

Using a Media-rich Curriculum Supplement to Prepare Low-income Preschoolers for School Success: Practical Lessons from New Research

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TECHNOLOGY FOR CHILDREN



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to prepare low-income preschoolers for
school success:
Practical lessons from new research**



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Context



The U.S. Department of Education’s “Ready to Learn” program provided funds for producers to develop television and related media programming over a 5 year period, with the goal of:

- Supporting programming for 2 – 8 year olds
- Targeting economically disadvantaged communities
- Addressing early literacy skills



Context



- Ready to Learn partners supported an evaluation of the materials developed, and during year four of the five year project an evaluation was undertaken by partnering organizations:
 - Education Development Center, Inc.
 - SRI International
- The evaluation's primary purpose was to measure the impact of the video and related media developed by Ready to Learn funded producers on prekindergarten students' early reading skills

Results



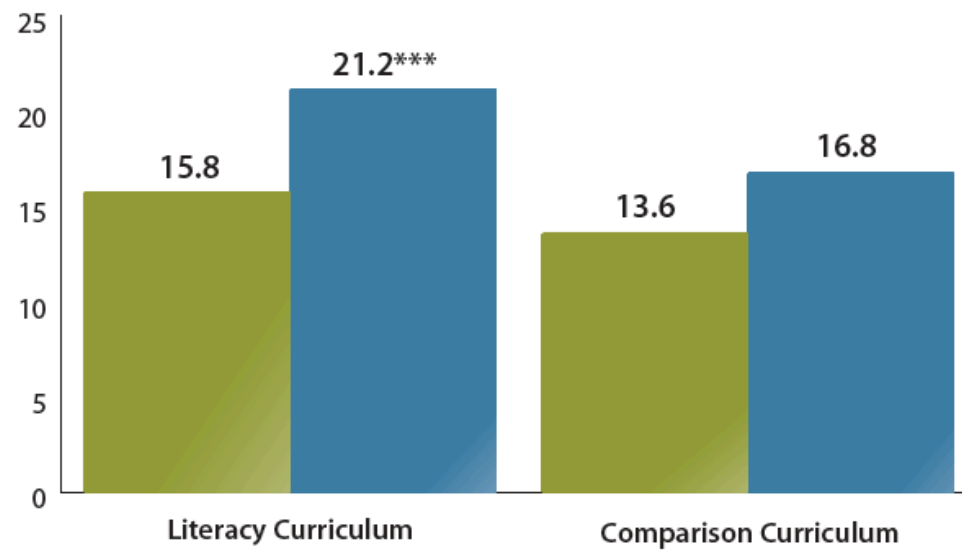
Preschool children who participated in the study's literacy program demonstrated greater growth in early literacy skills than their peers in a non-literacy program. These students were able to:

- Name letters
- Recognize the sounds associated with those letters
- Understand basic concepts about stories and print
- Recognize the letters in their own names

Results



Figure 1. Impacts on Uppercase Letter Recognition (Letter Naming)



*** Difference in posttest scores of literacy condition children, controlling for pretest scores, was greater than that of comparison condition children at $p < .001$.



