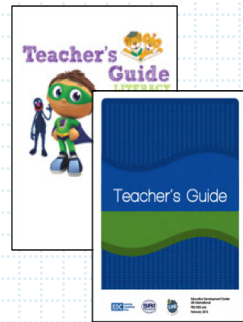


Integrating digital resources into classroom instruction to enhance early mathematics and literacy teaching and learning



NAEYC Conference
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EDC's Center for Children & Technology

Are you...?

- an administrator/director?
- a teacher?
- a researcher?
- other?



Ready to Learn Initiative



U.S. Department of Education



Corporation
for Public
Broadcasting

Programming for 2–8-year-olds



5-Year periods (2004–2009 & 2010–2015)

Background on Literacy 2009 Study



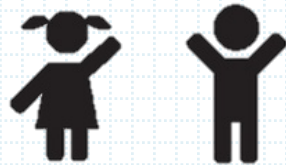
10-week Intervention
80 Classrooms



Treatment Classrooms
(Literacy Intervention)



Comparison Classrooms
(Science Intervention)



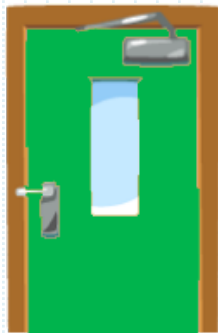
398 Children



Background on Math 2013 Study



10-week Intervention
92 Classrooms



Treatment Classrooms
(Math + Tech Intervention)



Comparison Classrooms
(Tech only Intervention)



Control Classrooms
(Business as Usual)



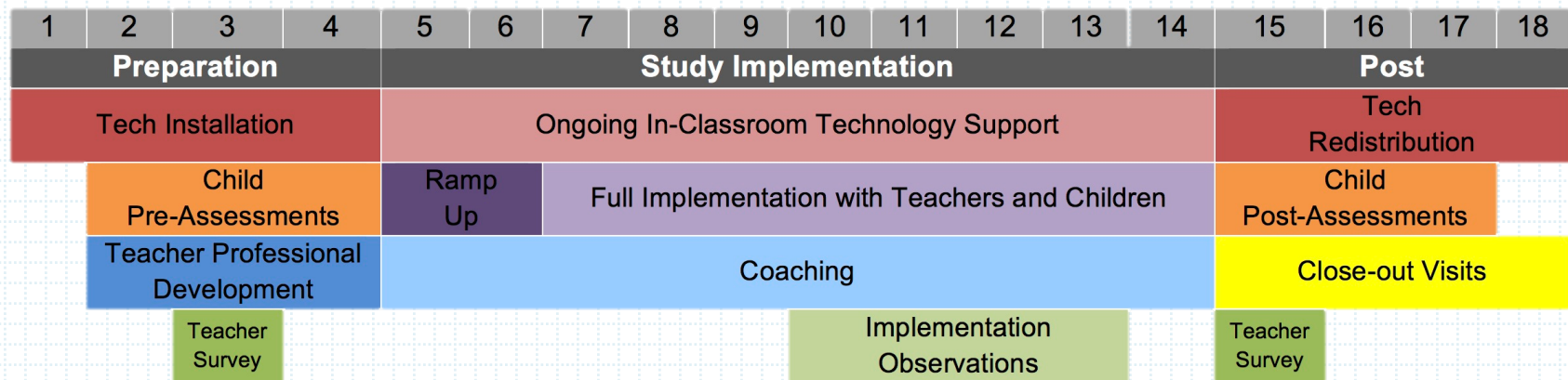
966 Children



Math Study: 3 Conditions

Math & Tech (Treatment)	Tech & Media (Comparison)	Business As Usual (Control)
26 classrooms	30 classrooms	29 classrooms
10-week PBS KIDS Supplement	Math as usual	Math as usual
IWB + laptops	IWB + laptops	Technology as usual
Selected PBS KIDS Videos	Teacher selected	N/A
Selected PBS KIDS Games	Teacher selected	N/A
Hands-on Materials	N/A	N/A
Math + Tech training and coaching	Tech training and coaching	Post hoc PD

Sample Study Timeline



Recommended Schedules

RECOMMENDED

Monday	Tuesday	Wednesday	Thursday	Friday
Warm-Up (5 minutes)	Focused Viewing (20 minutes)	Computer Games (10 minutes for each child)	Focused Viewing (20 minutes)	Computer Games (10 minutes)

Episode
(35 min)

Hands-on
up Activity
(20 min)

