

The Ready to Learn Initiative: A 360-Degree Surround Approach to Enhancing Early Literacy Skills

Corporation for Public Broadcasting

Objectives of the session: To present the results of a large and impressive body of research, evaluation, and social marketing studies on the development of literacy-based television shows, online games, and instructional materials designed to promote the early literacy skills of traditionally underserved young children and change the literacy-related behaviors of their parents and caregivers.

Overview of the presentation: The Corporation for Public Broadcasting's (CPB) current Ready to Learn (RTL) cooperative agreement with the U.S. Department of Education (2005-2010) springboards off the recommendations of the National Reading Panel and focuses on improving the early literacy skills of low-income children ages 2 to 8. Together, CPB and its partner, PBS, have used a comprehensive 360-degree approach to produce breakthrough scientifically based literacy content for three new television shows (*Super WHY!*, *Martha Speaks*, *The Electric Company*), as well as innovative literacy-based online games and instructional materials for childcare centers and schools. CPB and PBS also are using new distribution platforms and focused community engagement strategies to surround children, parents, caregivers, and teachers with the combined impact of RTL content where they live, learn, and play.

To ensure the quality and efficacy of the materials, CPB assembled a team of highly respected reading and media researchers to design and implement a rigorous research strategy that includes over 50 developmental, formative, and summative research studies. These studies involve testing all content (TV and online) as well as immediate and longer-term effects of the integration of RTL literacy content into preschool and school instructional materials. The initiative also implemented an innovative social marketing research approach to better understand the target audience and design outreach and community engagement activities that would produce change in the literacy-related attitudes, beliefs, and behaviors of these parents and caregivers. This session will focus on what has been learned from this body of research.

Scholarly or scientific significance: CPB's RTL initiative has both impacted and set new standards for designing and using research-based public media to enhance the early literacy skills of underserved children growing up in the digital age.

Structure of the session: The following RTL researchers will address the following topics:

- *Alice Wilder*, *Out of the Blue* – How scientifically based reading research has informed and continues to inform the development of SUPER WHY!
- *Susan Neuman*, University of Michigan – How research has been used to develop and test instructional materials that support the literacy goals of the RTL television programs.
- *Deborah Linebarger*, University of Pennsylvania – What the results of the efficacy studies of the television programs and associated websites indicate about the ability of digital media to improve early literacy skills of low-income children.
- *Shelley Pasnik*, Education Development Center – What the results of the overarching summative evaluation say about RTL's 360-degree approach to improving young children's literacy skills.
- *Margarita Hurtado*, American Institutes for Research – How social marketing research was and can be used to create messages and change literacy-related behaviors.

SUPER WHY! Using Scientifically Based Reading Research to Develop an Award-Winning TV Show that Promotes Literacy

Dr. Alice Wilder
Out of the Blue

Objective: To illustrate how scientifically based reading research is used to develop SUPER WHY!, an award-winning TV show that enhances the early literacy skills of low-income children.

Theoretical Framework: SUPER WHY! is grounded in child development, the formal features of television, and the results of the National Reading Panel on effective, research-supported reading instruction. Every element within SUPER WHY!, has a literacy purpose. The show's goals are to surround children with literacy and use an interactive approach to educational television to enable kids to practice their literacy skills while watching. The 'secret sauce' to ensuring that every episode of the SUPER WHY! series is a show that kids will want to watch and will learn from is in our formative research process.

Methods: SUPER WHY!'s! unique approach to teaching includes the seamless integration of story and literacy content, making each episode interactive to facilitate practice and learning. In each episode of SUPER WHY! there are over 30 opportunities for our audience to practice the literacy skills deemed important by the National Reading Panel. Each story focuses on a 3-6-year-old relatable problem that promotes books as a resource for life. The show models fluency by reading three spreads of the chosen book. Viewers search for super letters which in the end spell out the theme of the story, and search for answers to questions based on characters' motivations. The show also involves games that focus on literacy skills (letter identification, word decoding, word encoding, comprehension/vocabulary/ word reading). The power of words is demonstrated by showing the difference that changing a single word can make to the outcome of the story. At the end of each show, the characters find out the show's theme and apply that theme to their "everyday" socio-emotional problem.