Pretest

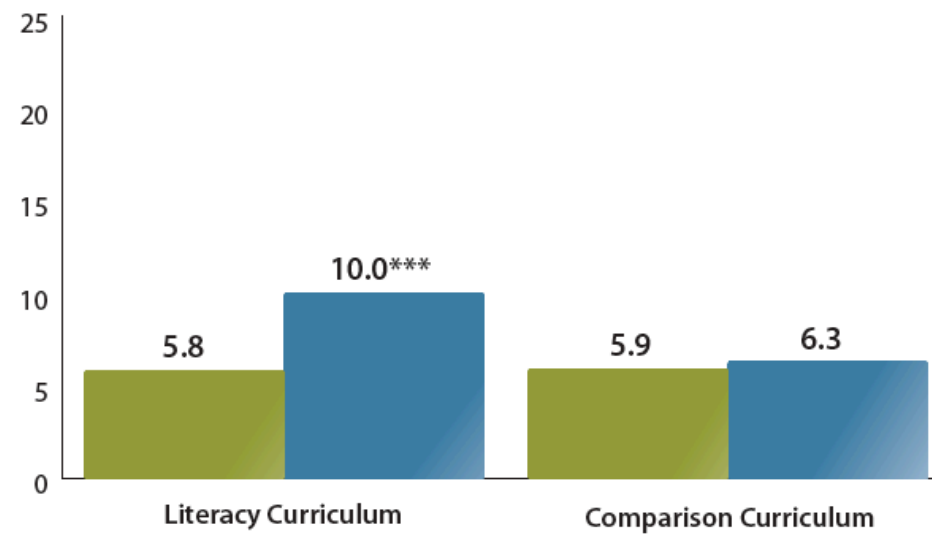


Posttest

Results



Figure 2. Impacts on Letter Sounds



*** Difference in posttest scores of literacy condition children, controlling for pretest scores, was greater than that of comparison condition children at $p < .001$.

