Technology and Equity in Early Childhood:

Playing and Learning with Technology

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Playing and Learning with Technology: Overview

- Children, learning & play
- Learning with technology
- Selecting quality affordable tools
- Guiding educators
Quality Early Childhood Education makes a difference:

- Young children can engage in “profoundly cognitive work”
- Exploratory & pretend play is critical
- Playful learning prompts scientific thinking
- Direct instruction narrows learning
- Increased academic focus is problematic
Teachers and Learning

Educators support learning through:

- Authentic, meaningful, hands-on explorations
- Thoughtful intentionality
- Child-centered activities
- Extended play opportunities
- Gentle scaffolding
- Fostering a sense of wonder and desire to explore
Learning with Technology
NAEYC/FRCTechnology Position Statement Implementation

1. Intentional and appropriate use of technology & interactive media is what makes them effective.

2. To be intentional, ECE educators must understand the tools and the implications of their use.

3. As with any learning tool, there should be limits.

4. Infants and toddlers deserve special consideration.

5. Digital citizenship & equitable access is essential.

6. Research & professional development are critical.
NAEYC/FRC Position Statement

Effective tools:

- Empower active & hands-on use
- Give the child some control
- Provide scaffolds for learning
- Facilitate exploration
- Avoid Explicit instruction
NAEYC/FRC Position Statement

When used appropriately:

- Playful, and bring adults & children together in co-engagement
- Support not supplant essential activities
- Extend learning
- Reveal to children
- Help children save, document, revisit, & share
- Support creativity, exploration, pretend & active play
NAEYC/FRC Position Statement

Supports:
- child initiated,
- child directed,
- teacher supported,
- play with digital devices
It’s not just the technology, it’s how you use it.
Using Technology

- Attentive, insightful educators
- Children’s interests & needs
- Intentionally selected tools
- Empowering pedagogy
- Deep, meaningful, playful explorations
What would Dewey Say?

“If we teach today’s students as we taught yesterday’s, we rob them of tomorrow.”
Listen, Empower, Go deep
Playing and Learning with Technology: Microscopes

- Wired, wireless, or affixed
- Manipulative learning tools
- Reveal unseen secrets
- Open ended exploration
- Collaborative tool
What is happening to our class pumpkin?
Playing and Learning with Technology: Microscopes
Playing and Learning with Technology: Digital Cameras
Playing and Learning with Technology: Digital Cameras
Playing and Learning with Technology: Digital Cameras
Playing and Learning with Technology: Digital Cameras
Our Constructed Alphabet

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

Created by the Otter Class of the Early Learning Community at Pacific University © 2015
Playing and Learning with Technology: S2T

- Speak words, see them appear
- Phonemic awareness
- Supports multiple languages
- Motor/memory support
- Speech issues, clarity feedback
- AAC for various disabilities
- Dysgraphia/dyslexia
Mi nombre es Miguel, tengo cinco años, vivo en Oregon, voy a la escuela, mi comida favorita es la pizza.

My name is Miguel, I am five years old, I live in Oregon, I go to school, my favorite food is pizza.
Playing and Learning with Tech: Virtual Manipulatives

Osmo

Osmo Words

Osmo Coding
Coding

- Adventure game
- Multiple puzzles
- Open ended activities
- Combines actions & numbers
- Encourages multiple event sequences
Playing and Learning with Technology: Coding

Hopscotch and Scratch (jr.)

- Coding languages
- Grammar & syntax
- Linear or vertical
- Commands and numbers
- Virtual actions
- Can direct robotic devices
Playing and Learning with Technology: Reviews

App Reviews

- **DNA Play**
  - Age 5
  - Android, iPad, iPhone, iPod Touch, Education, Science and Nature
  - Adorable open-ended genetics app gives kids mutation power.
  - Devices: iPhone, iPad, iPod Touch, iPad, Android, Fire phone, Kindle Fire (2015)

- **Plum's Creaturizer**
  - Age 5
  - Make creatures and take pics outside for fantastic fun.
  - Devices: iPhone, iPad, iPod Touch, iPad, Android (2015)

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News Via Twitter

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Announcements

8/28/2017 When children are at home, they’re under the complete supervision of their parents and other caregivers, so you don’t really need to worry about them too much. However, ensuring their safety outside the home is
Things to Look for in an Educational App:

- Embodies Universal Design
- Utilizes Developmentally Appropriate Features
- Enables Active Engagement
- Scaffolds Adaptive Complexity
- Encourages Revisiting & Sharing
- Models Multiple Diversities
- No Coercive In-app Purchases
- Empowers Exploration & Creativity
- Fosters Thinking & Problem Solving
- Supports Playful Use
Challenges:

1. Reduced or unequal Access to technologies regardless of Race, Gender, Language, SES, Physical Disability.

2. Available access is not always highest quality

3. Content is not always culturally relevant content,

4. Its not just the technology, pedagogical information is also critical

5. Explicit instruction does a disservice
Playing and Learning with Technology: Digital Equity

Opportunities:

1. Improved access to high quality technologies
2. Effective use by educators to foster deep learning
3. Content that is appropriate, inclusive and relevant
4. Opportunities to create new content
For Teachers:
Hold a parent technology evening:
- Share the tools used in classroom
- Model the techniques of scaffolding
- Address concerns and challenges
- Share research

Learning and Pedagogy
Importance of co-viewing at home

Point parents to support resources
Library, review sites
Teach to change our world

Advocate for equity & social justice

Listen to children & empower their deep explorations

Use technology with playful intentionality

Foster active, meaningful learning
It’s not just the technology, it’s how you use it.
It's the things we play with and the people who help us play that make a great difference in our lives. ~Fred Rogers
Playing and Learning
With Technology

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Teachers ask

- What are the objectives?
- Which tools best support objectives?
- How can tools be used appropriately?
- How can we use them intentionally?
- What will tell me they are being effective?
Young children construct understanding through:

- Authentic, appropriate, active, hands-on experiences
- Meaningful connections
- Extended opportunities
- Playful activities
Parent work
Digital equity

Challenges

1. Reduced or unequal Access to ICT regardless of Race, Gender, Language, SES, Physical Disability.
2. Effective use by educators to support learning Not just tool…
3. Access to high quality and culturally relevant content,
4. Opportunities to create new content
5. Access to technology when it is appropriate and high quality, and access to human
6. The new digital divide is limiting tech use
7. Just when those in the know are reducing use, the call is for equity in access. Careful what you wish for. Access is not enough, low quality and didactic
samr, NAEYC, Books, blooms, pink
apps, pads, screen time, warren &
how do children learn
take camera home to use
book bag, and computer check out
open time in school
parent workshops co
Play and Learning in the Digital Age:

When considering using a tool:

- Determine student interest & need
- Envision how & why of use
- Recognize what is appropriate
- Be intentional & deliberate
- Support not supplant essential activities