Another major tenant of making quality educational content for television is the theory that attention and comprehension are inextricably intertwined. If viewers do not understand what is being presented, they will not watch. If viewers are not paying attention to what is being presented, they can't understand. This principle makes us work harder to be sure that we are getting both attention and comprehension. Our method for assuring this is our formative research process.

Evaluation of each episode by the target audience (3-6 year olds) occurs two to three times during the production of each show. Our extensive formative research process ensures that we know what our target audience is doing, saying, thinking, and understanding while they watch each finished episode because we talked with them while changes to each episode could still be made. This formative research is conducted in preschools, Head Start programs, day care centers and kindergartens around the New York tri-state area. Scripts are tested at three stages of development: Concept Test, Animatic Test, and Content Analysis.

Concept Test research involves breaking a script down into visual units and taking these pictures to the target audience in a storybook format. During the reading and showing of the story at this phase of a script's cycle, research findings result in the following types of feedback: comprehension, appeal, attention, interactivity, story highlights, game play and learning/literacy element adjustments. Additionally at this phase, one reading researcher and one reading teacher evaluate each script providing input on game play, word choices, literacy strategies, scaffolding, lesson plans, and comprehension. This information is combined in a research report that is presented to the writing team. In this meeting, recommendations are presented, brainstorming occurs and changes are made to the script to meet the

goals and mission of the show and, the writer, and the learning needs of the kids.

Animatic Test research involves getting the reactions of the target audience to a rough black and white storyboard with sound effects presented on the television screen. The idea behind this phase of research is that showing content on television is different than sitting on the floor reading to children using storybooks as manipulatives. At this stage, researchers acquire information about the following: appeal, attention, comprehension, interactivity, and literacy game play. However, at this stage, fewer changes can be made to the overall story. Therefore, changes more likely impact other production issues: formal features, sound effects, music, voice-overs, design and animation. Again, a research report is written and shared with the producers and animators that impacts episode changes.

Content Analysis research is conducted once episodes are complete and changes can no longer be made to the episode being tested. However, the information gathered from this research provides information that will impact the development of episodes that are still in progress. The target audience is videotaped watching the episode. Research assesses children's attention and interactions while watching the program, and comprehension and recall after the viewing. These results are written up and reported to the entire production team. To date, we have researched 65 episodes and worked with approximately 1,300 children, evenly split between high and low socio-economic status and male and female children.

In addition, an independent controlled random assignment efficacy study of SUPER WHY! was conducted in which the treatment group watched up to 20 episodes of the show twice over 8-weeks; the control group did the same with an alternate program.

Data Sources: The efficacy study used a combination of researcher-developed and standardized indicators of language development, alphabet knowledge, phonological and phonemic awareness, and print conventions including IGDI Picture Naming; PALS preK Alphabet Knowledge and Rhyme Awareness; Story and Print Concepts; and the Get Ready to Read! Screener.

Results: The most prominent finding from the efficacy study was that preschool children who watched SUPER WHY! performed significantly better on nearly all program-specific measures and most standardized measures of early reading achievement compared with children who watched an alternative program.

Significance: SUPER WHY! demonstrates that when scientifically based reading research and the principles of child development and active learning are systematically incorporated into the content of a television show, the show's online games, and ancillary products, children, low-income children in particular, gain and strengthen key early literacy skills necessary for reading success.

**The World of Words:
An Embedded Multimedia Vocabulary Intervention for At-Risk Preschoolers**

Susan B. Neuman
University of Michigan

Objectives: To present the results of a study that examined the benefits of an embedded multimedia supplemental curriculum designed to *accelerate* low-income children's word knowledge and conceptual understandings in pre-kindergarten. Known as the World of Words (WOW), vocabulary is taught through richly structured taxonomic categories designed to help children organize and enhance their ability to store ideas efficiently in memory.

