriting Without Tears: Wet-Dry-Try Suite 	<p>This app makes handwriting practice fun! Children will learn and practice correct formation habits for writing capitals, numbers, and lowercase letters. The app simulates our Slate Chalkboard and Blackboard with Double Lines and helps children learn handwriting skills in the easiest, most efficient way.</p>	<ul style="list-style-type: none"> • Letter recognition • Number recognition • Upper case/Lower case • Hand writing
Monster at the End of This Book 	<p>This app enhances the classic Sesame Street book with a completely immersive experience that draws children right into the story. Join lovable, furry old Grover as he tries his very hardest to tie down pages and build brick walls— all to keep readers away from the monster at the end of this book.</p>	<ul style="list-style-type: none"> • Phonic awareness • Vocabulary
K12 Read Aloud Classics 	<p>This is a great app that contains many of the classic childhood stories. You can read the stories yourself or have the app read aloud to them for the child to work independently. Each story is accompanied with pictures to help the story unfold.</p>	<ul style="list-style-type: none"> • Phonic awareness • Vocabulary
Letter Quiz 	<p>This app teaches children the alphabet, matching upper case and lower case letters, and the correct way to write the alphabet with the use of a moving dot that guides the child to write out each letter.</p>	<ul style="list-style-type: none"> • Letter recognition • Upper case/Lower case • Teaches the alphabet
Monkey Math School Sunshine 	<p>This is a single player app where the child follows a silly monkey through many challenges like filling in missing numbers, addition, and many other math-related games. There is a reward system that gives the child a prize to put into their virtual aquarium.</p>	<ul style="list-style-type: none"> • Addition/Subtraction • Number sequence • Counting • Pattern recognition • Shape recognition • Writing numbers
Monkey Preschool Lunchbox 	<p>This is a single player app where the child follows a silly monkey through many challenges like counting apples, finding shapes, and many other educational games. There is a reward system that gives the child stickers for every three correct answers. There are many encouraging words along the way as well.</p>	<ul style="list-style-type: none"> • Counting • Shape recognition • Puzzles • Letter recognition • Matching
Paint Sparkles Draw 	<p>This is more of a fun app that is like a virtual coloring book. The child uses their finger to paint pictures. The use of this app for transitions opens up many opportunities to learn.</p>	<ul style="list-style-type: none"> • Circle Time • Transitions • Color awareness

Shape Puzzle 	This is a good puzzle game for younger preschoolers. The child can choose a picture and each picture represents a theme. Then they can complete puzzles that fit into that theme (Elephant in the Jungle). Teachers may use this app for their weekly thematic lessons.	<ul style="list-style-type: none"> • Puzzle • Picture vocabulary • Science (jungle, market, transportation, aquarium, farm, etc.)
Skype for iPad 	This app allows video calls with people who cannot come to school, like one of the students, a fireman, or even a zookeeper. It is also good for group Skyping.	<ul style="list-style-type: none"> • Socializing • Good for special guests that can't be in the class
Who Lives Here? Animal Tails 	The app Who Lives Here? is an exciting new game that lets young children learn the sights, sounds and words for animals from around the world. Kids can have fun matching animals to their environment and interacting with their animations and sounds.	<ul style="list-style-type: none"> • Picture vocabulary • Science • Nature
Toca Doctor 	This is an app where the child is the doctor and they have to perform many tasks to heal the ailment of the virtual patient. This is great for teaching how the body works in a fun way.	<ul style="list-style-type: none"> • Body awareness • Following direction • Problem resolution • Cause/effect
Toca Store 	This app is specifically for multiple players. One child/teacher is the customer and the other is the merchant. It walks through the stocking, shopping, pricing, buying, and bagging processes involved in a store setting and finishes off with giving the customer a receipt.	<ul style="list-style-type: none"> • Understanding buying and selling • Addition • Good for sharing and social Interaction
Fisher-Price: See 'n Say 	Play, laugh & grow with the Fisher-Price® See 'n Say! Give it a spin! This See 'n Say from Fisher-Price brings animals to life with sounds, mini-movies of real animals and fun facts about them. Want to pick a new animal? Shake it up and spin again!	<ul style="list-style-type: none"> • Picture recognition • Science • Nature
写字 	This is a Chinese writing app with all characters taught in kindergarten to 2 nd grade literacy curriculum in China. The child can practice Chinese writing skills and learn about the sequencing of strokes, pronunciation of characters, and combinations of words.	<ul style="list-style-type: none"> • Writing • Vocabulary

