

Reach Out and Read: An Effective Early Literacy Program and Why It Should Come to San Bernardino County

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Introduction

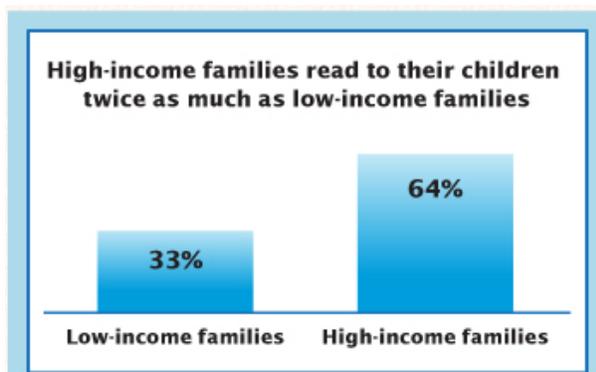
Despite changes in recent years, a socioeconomic gap still exists between the middle class and those living in the poverty class. Although many factors contribute to this socioeconomic gap, one of the most fundamental issue remains the difference in education and opportunity. Research has shown that those living in poverty are more likely to have poor economic potential which has been linked to poor school performance as a child. Children in poverty are more likely to have learning and reading problems in school than those in the middle class population. A vicious poverty cycle exists where those raised in poverty, do poorly in school resulting in poor economic potential, poor health knowledge, and continuing to live in poverty for them and their children. Promoting early literacy in children during the critical development period has been proven to improve language acquisition, improve reading skills, and improve school performances. Early literacy in children is essential part of brain and language development yet little has been done to promote it to children before they enter school.

Problem Statement

There have been multiple studies showing the benefit of promoting early literacy, including support by the American Academy of Pediatrics but it still remains a large issue here in the United States. More than 1 in 3 American children start kindergarten without the language skills they need to learn to read. Reading efficiency by the time of school initiation has been linked to reading proficiency in elementary school, yet many start school without sufficiency reading skills and this continues through elementary school. Reading proficiency by the third grade is the most important predictor of high school graduation and career success and yet by the third grade 2/3 of children in the US each year fail to develop reading proficiency by the end of the third grade 80% of children living below poverty fail to develop reading proficiency by the third grade. Data shows that reading skills are still far below expectation in the United States.

Furthermore, children from low-income families have significant learning disadvantage, even before early preschool interventions. Children living under poverty hear fewer words, roughly 30 million fewer words and know fewer words by 3 years of age than their peers. Additionally they have poorer print environment. Studies show intelligence and school performances can be linked to the amount of literature found in the house. Children in low income homes have fewer literacy resources within the home and less access to reading materials such as books. Due to poor literacy environment at home as a child, they are more at risk for reading problems and develop poor reading skills in childhood. Poor reading skills in childhood has been linked with poor reading skills in adulthood. Improving reading skills in children can improve their skills in adulthood.

There are several reasons why parents are unable to read to their children. Lack resources to buy new books, lack of transportation to libraries, and busy demands of work and other obligation do not allow efficient time for parents to read to their children. Additional if parents are not read to as children, they do not realize the value of reading to their children and thus are less likely to read to their own children. Parents in low income houses also may not have the reading skills to read to their children.



Supporting Data

Studies show that early literacy has a direct effect on future reading skills and language acquisition. Introducing books early in child development will further improve their school readiness for reading and language development. Cognitive and linguistic differences are significant in children exposed to books early by age 3 years old compared to their peers who had little to no exposure to books before age three. Sixty percent of the variance in vocabulary in children at 8-9 years of age has been attributed to their exposure to language before age three. This can be partly attributed to the physical changes seen with reading at an early age. A recent study published in the journal Pediatrics shows the impact early literacy has physically on the brain structure. Studies shows children exposed to books at home showed significantly greater activation of the left hemisphere of the brain on MRI. The left hemisphere of the brain is associated with integrating sound and then visual stimulation and language. Left hemisphere active when older children read individually and when younger children are hearing stories. Studies shows active activation of the left brain while children's are being read too. This may attribute to why children who are read to early have easier language acquisition.