Theoretical Framework: Recent studies have demonstrated a critical link between early vocabulary knowledge and successful reading achievement. Unfortunately, there seem to be large gaps in early vocabulary knowledge and growth trajectory (Hart & Risley, 1995) between children from disparate socioeconomic backgrounds. Because vocabulary is so closely related to reading achievement, these gaps threaten to further exacerbate already unacceptable achievement gaps between children from advantaged and disadvantaged backgrounds. Striking differences among economically advantaged and disadvantaged children suggest that we must work toward **accelerating** economically disadvantaged children's language skills if we are to close the gap, **prior** to kindergarten entry.

Methods: Thirty-two (32) Head Start classrooms in high poverty urban areas participated in an 8-month randomized control trial experiment, with the goal of determining how the program might increase word knowledge and initial concepts tied to pre-kindergarten content standards. Classrooms in the treatment condition participated in the 12-minute, 4-day per week program in addition to their traditional curriculum. Classrooms in the control group used an alternative early literacy curriculum (High/Scope Growing Readers) in addition to their traditional curriculum.

Two additional samples were added following the first unit of instruction. The purpose was to examine the extent to which the intervention might close the vocabulary and conceptual knowledge gap for children who were economically disadvantaged compared to children who attended a state pre-K program, or those who were highly advantaged in a University preschool program. Twenty-eight state pre-K classrooms from the same surrounding county as the Head Start participants agreed to participate in the study, with an additional 11 classrooms from the university-based preschools. Approximately half of the Head Start population was African-American, whereas over half of the state pre-k and university-based children were Caucasian. Over a third of the sample from the university was Asian. The majority of children across the sample spoke English at home (96%, with 4% unreported). In total, the sample size included 1284 3-year and 4-year-old children.

Data Sources: Pretests and posttest measures to assess children's expressive vocabulary, rhyming, and alliteration skills included the Woodcock Picture Vocabulary Test, Peabody Picture Vocabulary Test and Get It, Got It, Go! as well as specially designed labeling and categorizing assessments. Specifically, curriculum-based vocabulary was assessed pre- and post units, as well as concept-based properties. Further, at the end of the intervention, inference and generalization tasks were conducted.

Analysis Strategies: Two sets of analyses were conducted. First, effects on child outcomes were estimated through analyses of covariance (for differences between two groups in Unit 1; four groups in Units 2 and 3) with individual posttest score as dependent variable, and group and pretest scores as independent variables.

Next, given the multi-level nature of the data, we also estimated hierarchical linear models with treatment condition at the classroom level. These analyses are more conservative as they recognize that children are

not independent from one another but are clustered within classrooms. HLM models allowed us to partition the variance between children and between classrooms to take this into account. For each outcome, we first determined whether there was statistically significant variability in the outcome between teachers and calculated the intra-class correlation (ICC), the amount of variance in the outcome that existed between children and between classrooms. Next, we estimated child-level effects by including covariates to predict variability between children. Covariates that were not significant were eliminated from the subsequent analysis. Finally, we created a fully conditional model to estimate classroom-level and child-level effects simultaneously. At the classroom level, treatment condition was our variable of interest and was included as the predictor of between-classroom variance. Each control condition (Head Start control; state pre-K; university pre-K) was entered into the model as a dummy-coded variable with children in Head Start treatment classrooms as the comparison.

Results: The results of the experiment, replicated in each unit of instruction, demonstrated significant effects on children's vocabulary and conceptual development. Effect sizes ranged from .8-1.16. Statistically significant differences were reported consistently between the Head Start treatment and control groups. These differences were educationally significant, not only in terms of the size of the effects, which were substantial. Targeted to Head Start early outcome and pre-k standards, they were also educationally-relevant and meaningful for content learning in science, math, and health as well. Given that the control group also used a supplemental curriculum, these results suggest that the words and the instructional design features of WOW were more effective in promoting word knowledge in these critical content areas.

Our use of two additional control groups, one middle-class, the other highly advantaged, however, provided sobering evidence of the stark vocabulary gap between low-income and middle-income children. In contrast to the Head Start children, those in the more advantaged groups knew the content-rich words without any additional instruction. At the same time, the results provide powerful evidence for the effects of quality instruction. Within eight weeks in one case, treatment children essentially closed the gap in words knowledge; within another case, they significantly narrowed the gap, demonstrating their ability to learn and retain these content-specific words.

