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Emergent Literacy Coaching Programs

Evidence Review Findings: Effective / Roadmap Strategy



Emergent literacy coaching programs promote nurturing and responsive child-parent relationships by bolstering parent-child conversational turns, improving parental speech quantity and quality, and increasing child-initiated conversations. These programs also improve parental knowledge of early childhood development and positive parenting. States can support emergent literacy coaching programs by partnering with community organizations that implement these programs. The current evidence base does not provide clear guidance on the funding type or best method for states to support emergent literacy coaching programs.

Emergent literacy coaching programs provide education and training to parents on how to promote their children's emergent literacy skills, which are defined as the skillset infants and toddlers need to develop before they can learn to read and write effectively in the future. These programs focus on increasing conversational turns—or interactive back-and-forth talk—between parents and children, improving the quantity and quality of parental speech during interactions, and increasing child-initiated conversations. Additionally, parents who participate in emergent literacy programs may gain knowledge of early childhood development and demonstrate more positive parenting skills during play.

States can support emergent literacy coaching programs by funding programs directly or partnering with community organizations that implement these programs. The current evidence base does not provide clear guidance for how states can best support emergent literacy coaching programs, and therefore, these programs are classified as a strategy—rather than a policy—for improving outcomes in the prenatal-to-3 period.

Decades of research in the field of child development have made clear the conditions necessary for young children and their families to thrive.¹ These conditions are represented by our eight policy goals, shown in Table 1. The goals positively impacted by emergent literacy coaching programs are indicated with a filled circle, and the goals theoretically aligned (but without evidence of effectiveness from strong causal studies) are indicated with an unfilled circle.

Table 1: Impacts of Emergent Literacy Coaching Programs on Policy Goals

Positive Impact	Policy Goal	Overall Findings
	Access to Needed Services	(Policy goal outside the scope of this review)
	Parents' Ability to Work	(Policy goal outside the scope of this review)
	Sufficient Household Resources	(Policy goal outside the scope of this review)
	Healthy and Equitable Births	(Policy goal outside the scope of this review)
	Parental Health and Emotional Wellbeing	(Policy goal outside the scope of this review)
	Nurturing and Responsive Child-Parent Relationships	Mostly positive impacts, on conversational turns, child-initiated conversations, parental language quality, knowledge of child development, and positive parenting
	Nurturing and Responsive Child Care in Safe Settings	(Policy goal outside the scope of this review)
	Optimal Child Health and Development	No strong causal studies identified for this goal

What Are Emergent Literacy Coaching Programs?

Emergent literacy skills refer to those skills that infants and toddlers need to develop before they can learn to read and write effectively, including expanding vocabulary, print knowledge, and understanding letter-sound connections (i.e., phonological awareness).⁸⁻¹¹ Research indicates that emergent literacy skills play a crucial role in child language and literacy development and are critical for school readiness.^{12,13}

Emergent literacy coaching programs provide parents with education and training on how to increase conversational turns with their children, how to improve the quantity and quality of their speech at home, and how to encourage child-initiated conversations. Behavioral neuroscience shows that conversational turns and rich home language environments during the birth-to-3 period can activate brain development in regions responsible for language learning, which motivates children to initiate conversations and further expand their vocabulary, develop emotion regulation skills, and prepare them ready for school.²⁻⁷

This evidence review focuses on two programs, (1) Language Environment Analysis (LENA) Start and (2) Tune In, Talk More, Take Turns (3Ts)–Home Visiting,^{14,15} because both specifically focus on coaching

parents' knowledge and skills to promote emergent literacy during the birth-to-3 period and have been evaluated by rigorous randomized controlled trials (RCTs).

Additional comprehensive parent education programs also exist (e.g., Play and Learning Strategies). However, these programs focus on promoting overall early relational health rather than specifically promoting emergent literacy. This evidence review does not focus on these programs; however, they are evaluated in our review of Evidence-Based Home Visiting Programs.

LENA Start helps parents increase conversational turns with their children during the first few years of life.¹⁴ During the program, families use LENA technology, a speech tracking device,¹ to measure conversational turns, parent speech (i.e., the number of words spoken by the parent directly to the child and around the child), and child speech (i.e., the number of vocalizations initiated by the child).