Studies have shown that early literacy plays a crucial role in language develop and readiness to learn in school, which will impact their reading skills throughout high school and adulthood. Critical language develop occurs early between 6 months to 3 years and thus it is crucial to reach out the children during this crucial learning period. Studies have shown reading with children in their infancy is associated with higher language skills at school entry, Literacy skills at school entry predict later reading success, higher childhood literacy acquisition, and increased interest in reading.

Suggested Solutions

The Reach Out and Read program has been shown to be effective model for early literacy. Reach Out and Read (ROR) is the most widely studied and disseminated model of literacy promotion. The mission of the reach out and read program is to prepares America's youngest children to succeed in school by partnering with doctors to prescribe books and encourage families to read together. The program works with pediatricians to provides exceptionally low cost books so they may be given to patients at every well child check health visit to promote early literacy. The goal of the program is to promote reading and language before child enters preschool and provide equal access to ensure a rich print environment to all children. The Reach Out and Read program has successfully been integrated in more than 5,000 pediatric primary care sites and serves more than 4.4 million children in the United States.

In addition to providing free books to patient, the program incorporated into the well child visits also allows physician to observe and document a child's language development. During visits, providers can observe patients language skills and parent-child interactions, provide advice to parents about the importance of reading aloud, provide guidance around language, development, and daily routines, and counsel parents about specific book-related strategies.

Conclusions

Research has shown that the Reach out and Read program works. Parents served by the Reach Out and Read program are up to four times more likely to read aloud to their children. During the preschool years, children served by the Reach Out and Read program score three to six months ahead of their peers not in the program on vocabulary tests. Low income children who participated in the ROR program had significantly better language development by the age of 24 months compared with the control group. Studies show a 6-month developmental increase in receptive language skills in the program and larger expressive vocabulary size was evident by 18 to 25 months old of age in children within the reach out and read program compared to the control group who were not involved with the program. Being involved with the program also had additional benefits such as reduced infant passive electronic media exposure due to more reading.

Reach Out and Read is distinct from other interventions in that it has been widely studied and researched. Since 1991, the Reach Out and Read model has been studied for the effectiveness of the program on language and development. Research has shown the efficacy of the Reach Out and Read model more so than any other psychosocial intervention in general pediatrics.

Funding has been the largest barrier to establishing a Reach out and Read program in a majority of pediatric practice. In addition to funding, a dedicated coordinator needs to be in place to run the program. San Bernardino County has one of the largest poverty rate in the country with 31% of families living below the poverty line. Children of San Bernardino County are at risk for poor school performance and intervention should be in place for areas with higher level of low income population. The Reach Out and Read program is an essential program to incorporate to children in the San Bernardino community to promote language and early literacy so they may be school ready from the start. Through the First 5 of San Bernardino County, an effective and stable program can be incorporated through practices caring for children all over San Bernardino County. In the long run, the Reach Out and Read Program is a cost effective program. Through the program, books for pediatric patients are heavily discounted and sorted by age appropriateness. The cost for one child to be involved with the program from age 6 months through 6 years old would amount to \$30.25 for the child. Considering the demanding cost that poverty has government aid, this is a very cost effective method to promote all of the advantages of early literacy.

TABLE 2. Outcome Measures*

	Intervention (n = 49)	Comparison (n = 73)	P†
Parent-child reading			
Days/wk reads	4.6 (2.3)	3.7 (2.5)	.04
Children's books	28.5 (21.3)	23.4 (20.7)	.18
StimQ-READ	12.7 (4.1)	11.8 (4.5)	.28
Language development			
Receptive vocabulary‡	94.5 (12.7)	84.8 (15.2)	<.001
Expressive vocabulary§	84.3 (12.9)	81.6 (11.5)	.23

* Data are presented as mean (SD) or percent.

† P value based on t test.