Scholarly Significance: The findings highlight the promising effects of a vocabulary intervention for preschool children in Head Start classrooms. Children in experimental classrooms learned more words and concepts than those children in the control classrooms. Further, there was evidence of transfer to new words and categories. These results demonstrated the benefits of a rich vocabulary intervention on accelerating word knowledge and improving children's ability to conceptualize. It shows positive evidence for closing the pernicious gap prior to children's school entry.

**Ready to Learn and Early Literacy Skills:
Do Children Living in Poverty Benefit From Using High-Quality Educational Media?**

Dr. Deborah Linebarger
University of Pennsylvania

Objective: To describe the effectiveness of RTL-created media properties and contextualize effects for low-income children: *Super WHY!* (SW); *Between the Lions* (BTL); *PBS KIDS Island* (KI); *Martha Speaks* (MS).

Theoretical framework: To understand whether, how, and why media support learning, it is vital to situate developmental growth within and across multiple contexts. This ecological framework supports testing effects at macro-level and micro-level settings. By adopting this framework, we have been able to elucidate a number of factors that support or inhibit literacy development associated with media. Guiding these studies are two models of learning from media: **Travelling Lens Model, Dual Coding Theory**. The **Travelling Lens Model** asserts that children's attention is elicited while using media. Comprehension of media content drives further attention (Anderson & Lorch). Additional research elaborated this model by demonstrating that a child's attentional decisions while using media are a function of stimulus features (i.e., formal features such as sounds and unusual visual effects); comprehensibility of the content; and viewer disposition. The model predicts that stimuli perceived as "moderately novel, of intermediate complexity, integratable, somewhat regular, partially ordered, and recognizable" (Huston & Wright, 1989, p. 117) should elicit the greatest amounts of interest and attention. Similarly, familiarity, habituation, or perceived incomprehensibility leads to lowered interest and attention. With age and viewing experience, children will continually move towards more cognitively challenging television stimuli. Thus, those stimuli that were once considered incomprehensible will eventually move into the child's "focal lens of maximum interest ... before they are habituated and become old hat" (Huston & Wright, 1989, p. 118).

Dual Coding Theory asserts that media stimuli are complementary, and, as such, the multiple modalities used in presenting these stimuli strengthen children's encoding and subsequent storage and retrieval of specific media content (e.g., Linebarger, 2001; Linebarger et al., 2010; Neuman, 1995; Paivio, 1975). When duplicative information is simultaneously presented via two modalities (i.e. audio, visual content), it can enhance young children's understanding by serving to increase the number of access points or cognitive paths that can be followed to retrieve the information (Paivio, 1975) leading to increased learning (e.g. Linebarger, 2001; Linebarger et al., 2004; Neuman, 1995). If information across modalities is dissimilar, young children will engage in one of two behaviors: 1) attention-shifting between both streams of information with subsequent reductions in learning or 2) choosing one modality at the expense of the other. When program content is dissimilar, children often default to visual content at the expense of the auditory track (i.e., the visual superiority effect). The degree of integration between educational content and the narrative also affects how and what young children learn (Fisch, 2000; 2004). If the educational content is difficult or not well integrated into the story, children will attend to the story at the expense of the content.

Methods: All studies tested effectiveness using [quasi-] experimental manipulations. Random assignment occurred at the individual (SW, MS) or classroom (BTL, KI) levels. The process-product approach linked multiple contextual and child-specific factors to developmental growth over the intervention periods. By documenting a child's daily interactions and experiences with media (i.e., processes) and linking these interactions and experiences to some predetermined change in developmental growth (i.e., products; Carta & Greenwood, 1987), we have developed a clearer picture of what and how to support children living in poverty.

