PEDIATRICS PERSPECTIVES

30 Years of Reach Out and Read: Need for a Developmental Perspective

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In 1989, while one of us (B.Z.) was director of the Division of Developmental and Behavioral Pediatrics at Boston City Hospital (now Boston Medical Center) and the other (R.N.) was a fellow, we began thinking about the role of books in the school readiness of vulnerable young children. Four years earlier, the National Institute of Education had dubbed reading aloud "the single most important activity for building the knowledge required for eventual success in reading."[1] But no pediatric textbook mentioned reading aloud, nor did the early editions of *Bright Futures*.

Reach Out and Read (ROR) began with the idea that doctors have a special opportunity to encourage reading aloud in families that are facing the dual challenges of poverty and limited literacy.[2] We recognized the indivisibility of health and education. A recent National Academy of Medicine report highlights the point, showing that the duration of education is a better predictor of health and long life than either cigarette smoking or obesity.[3]

Shifting forward 30 years, ROR, supported by more than 6000 clinics and practices and backed up by numerous peer-reviewed studies,[4–19] now reaches ~25% of low-income children. A policy statement by the American Academy of Pediatrics has identified literacy promotion as an essential component of primary care.[20] And yet, the misconception that ROR is a "book giveaway program" persists, as does the notion that literacy promotion is simply a matter of informing parents about the importance of reading aloud. In this commentary, we aim to correct these errors by grounding the practice of literacy promotion in the science of child development in order to support efficacy and policy.

READING ALOUD VERSUS BOOK SHARING

Many parents, and some professionals, think that reading aloud means a parent pronounces words written in a book while a child quietly listens. That may be true for school-aged children (although active child participation enhances learning at every age),[21] but with infants and toddlers, what we are really talking about is an enjoyable, language- and affect-rich interaction that involves a book and sometimes the words on

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Dr Zuckerman conceptualized the commentary, drafted the initial manuscript, and reviewed and revised the manuscript; Dr Needlman reviewed and revised the manuscript multiple times, including for intellectual content; and both authors approved the final manuscript as submitted and agree to be accountable for all aspects of the work.

DOI: https://doi.org/10.1542/peds.2019-1958

Accepted for publication Oct 24, 2019

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PEDIATRICS (ISSN Numbers: Print, 0031-4005; Online, 1098-4275).

FINANCIAL DISCLOSURE: The authors have indicated they have no financial relationships relevant to this article to disclose.

FUNDING: No external funding

POTENTIAL CONFLICT OF INTEREST: Dr Needlman sits on the board of directors of Reach Out and Read, but he receives no revenue other than travel-cost reimbursements; Dr Zuckerman has indicated he has no potential conflicts of interest to disclose.

To cite: Zuckerman B and Needlman R. 30 Years of Reach Out and Read: Need for a Developmental Perspective. *Pediatrics.* 2020;145(6):e20191958

the page. The infant's role is not merely to listen but to look at the book with interest and reach for, grab, pat, open and close, and often chew on the book, whereas the parent's role is to facilitate the infant's exploration, ask questions, narrate the child's activity, point at the pictures, touch the infant's face and body, and make funny noises. The book functions as a focus of joint attention, but both partners improvise freely and respond to each other as much as to the print and pictures.

BOOK SHARING CHANGES WITH DEVELOPMENT

Reading aloud is different at different developmental stages, and the guidance given to parents needs to vary accordingly. When clinicians understand the unfolding of children's brain-based developmental capabilities and the role of emotions and experiences, they are able to provide the necessary encouragement and structures to enable children to progress through each stage of learning. We designed ROR to begin at the 6-month visit, when joint attention begins and most infants can sit stably with support, focus on novel visual stimuli, and express excitement vocally. These responses inspire parents to see their infants as budding readers, which is a thrilling idea for parents, especially those whose own educational experiences were limited. At this age, picture books that feature children's faces readily elicit joint attention. Clear and bright pictures for pointing and naming are more important than written text. Board books are best because infants can flip the thick pages and safely chew them.

Because naming emerges in the second year, books with pictures of common objects feed the child's insatiable desire to know, "What is that?!"[22] By 18 months, as vocabulary expands, picture books become an ideal vehicle for children to learn words and phrases, which is facilitated by simple texts, rhyming, and alliteration. Question routines using "Where's the [object, person, etc]?" strengthen receptive language, which typically outpaces expressive language by ~6 months.

Starting at ~3 years old or earlier, children begin to comprehend stories that connect with their daily experiences. Reading aloud increasingly becomes a dialog because parents ask more complex questions, not just where and what but also why and what if.[9] Even brief periods of responsive and unhurried reading aloud can bolster early learning and emotional connection.[8] The interpersonal nature of reading aloud is important at every stage; electronic books elicit different, and inferior, learning.[23]

Knowing the payoffs (the why of reading aloud) only benefits parents once they are able to implement the what of developmentally appropriate book sharing. Modeling by a waiting room reader or the clinician may be the most efficient way to teach parents what to do with books. After <1 minute of modeling, the clinician can step back and invite the parent to take over then provide feedback when the parent succeeds in capturing and holding the child's attention.[24] An eminently scalable strategy that we plan on initiating is using emotionally engaging videos in which parents (rather than experts) model and explain how they create age-appropriate connections through picture books.

PUSHING THE ENVELOPE

In the last few years, enthusiasm has been growing for starting literacy promotion at birth, in the NICU, or even prenatally. These efforts need to be understood from a developmental perspective.[25]

At birth, neuromaturation primes infants to focus on human faces and voices, talking, singing, movement, and touch with a preference for people over inanimate objects, including books. Parentese, with its elongated cadences and exaggerated tonality, optimally engages the infant's slower auditory processing speed but may not be elicited by reading words from a page. Pictures of faces and objects are unlikely to hold the attention of newborns; engagement with people is more complex and richer, recruiting more sensory modalities.[26] Text-rich books provide scripts for parents to stimulate well-developed auditory pathways, paired with kinesthetic (parent's breath and rocking) and preferred visual stimulation (parent's mouth and eyes), all of which can also occur without books.

The value to the newborn of reading aloud derives from sensitive and contingent speech, touch, and facial gestures, which are elements of parent-child interaction that we know are beneficial.[27] Similarly, reading aloud in the NICU, like talking, should be to foster parent engagement that is responsive to the infant's state of arousal: present when the infant is receptive and absent when the infant shows signs of overstimulation. ROR has, in recent years, advocated reading aloud with children who have developmental disabilities. Here, too, responsive interpersonal interaction is crucial.[28]

CLINICAL IMPLICATIONS

With ROR entering its fourth decade, it is useful to reflect on the underlying developmental principles. At its heart, ROR is about nurturing language-rich, mutually enjoyable parent-child interactions. The primary care visit affords clinicians the opportunity to teach parents how to create these optimal interactions through brief demonstration and coaching, not just telling. Labeling and dialogic reading are core skills, but the most important message is that if the child is engaged and happy, then whatever

the parent is doing is right: read the child, not the instructions. Books given during well-child visits serve as a potent symbol of the child's intellectual potential, particularly for economically disadvantaged parents, and they are essential for reading aloud. But they are also tools that clinicians can use to assess and shape parent-child interactions, and like all tools, they work best when wielded with knowledge and skill.

ABBREVIATION

ROR: Reach Out and Read

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Pediatrics 2020;145;
DOI: 10.1542/peds.2019-1958 originally published online May 21, 2020;

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DOI: 10.1542/peds.2019-1958 originally published online May 21, 2020;