Any of these apps can be found through the Apple App Store. To get to the App Store simply tap on the App Store icon  on the iPad and it will take you to the store. Type in the name of the app that you wish to buy or download in the search box . Tap on the app you want. Then tap on the purchase tab  or the free tab  then tap . Some apps are free, others need to be purchased.

URLs of Apps for Presentation

1. First Words Deluxe
<https://itunes.apple.com/us/app/first-words-deluxe/id337462979?mt=8>
2. Handwriting Without Tears: Wet-Dry-Try Suite for Capitals, Numbers & Lowercase
<https://itunes.apple.com/us/app/handwriting-without-tears/id548753732?mt=8>
3. Monster at the End of This Book
<https://itunes.apple.com/us/app/monster-at-end-this-book...starring/id409467802?mt=8>
4. K12 Read Aloud Classics
<https://itunes.apple.com/us/app/k12-read-aloud-classics/id514573334?mt=8>
5. Letter Quiz
<https://itunes.apple.com/us/app/letter-quiz-learn-abcs-write/id331177703?mt=8>
6. Monkey Math School Sunshine
<https://itunes.apple.com/us/app/monkey-math-school-sunshine/id451287325?mt=8>
7. Monkey Preschool Lunchbox
<https://itunes.apple.com/us/app/monkey-preschool-lunchbox/id328205875?mt=8>
8. Paint Sparkles Draw - my first colors HD!
<https://itunes.apple.com/us/app/paint-sparkles-draw-my-first/id435539858?mt=8>
9. Shape Puzzle - Word Learning Game for Kids
<https://itunes.apple.com/us/app/shape-puzzle-word-learning/id392678470?mt=8>
10. Skype for iPad
<https://itunes.apple.com/us/app/skype-for-ipad/id442012681?mt=8>
11. Who Lives Here? ~Animal Tails
<https://itunes.apple.com/us/app/who-lives-here-animal-tails/id690346431?mt=8>
12. Toca Doctor
<https://itunes.apple.com/us/app/toca-doctor/id424209938?mt=8>
13. Toca Store
<https://itunes.apple.com/us/app/toca-store/id442705759?mt=8>
14. Fisher-Price: See 'n Say
<https://itunes.apple.com/us/app/fisher-price-see-n-say/id362142745?mt=8>
15. 写字 (By HeFei Tgwoo Software Co. Ltd.)
<https://itunes.apple.com/gb/app/xie-zi/id454932029?mt=8>

MUSICAL INSTRUMENTS

Children's Interest : Music



Topic to Develop : Musical Instruments

Brainstorm with Children :

- * What kind of instruments do they know?
- * How are instruments played?
- * Where can you find music in the world?
- * What kind of music do they listen to?
- * What instruments do their family members play?

Find A Pathway : What different kinds of instruments are there in the world?

Embark!

Lesson: As the children come to circle, have a song playing that has movements to get the kinds interest. Talk about what music is used for (movies, dancing, relaxing, etc). Pick a few instruments that the children may not already be familiar with, preferably from other countries to teach diversity and show them pictures and/or videos of the instruments being played. Ask the students how they felt when they heard it and what it sounded like to them. Have them try to recreate the sound with their voices. Show a video of an orchestra and explain how each instrument has a different sound but when played together, they make beautiful music. To dismiss, show a picture of one of the new instruments they were introduced to and ask them to name it.