Property	Groups	Intervention	Assessment Schedule
SW	Control – BAU Experimental - SW	<ul style="list-style-type: none"> • 8 weeks • minimum of 2 views/episode 	Pre, middle, post
BTL	Control Treatment – new teachers Maintenance – experienced teachers	<ul style="list-style-type: none"> • 9 months, 16 lessons • New teachers: training and 96 hours of in-class mentoring • Experience teachers: refresher training, 48 hours of in-class mentoring 	Pre, post
MS	Control – BAU Experimental - MS	<ul style="list-style-type: none"> • 4 weeks • 16 episodes, minimum of 1 view/episode 	Pre, post, delayed-post
KI	Control – BAU Treatment – KI	<ul style="list-style-type: none"> • 4 weeks • 4 days/week on KI minimum 	Pre, post

Data sources:

- Program-specific content, appeal, parasocial measures designed for each property.
- Standardized assessments (all) : PALS preK Alphabet Knowledge, Rhyme Awareness, IGDI Picture Naming, Initial Sounds Fluency; Story/Print Concepts (HS FACES); Get Ready to Read! Screener.

Results: Across the studies, clear patterns emerged. Maximal attention and learning occurred when children had a basic familiarity with literacy more broadly. In addition, when children use multiple modalities (e.g., TV plus classroom activities), they also learn targeted content more completely. Finally, all of these findings are either directly related to or mediated by individual and familial characteristics. For instance, children living in poverty do better with media and activities with which they are familiar (consistent with the traveling lens) while their performance with unfamiliar or less frequently used media tends to be poor or less consistent. Therefore, when program content is in the zone where most children are familiar or have had experiences with particular educational content, the learning is quite strong with average effect sizes ranging from .34 to 1.94 (Cohen’s *d*). Across all four media properties, the results are similar and supportive of learning targeted educational material.

Significance: Young children need multiple opportunities for literacy practice across varied formats and contexts. Research suggests that literacy-focused media supplement and occasionally substitute for these opportunities, offering alternative routes to conventional reading success. Children develop cognitive skills processing information in one medium and are able to use these skills when processing content found in other media forms. Comprehension of televised stories at age six predicted comprehension of print stories at age eight (Kendeou et al., 2005) while extended experience with TV narratives supported preschoolers’ picture-book comprehension (Linebarger & Piotrowski, 2009). RTL properties promote this transfer by providing content driven by engaging characters across platforms. Poor families use and value TV more compared to middle-income families and, as a result, learn more from this content.

Results from the Summative Evaluation of the Ready to Learn Initiative

Ms. Shelley Pasnik
Education Development Center

Objective: To present findings from a randomized control study of the impact of Ready to Learn (RTL) media on low-income children's early literacy skills conducted in 80 early childhood education (ECE) centers with a sample of 398 primarily low-income four-year-olds in the San Francisco Bay Area and New York City. (A full report, sample curriculum, video and other support materials are available online: cct.edc.org/rtl)

Theoretical Framework: Synergy of media is a potentially powerful strategy for teaching early literacy skills to young children. A facilitated combination of educational television viewing, online games, off-line activities and curricula, and other resources is more likely to result in children's improved literacy skills than any one of these types of media alone.

Method: The 10-week intervention (literacy) and counter-intervention (science) was based on a facilitated curriculum meant to build young children's literacy foundations through engaged viewing of research-based videos of RTL TV programs, interactive computer games associated with the programs, and hands-on activities. Instructional coaches visited classrooms, providing support, guidance, modeling and coaching to participating teachers.

Teachers in early childhood centers were randomly assigned to implement either the treatment or control intervention. To increase the sensitivity of the experiment to impacts of the intervention and reduce the need for a much larger sample size, we introduced a blocking factor into the random assignment procedure. Each classroom's literacy and language practices were scored using the Early Language and Literacy Classroom Observation (ELLCO; Smith & Dickinson, 2002). Summary scores (high, medium, and low) constructed from the ELLCO scales were used to assign teachers to blocks prior to random assignment of teachers to condition.

Researchers administered early literacy outcome assessments to children from teachers' classrooms in both conditions within four weeks prior to and within four weeks after the completion of the 10-week implementation. Researchers also monitored implementation fidelity during the study through weekly logs completed by the instructional coaches, who interviewed teachers weekly about their implementation.