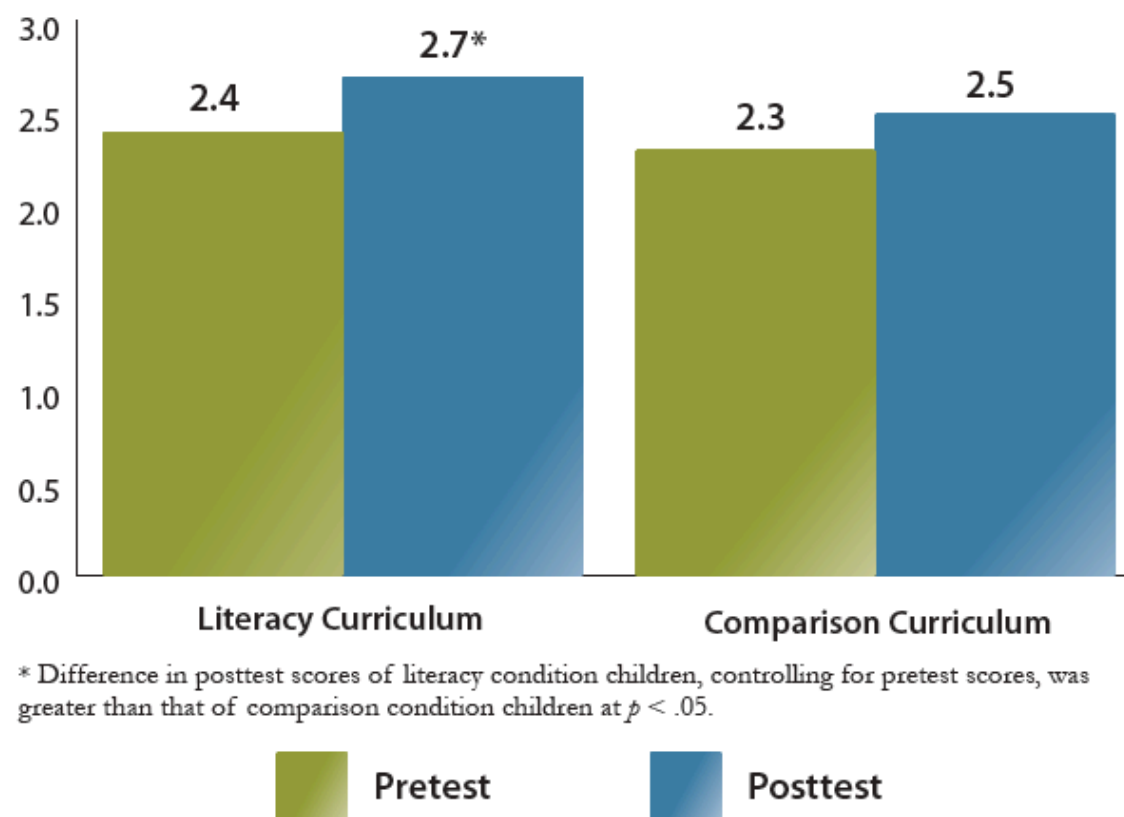
Pretest

Posttest

Results



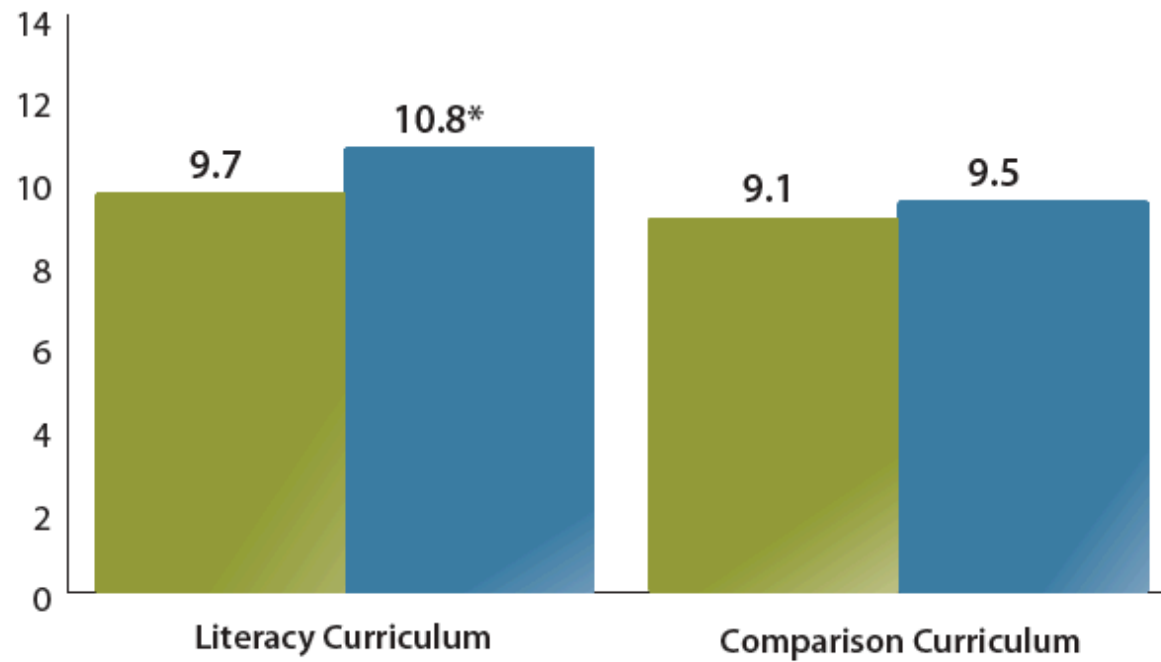
Figure 4. Impacts on Children's Knowledge of Letters in their Name



Results



Figure 3. Impacts on Story and Print Concepts



Study Media



- Media can be tools for teachers to use
- Instructional media included in the study include:
 - PBS videos from *SuperWhy*, *Sesame Street*, *Between the Lions*, *Sid the Science Kid*, *Peep & the Big Wide World*
 - PBS interactive games from the same programs
 - Books
 - Posters
 - Alphabet cards
 - Manipulatives, modeling clay, crayons, etc.

Affordances of Digital Media



1. Multiple ways to show content

- Text
- Images, charts, tables, other static graphics
- Video & animation
- Speech & sounds
- Combinations of the above, such as onscreen text that is highlighted while read

Affordances of Digital Media



2. Interactivity

- Children can manipulate content using the mouse, keyboard, or touch screen
- Children can make choices about what, when, and where to play
- Games can provide immediate feedback
- Games can adjust content based on student performance

Affordances of Media



3. Repetition

- Children can practice skills and actions many times, at a comfortable pace
- Teachers can stop, pause, and replay video and audio
- Redundant or complementary information can be presented in different ways (pictures, sounds, text, etc.)
- Media can provide review or pre-teaching activities

Affordances of Digital Media



4. Modeling

- Video can provide modeling of activities for teachers and children to observe
- Video can demonstrate rich oral language between children and between children & adults.

Affordances of Digital Media



5. Motivation

- Children may find media and technology especially captivating
- Video and audio offer scaffolding for pre-readers
- Children may enjoy the control they have when they decide which games to play, videos to watch, etc.

Affordances of Digital Media



Too much information at once can prevent students from learning.

Media resources should be carefully vetted and facilitated by teachers.