LENA Start includes 10 weekly coaching sessions that can be delivered either virtually or in person, usually in a group setting.¹⁴ The coach and families explore the weekly data provided by the LENA device, discuss strategies to increase conversational turns at home, and share personal experiences to create a sense of community. Since LENA Start was launched in 2015, approximately 75 organizations have implemented the program, including school districts, libraries, and community-based nonprofits. To date, more than 13,000 families have been coached through LENA Start.¹⁴

3Ts-Home Visiting was developed by the TMW Center for Early Learning + Public Health at the University of Chicago (formerly the Thirty Million Words Institute).¹⁶ 3Ts-Home Visiting includes 12 coaching sessions, all of which take place every other week in the home.¹⁵ Throughout the program, home visitors guide parents through a series of modules that teach parents how to create rich language environments and encourage children to participate in conversations. Each module highlights one topic, such as how to use open-minded questions to engage children in conversations. All modules focus on promoting emergent literacy skills.

The program also offers booster sessions after parents have completed the first 12 sessions, with similar training components, to help parents refresh their skills. The 3Ts-Home Visiting program was developed and piloted in 2015.¹⁷ By 2024, 3Ts interventions (beyond just the Home Visiting program) have reached 15,000 families across the nation.¹⁸

Who Is Affected by Emergent Literacy Coaching Programs?

Both LENA Start and 3Ts-Home Visiting coaching programs are designed for families with young children. LENA Start targets families with infants, toddlers and sometimes, preschoolers. All parents with children from birth to age 3 are eligible to participate, if the families are already a part of an organization (e.g., school district) that implements LENA Start.

¹ This device is referred to as a “talk pedometer”. It is a small recorder that children can wear for a day to capture their language environment. After a full day recording, the audio file can be uploaded to a LENA cloud processing system that analyzes adult speech, child speech, and conversational turns. <https://www.lena.org/technology/>

Families who participate in the 3Ts-Home Visiting program are often recruited from local child care centers, libraries, health clinics, and other community organizations that target families with low incomes. Research studies of 3Ts-Home Visiting program focus on families at or below 200% of the federal poverty level, but it is unclear whether this program targets broader populations.

What Are the Funding Options for Emergent Literacy Coaching Programs?

Although no states actively support emergent literacy coaching programs for parents, states can leverage education, early childhood, and child health funds to support these programs. Organizations interested in implementing LENA Start are encouraged to develop community partnerships and seek private and public funding, with the guidance and support of LENA.¹⁹ In many cases, local organizations have funded LENA Start by securing philanthropic investments.

To date, only one state agency has piloted LENA Start by partnering with local parish school boards for implementation.²⁰ In partnership with the Jefferson Parish School District, the Louisiana Department of Education (LDOE) adopted LENA Start in 2021. After reaching 100 families through the program, LDOE transferred the LENA Start contract to another parish school district to continue serving more families in the state of Louisiana. Organizations outside of state agencies can also implement LENA Start. Land-grant universities (e.g., educational institutes affiliated with the university, extension offices), school districts, public libraries, and children's hospitals are all key partners in implementing LENA Start in communities.²¹

The 3Ts-Home Visiting program is supported primarily by private foundations.²² In 2014, the TMW Center for Early Learning + Public Health received a grant to conduct a 5-year study of the 3Ts-Home Visiting program. Building upon the initial positive impact of the program, a second grant was awarded to the TMW Center to launch the "Any Time is 3Ts Time" nationwide multimedia campaign in 2019 with the goal to increase parental awareness of emergent literacy and to promote 3Ts resources in broader communities.³⁶

Why Should Emergent Literacy Coaching Programs Be Expected to Impact the Prenatal-to-3 Period?