Intervention Design: The early literacy multimedia literacy intervention was designed to develop four early literacy skills: letter naming, identification of letter sounds and understanding of concepts of story and print. The intervention provided 25 hours of exposure to activities to participating students. Teacher-led activities targeting the four early literacy skills were integrated with digital content produced by Out of the Blue Productions, Sesame Workshop and WGBH associated with *SuperWhy!*, *Sesame Street* and *Between the Lions*. The intervention called for students' repeated viewing of video, playing of online games, and participation in teacher-led activities. To support teachers in implementing the program, instructional coaches with a background in early literacy modeled activities in the teachers' classrooms throughout the 10 weeks.

Past experimental studies have documented an increase in engagement when technology is used in class (Dynarski, et al., 2007). Offering control teachers and students a 10-week intervention with a similar mix of video clips, online games, and teacher-led activities aimed to reduce the risk that results would be attributable to increased engagement alone. The control group program targeted science content and skills, rather than early literacy skills. Producers of the content for the science intervention were WGBH

(*Peep and the Big Wide World*) and Jim Henson Productions (*Sid the Science Kid*). As with the literacy intervention, there were multiple opportunities for repeated practice, promotion of co-viewing, and intensive professional development provided by trained coaches.

Data Sources: The study utilized many instruments, including: Early Language & Literacy Classroom Observation; Letter Name Assessment; PALS Beginning Sound Awareness Assessment; PALS Alphabet Knowledge Assessment; Story and Prints Concepts Assessment; Weekly Classroom Logs; Coaching Logs; Family Questionnaire; and Teacher Questionnaire.

Results: Combining digital literacy content from educational television programming and games with teacher professional development had a positive impact on children's literacy skills. Children who participated in the media-rich literacy curriculum outscored children in the comparison condition on all five measures of early literacy used in the study; four of the five differences were statistically significant. For all measures, the treatment condition average scores were at the upper end of the published developmental ranges for children later defined as successful readers (M. Invernizzi, Sullivan, Meier, & Swank, 2004).

On the PALS Letter Recognition assessment, we found that children in the treatment condition were able to name more letters on average than children in the comparison condition ($p < .001$, Effect Size (ES) = +0.34 standard deviations). Likewise, children in the treatment condition also recognized more letters in their names than did children in the comparison condition ($p = .033$, ES = +0.20). On the PALS Letter Sounds assessment, children in the early literacy condition knew an average of 10.0 letter sounds compared with 6.3 for children in the comparison condition ($p < .001$, ES = +0.55). On the concept-of-print measure, children in the early literacy condition increased their scores 0.5 more than children in the comparison condition ($p = .026$, ES = +0.30). Scores on the PALS Beginning Sound Awareness measure were not significantly different between the early literacy and comparison condition ($p = .116$), although both groups demonstrated growth between the pretest and posttest.

Significance: The study finds that public media, when integrated into an intensive intervention aimed at low-income preschoolers and professional development for their teachers, can have a positive impact on early literacy. The intervention incorporated content that employed multiple media and formats to teach a focused set of skills, provided opportunities for repeated practice through viewing clips multiple times, and supported active viewing through adult facilitation. Each of these features has been investigated in the past and found to be associated with learning in laboratory studies and in the field; our study results show that it is possible to achieve positive impacts on early literacy learning when these different strategies are incorporated into a single multimedia intervention. In this respect, these past findings may serve as important principles to use in designing future interventions using similar types of media and skills.

Promoting Literacy-Related Behaviors Among Low-Income Families Using Social Marketing Principles and Audience Research

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American Institutes for Research

Objective: The PBS KIDS *Raising Readers* campaign promotes early childhood literacy skills among two- to eight-year olds in low-income families through the use of PBS children’s television programming coupled with tailored interventions. It is part of the Department of Education’s Ready to Learn (RTL) national initiative. The purpose of this research was to apply social marketing principles to define effective messaging and outreach and encourage parents and caregivers to engage in everyday activities to support their children’s acquisition of pre-literacy skills. Although, there have been many nationwide social change campaigns in the area of education in the past (e.g., for adult literacy), to our knowledge, this may be one of the earlier focused efforts to develop a community- and parent-centered social marketing effort in the field of education.