Media don't replace good teaching; they are tools for teachers to apply.

Current Study



- The study included:
 - 398 children who were 4 years old at the time of the study
 - 80 preschool classrooms in 47 centers in New York City and the San Francisco Bay Area
 - A focus on emergent literacy skills
 - The inclusion of a comparison group that received a science intervention
 - A randomized controlled trial study design
 - Teacher and student participation for a 10 week period

Current Study



- The study included:
 - Coaching for teachers that supported use of the media, materials and the integration of these two in support of either science or literacy learning.
 - 4 hours of one-on-one guidance in use of the materials
 - Teacher’s Guide with detailed information on activities
 - On-site weekly or bi-weekly coaching visits (between 7 and 10 visits per site)
 - Regular phone or email support from coaches

Overview



- 30 hours of instruction, game play and viewing
- Designed as a supplement to existing literacy/ science activities
- All materials were provided by EDC/SRI



Focal Concepts



LITERACY

•14 Letter Names & Sounds

O, P, S, N, R, F, T, A, G, L, B, X, I, E

•Concepts of Print

Front cover

Title

Author

Opening a book & turning pages

Direction of print

•Comprehension

Making predictions

Retelling story events

Changing sentences in a story

Components

- Warm-up
- Episode Viewing
- Focused Viewing
- Hands-on Follow-up Activities
- Computer Games
- Quick Review

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 Viewing (35 minutes)	Hands-on Follow- up Activity (20 minutes)		Hands-on Follow- up Activity (20 minutes)	Quick Review (10 minutes)
Hands-on Follow- up Activity (20 minutes)				

Warm Up (5 Minutes)

LITERACY

- Motivate interest and excitement
- Introduce new letters and review previous letters
- Discuss words and concepts that may be unfamiliar to children

Episode Viewing (35 Minutes)

Literacy

- Interactive – children interact with the teacher, the characters, and the screen at predetermined pause points
- New skills are practiced
- Children are socially, cognitively, and physically engaged





Focused Viewing (20 Minutes)

LITERACY

- Letters/sounds of the week and previous letters/sounds are presented in various ways
- Concepts of print are reinforced through animated read-alouds with highlighted texts
 - Opportunities for repeated practice of skills



Hands-On Follow Up Activities (20 Minutes)

LITERACY

- Teacher-facilitated group games and read-alouds
- Child-selected center activities with support from an adult



Computer Games (10 minutes)

Literacy

- Reinforce key concepts
- Children play individually or in pairs with guidance from an adult



Quick Review (5 Minutes)

LITERACY

- Weekly review of focal letters with the Alphabet song and an alphabet chart

What's Next: Two Areas of Interest



Target audience:

Who might most benefit from this kind of integrated media program?

Content areas:

What content areas are best suited for this kind of integrated media program?

What's Next: The New *Ready to Learn* Initiative



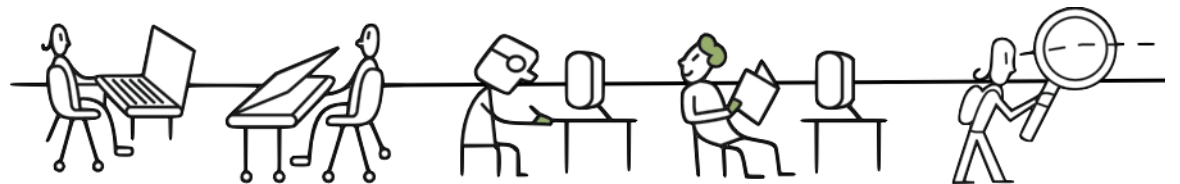
A collaboration between the Corporation for Public Broadcasting (CPB) and the Public Broadcasting Service (PBS).

The project's goal: Improve math and literacy achievement among young children in high-need communities.

The evaluation will include ongoing formative and summative activities conducted by EDC, SRI and WestEd.

Digital Resources for Literacy

- <http://www.cct.edc.org/rtl>
- www.pbskids.org/teachers
- www.pbskids.org
- www.sesamestreet.org
- www.peepandthebigwideworld.org
- www.teachersdomain.org



Thank You

To learn more about using digital media in the classroom
visit us at:

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