Emergent literacy coaching programs train parents with the aim to improve children's developmental outcomes by promoting conversational turns, surrounding children with a rich language environment, and helping children learn to initiate conversation.²⁻⁷ These coaching programs enhance parental knowledge of early childhood development and increase their emergent literacy awareness.^c Throughout the coaching sessions, parents develop skills to engage children in conversations, using a wide range of words and sentences to create a rich language environment for children.^{14,15}

Parent-child conversations and rich language environment during birth-to-3 period can activate brain development in regions responsible for language learning and motivate children to initiate conversations themselves.³⁻⁶ Subsequently, children develop language and literacy skills and build knowledge of the world through talking and interacting with their parents.

What Impacts Do Emergent Literacy Coaching Programs Have, and for Whom?

Theoretically, emergent literacy coaching programs can improve outcomes related to nurturing and responsive child-parent relationships and optimal child health and development. The current evidence base draws from the LENA Start and 3Ts-Home Visiting programs, which are the only two programs evaluated through rigorous RCTs to examine program effects specific to emergent literacy skills in the birth-to-3 population.

The research discussed here meets our standards of evidence for being methodologically strong and allowing for causal inference, unless otherwise noted. Each strong causal study reviewed has been assigned a letter, and a complete list of causal studies can be found at the end of this review, along with more details about our standards of evidence and review method. The findings from each strong causal study reviewed align with one of our eight policy goals from Table 1.

The Evidence of Effectiveness table (Table 2) displays the findings associated with LENA Start and 3Ts-Home Visiting (beneficial, null,ⁱⁱ or detrimental) for each of the strong studies (A through C) in the causal studies reference list. For each indicator, a study is categorized based on findings for the overall study population; subgroup findings are discussed in the narrative. Table 2 also includes our conclusions about the overall impact on each studied policy goal. The assessment of the overall impact for each studied policy goal weighs the timing of publication and relative strength of each study, as well as the size and direction of all measured indicators.

The Evidence of Effectiveness table is focused on studies that assess outcomes in the prenatal-to-3 period. One RCT study examined the effectiveness of LENA Start and used an infant sub-sample from the Philadelphia Human Development Longitudinal Study.^A Over 200 families participated in the study. The LENA Start intervention took place when children were 9 to 12 months old.

Two RCT studies examined the effectiveness of 3Ts-Home Visiting and recruited families with lower incomes (i.e., < 200 % federal poverty level) from Chicago, Illinois.^{B,C} Data were collected from 2014-2017. The 3Ts-Home Visiting intervention took place when children were 14 to 20 months old. One RCT study focuses on the indicators collected at 20 months.^B The other RCT study focuses on the indicators collected at 38 months.^C

Of the three causal studies included in this review, none examined how outcomes differed by race or ethnicity (beyond simply presenting summary statistics or controlling for race/ethnicity). A rigorous evaluation of a policy's effectiveness should consider whether the policy has equitable impacts and should assess the extent to which a policy reduces or exacerbates pre-existing disparities in economic and social wellbeing.

ⁱⁱ An impact is considered statistically significant if $p \leq 0.05$. Results with p -values above this threshold are considered null or nonsignificant.

Table 2: Evidence of Effectiveness for Emergent Literacy Coaching Programs by Policy Goal

Policy Goal	Indicator	Beneficial Impacts	Null Impacts	Detrimental Impacts	Overall Impact on Goal
Nurturing and Responsive Child-Parent Relationships	Conversational Turns	A, C			Mostly Positive
	Child Word Count	A			
	Parent Word Count	C	A		
	Parental Language Quality	B			
	Parental Knowledge of Early Childhood Development	C			
	Positive Parenting	C			
	Parental Warmth		C		
	Parental Harshness		C		

Nurturing and Responsive Child-Parent Relationships

All three studies included in this review examined the impact of emergent literacy coaching programs on the indicators of nurturing and responsive child-parent relationships. One study examined LENA Start (Study A) and the other two examined 3Ts-Home Visiting (Study B & C).