Sample Schedule

Monday	Tuesday	Wednesday	Thursday
Video Co-Viewing (25 minutes)	Math Detective Journal (20 minutes)	Math Circle Routine (10 minutes)	Challenge Game Play (25 minutes)
	Easy Game Play (10 minutes)	Guided Reading (15 minutes)	
Computer Center (~10 minutes per pair of children)	Computer Center (~10 minutes per pair of children)	Computer Center (~10 minutes per pair of children)	Computer Center (~10 minutes per pair of children)
	Hands-On Centers (~10 minutes per pair of children)	Hands-On Centers (~10 minutes per pair of children)	Hands-On Centers (~10 minutes per pair of children)

Key Findings

- Technology, media, and digital games can be used as tools to teach and learn literacy and math

Literacy (2009)	Math (2012)
<ul style="list-style-type: none">• Name letters• Recognize sounds associated with those letters• Understand basic concepts about stories and print• Recognize the letters in their own names	<ul style="list-style-type: none">• Counting• Subitizing• Recognizing numerals• Recognizing, composing, and representing shapes• Patterning

Technology in Your PreK Classroom



Tips for Using Tech in PreK Classrooms

- Integrate into existing classroom structures
 - Physical space
 - Schedules & Time



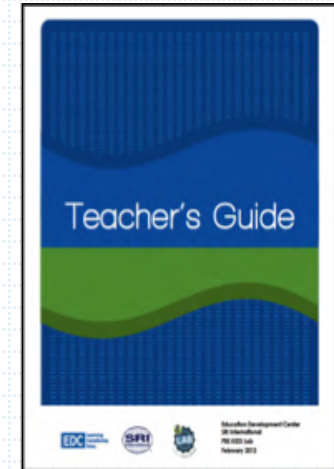
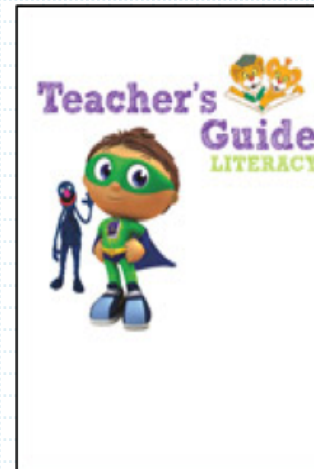
Tips

- Set the stage for using technology and educational media in the classroom
 - Introduce the technology
 - Create rules together
 - Allow children to touch and play
 - Set a tech routine
 - Facilitate the technology experience



Tips

- Find age-appropriate math and literacy content
 - Identify quality resources



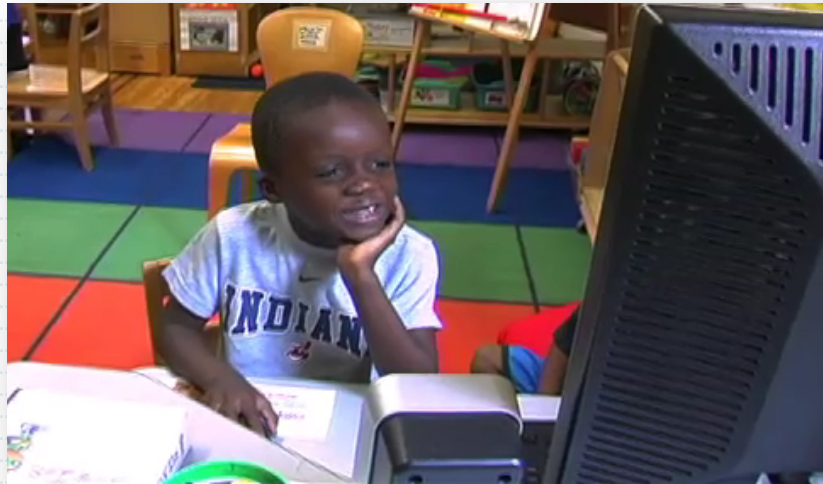
Tips

- Be a technology ambassador
 - Preview and test new technologies
 - Troubleshoot first and then seek support



Tips

- Adult mediation is important!
 - Pause to ask questions
 - Model gameplay and think out loud as you play
- Technology and media are tools and do not replace good teaching!



Tips

- Encourage paired or small group gameplay
 - Model how to ask questions
 - Model how to talk about the game
 - Encourage children to talk to each other



Tips

- Connect digital activities to hands-on activities





Digital Learning Resources for Math & Literacy

- www.cct.edc.org/rtl
- www.pbskids.org/teachers
- www.pbskids.org/lab
- www.pbskids.org
- www.sesamestreet.org
- www.peepandthebigwideworld.org
- www.teachersdomain.org

Questions & Thank you!

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<http://cct.edc.org/rtl>