Evaluation and Justification

- * **DAP** – Yes, the activity is on the children's level. It promotes curiosity as well as exploration.
- * **Feasible** – Yes, there are pictures and videos available to show on the iPad.
- * **Multi-ethnic Approach** – Yes, we can discuss different instruments from different areas of the world.
- * **Needs of Individual Children** - Yes, this activity would be interesting to children at all



The Five Selves

Physical – The kids will begin the circle with a dance/movement song which uses their gross/fine motor skills.

Social – The kids will interact with the circle by offering suggestions and knowledge about music and how it made them feel.

Cognitive – The kids will be learning new instrument names, where they come from and how they are played.

Creative – The kids will be asked to try and recreate the noises they heard using their voices.

Emotional – The kids will be asked how the music made them feel and as a group we can discuss how music helps with moods and feelings.

The Four Seasons

Children's Interest : Changing Seasons

Topic to Develop : Differences in Each Season

Brainstorm with Children

- * What are the different seasons?
- * What are their favorite seasons?
- * How do they know the seasons are changing?
- * What do you do during each season?

Find A Pathway : What are the different characteristics of the four seasons?

Embark!

Lesson: Start inviting children to the circle by doing “Once There Was a Snow-man” and asking what season that song is talking about. Have the children look out the window and talk about the weather they see. Discuss the different seasons, their names and descriptions using pictures on the iPad showing various locations with sunny weather, autumn leaves, snow and rainy weather. Let the children share their favorite season. Show a time lapse video on the iPad of a tree going through a year’s worth of changes, ask children what they noticed. For dismissal, show a picture of a specific season to each child, one at a time and have the child tell the name of that season.

Evaluation and Justification

- * **DAP** – Yes, the activity is on the children's level. It promotes curiosity as well as exploration.
- * **Feasible** – Yes, there are pictures and videos available to show on the iPad.
- * **Multi-ethnic Approach** – Yes, we can discuss different areas of the world that experience different seasons or that are the same year round.
- * **Needs of Individual Children** - Yes, this activity would be interesting to children at all levels of social, emotional and cognitive development.

The Five Selves

Physical – The kids will begin the circle with a dance/movement song which uses their gross/fine motor skills.

Social – The kids will interact with the circle by talking about their favorite seasons and answering questions

Cognitive – The kids will be learning about areas of the world where the seasons don't change and those that they do. They will also learn how to distinguish between seasons.

Creative – The kids will think about activities they can do in different weather/seasons.

Emotional – The kids will be sharing their favorite seasons and what they like to do which helps promote their confidence in their opinions.

Small Group and Individual Activities Using the iPad

Child's Need: Social – Sharing and Taking Turns

iPad App: Toca Store

Objective: With teacher guidance, the child will learn to stick to a role (customer or seller) and take turns with another child.

Implementation: Teacher will sit with two children and help facilitate the turns being taken in the activity. For the first two rounds, the teacher will remind the students when it is their turn and when to wait. Each child will get a chance to try each role. For the third round, the teacher will observe to see if the children can follow the turns on their own. The teacher can then leave the children to let them play the game without teacher's assistance and check in from time to time to make sure they are following the rules.

Discussion: Explain to the children that games are more fun if we follow the rules and take turns. Ask them which role they preferred and if they enjoyed it.

Child's Need: Physical – Fine Motor Skills

iPad App: Shape Puzzle

Objective: The child will practice their hand-eye coordination as well as their fine motor skills using their fingers to put puzzles together.

Implementation: Teacher will demonstrate how to put a puzzle together using this app. Then the teacher will allow the child to try it, staying close by to help if they aren't quite ready to do it on their own. As the child gets more comfortable, the teacher can leave them alone to practice their fine motor skills.

Discussion: Ask the child if they enjoyed the activity and if they felt they did a good job. Building their confidence in their fine motor skills is also very important to get them to continue working on it.