‡ Receptive One-Word Picture Vocabulary Test.

§ Expressive One-Word Picture Vocabulary Test-Revised.

TABLE 3. Language Scores From MacArthur Communication and Development Inventories (Short Form) Modified Version at Follow-up ($n = 150$)

	Control ($n = 75$)	Intervention ($n = 75$)	<i>P</i>
Receptive Vocabulary 100 words	39.3 (2.7)**	51.0 (3.0)**	.004**
Receptive vocabulary (13–17 mo) ($n = 62$)	40.5 (3.7)	45.7 (4.4)	.37
Receptive vocabulary (18–25 mo) ($n = 88$)	38.3 (3.8)**	54.8 (4.1)**	.004**
Receptive Vocabulary 50 words in books	17.6 (1.3)**	23.4 (1.5)**	.008**
Receptive vocabulary (13–17 mo) ($n = 62$)	18.0 (1.7)	19.9 (2.2)	.48
Receptive vocabulary (18–25 mo) ($n = 88$)	17.4 (1.9)**	25.3 (2.1)**	.006**
Receptive Vocabulary 50 wds not in books	21.6 (1.4)**	28.0 (1.6)**	.003**
Receptive vocabulary (13–17 mo) ($n = 62$)	22.6 (2.2)	25.8 (2.3)	.31
Receptive vocabulary (18–25 mo) ($n = 88$)	21.0 (1.9)**	29.5 (2.1)**	.004**
Expressive Vocabulary 100 words	15.9 (2.3)	22.1 (3.1)	.11
Expressive vocabulary (13–17 mo) ($n = 62$)	13.5 (2.9)	7.9 (1.7)	.10
Expressive vocabulary (18–25 mo) ($n = 88$)	17.5 (3.3)*	32.1 (4.6)*	.01*
Expressive Vocabulary 50 words in books	7.2 (1.1)	10.3 (1.5)	.10
Expressive vocabulary (13–17 mo) ($n = 62$)	6.0 (1.4)	3.4 (.9)	.13
Expressive vocabulary (18–25 mo) ($n = 88$)	8.0 (1.6)**	15.3 (2.3)**	.01**
Expressive vocabulary 50 wds not in books	8.7 (1.2)	11.8 (1.6)	.13
Expressive vocabulary (13–17 mo) ($n = 62$)	7.6 (1.5)	4.5 (.9)	.10
Expressive vocabulary (18–25 mo) ($n = 88$)	9.5 (1.7)**	16.9 (2.4)**	.01**

* $P < .05$. ** $P < .01$. *** $P < .001$. Two-sample *t* tests with equal variance (mean, SE).

Summary

Children who receive early literacy are most likely to succeed in school and in life. By making children school ready before they enter school at age 4 or 5 we can ensure their language is effectively appropriate before starting preschool. The Reach Out and Read Program is a thoroughly studied, evidence based program that has been incorporated in over 5,000 practices in the United States. Multiple studies have shown the impact of these program on language and vocabulary development compared to children who are not involved in the program. Those living in poverty would benefit the most from this program as they are already placed at a disadvantage from poor print environment and less likely to know the importance of reading out loud and reading to children early. San Bernardino County has one of highest rate of poverty in California. Incorporating an early literacy program can help allow children to be as school ready and ready to learn language compared to those in middle class families. Addition reading out loud with help with brain development and nourish a parent child relationship. It is a cost effective, well studied and effective program that should be incorporated into San Bernardino County. Investing in the future with children will have the highest yield of outcome for the future.

Sources:

- 1) Zukerman et al. Double Jeopardy: the impact of poverty on early child development. *Pediatric*. 1988, 35:1227-1240.
- 2) Wells et al. Preschool literacy-related activities and success in school. *Literacy, Language, and Learning*. Cambridge University Press. New York, NY. 1985: 229-255.
- 3) Literacy Promotion: An Essential Component of Primary Care Pediatrics. *Pediatrics*. 10: 1542. 2014-1384