Theoretical Framework: Social marketing builds on commercial marketing's conceptual framework regarding consumer behavior, which places consumers at the center of an exchange process where they act mainly out of self-interest to acquire products and services. However, traditional marketing approaches are not sufficient because we are not selling a product or service to consumers who then pay for them. Instead, in social marketing, we are usually selling ideas or behaviors that have no intrinsic monetary value. Exchange theory provides a particularly useful framework for social marketing as it addresses the importance of perceived benefits from adopting a behavior as a key motivator for consumers to “buy into” an idea or new behavior.

For PBS KIDS *Raising Readers*, the social marketing campaign was based on identifying the desires and needs of low-income parents and caregivers regarding their children’s early literacy skills and developing ways to satisfy these. Ultimately, the goal was to create a “surround sound” effect to introduce and reinforce desired behaviors where the audience lives, works and plays. A more traditional approach would have been to design PBS KIDS *Raising Readers* strategies independently and then trying to convince parents to act upon them. In marketing the focus is on talking *to* the *consumer*, rather than talking *about* the *product*.

Methods: Our approach to designing and implementing this social marketing campaign included several steps. The foundation of an effective social marketing strategy is identifying and understanding your target audience. We began by gathering information about what was already known through an environmental scan on consumer perceptions and attitudes regarding reading. We followed this with key informant interviews with representatives from national and community organizations to learn about literacy efforts, identify potential partners and understand the local marketplace. Using commercially available PRIZM marketing data (including demographics, purchasing behaviors and media use), we defined and segmented the target audience and used the data to develop audience profiles, define channels and identify opportunities to reach them where they “live, work and play.” In-home observations and focus groups with parents helped us understand relevant beliefs, attitudes and behaviors. In a series of separate parent focus groups, we tested specific concepts and messaging strategies, which were used by PBS to develop ads and marketing materials.

Results: Audience research provided direction on literacy messaging strategies. Interviews revealed how national and community organizations approach literacy and how they reach families. They all emphasized the importance of building trust with community leaders and the community at large. PRIZM research results, coupled with findings from in-home interviews and focus groups with parents, provided essential information on the specific characteristics of RTL families and RTL family segments. Using PRIZM data local stations localized marketing efforts to zip codes where RTL families where

concentrated. They then used street marketing to take the campaign directly to places where RTL families tend to congregate and may be more receptive to messaging including public transportation, community events, and libraries. PBS KIDS *Raising Readers* Corners at local libraries were later developed partly based on this experience. Audience testing of messages and ads was particularly important to determine how exactly these messages could be translated into public television ads, billboards and radio public service announcements. Among key messaging elements found were the importance of speaking directly to parents, maintaining unity of time and place, and modeling the desired behaviors regarding everyday literacy fostering activities with their children.

Our research showed that messages need to:

- Relate to parents' desire to help their children succeed in life
- Explain how simple behaviors (rhyming, word games) can help a child's reading readiness.
- Show how these activities can fit into their everyday lives
- Emphasize that these activities are ways to have fun with their children

Consequently, the campaign slogan became *Anytime is Learning Time*. Primary messages were modified from readiness for school to readiness for life, from asking parents to be their child's first teacher to asking parents to help their children succeed in life, and from asking them to engage in "special literacy activities" to asking them to engage everyday activities. Audience research also indicated that local PBS stations are trusted sources of programming for their children, and trusted sources of information. These findings support that PBS is an appropriate channel for these messages.

Significance: Our audience research shows how social marketing can be used to communicate effectively with low-income parents and caregivers about their role in fostering their children's pre-literacy skills. Audience-based research is essential to developing and implementing tailored messaging strategies that resonate with parents' and caregivers' realities using trusted and accessible channels. Instead of using traditional messaging, which relies on telling parents what to do and why *we* think they should do it, we developed messaging based on parents' expressed knowledge, attitudes, and beliefs about child literacy. A social marketing approach to education campaigns is particularly useful with hard-to-reach populations, such as this one, where many of our assumptions about their wants and needs may be erroneous. By defining easy everyday activities that parents and caregivers can use to promote their child's literacy skills, this campaign sought to contribute to the decrease of the current literacy gap between young children from lower-income families and children in middle or high income families.