These studies show beneficial impacts on conversational turns, child word count, and various parental indicators (i.e., language quality, knowledge of early childhood development, and positive parentingⁱⁱⁱ).^{A,B,C} Parent word count shows mixed impact.^{A,C} Impacts on parental warmth^{iv} and parental harshness^v are null.^C

Conversational Turns, Child and Parent Word Count

Both LENA Start and 3Ts-Home Visiting show beneficial impacts on parent-child conversational turns.^{A,C} Families participating in LENA Start increased conversational turns by 31.4 percent, compared to the control group.^A Similarly, families participating in 3Ts-Home Visiting increased conversational turns (effect size 0.04), compared to the control group.^{vi,C} On average, families in 3Ts-Home Visiting had a 44.5 percent increase in conversational turns, whereas families in the control group only had a 13.9 percent increase over the same time period.^C

Studies also examined the impact on child word count and parent word count. The LENA Start study examined child word count and found a beneficial impact.^A Children of parents in LENA Start showed a 39.4 percent increase in the number of words spoken throughout the day.

ⁱⁱⁱ Positive parenting refers to child-centered, responsive parenting behaviors shown during parent-child interactions.

^{iv} Parental warmth refers to the display of positive emotions toward the child (e.g., smiling, laughing, affection).

^v Parental harshness refers to the display of negative emotions toward the child (e.g., frowning, directing unflattering language toward the child).

^{vi} Effect size was reported using partial eta square (η^2) in this evidence review. An effect size of $\eta^2=0.01$ is considered small, $\eta^2=0.06$ is considered medium, and $\eta^2=0.14$ is considered large.

Both LENA Start and 3Ts-Home Visiting examined parent word count, but studies identified mixed impacts.^{A,C} Although positive in magnitude, the number of words spoken throughout the day by parents in LENA Start did not significantly increase relative to the control group.^A

By contrast, after participating in the program, parents in 3Ts-Home Visiting spoke more words around their child relative to their control counterparts.^C On average, parents in 3Ts-Home Visiting spoke 11.6 percent more words around their child after the intervention, whereas control parents spoke 10.7 percent fewer words.^C

Parental Language Quality, Parental Knowledge, and Parenting

Researchers also examined the impact of 3Ts-Home Visiting on other parental indicators. Beneficial impacts were found on parental language quality, knowledge of child development, and positive parenting.^{B,C} Null impacts were found on parental warmth and parental harshness.^C

After participating in the program, parents in 3Ts-Home Visiting demonstrated an increase in their language quality^{vii} when interacting with their child, and this increase was sustained at an 18-month follow-up.^B After participating in the program, parents in 3Ts-Home Visiting also reported more knowledge about early childhood development (effect size 0.17) and demonstrated more supportive parenting during parent-child interactions (effect size 0.10).^C

Optimal Child Health and Development

Beyond the focus of parent-child interactions, two pilot RCT studies shed light on potential impacts of emergent literacy coaching programs on children's developmental outcomes. Because of the small sample sizes (total N<100), these two studies do not meet our rigorous standards and are not included in the Evidence of Effectiveness table.

One pilot RCT study, using a 3Ts-Home Visiting sample, examined the effects of the program on children's vocabulary, math, and social emotional development at 42 months old.²⁸ The study found that children of parents who participated in 3Ts-Home Visiting during the birth-to-3 period scored higher on their vocabulary and math tests, compared to children from the control group. The study also found that parents in 3Ts-Home Visiting reported their children as having greater social emotional skills, compared to parents from the control group.

Another pilot, longitudinal RCT study, using a 3Ts-Home Visiting sample, examined the mediational effects of parental knowledge and conversational turns on children's language development at 50 months old.²⁹ The study revealed that the 3Ts-Home Visiting program, which took place when children were 14 to 20 months of age, increased parental knowledge of early childhood development at 26 months, which contributed to more frequent conversational turns at 38 months, and promoted children's language skills at 50 months.

^{vii} Language quality was measured by four aspects: 1) language quantity, 2) language complexity, 3) lexical diversity, and 4) syntactic complexity. 3Ts-HV parents showed significant improvement in all four aspects.

Is There Evidence That Emergent Literacy Coaching Programs Reduce Disparities?

To date, no rigorous evidence exists to draw conclusions on whether emergent literacy coaching programs are effective in reducing racial, ethnic, or socioeconomic disparities for families in the prenatal-to-3 period. None of the strong causal studies included in this review examines the differential impacts of emergent literacy coaching programs by socioeconomic status.

Children from low-income communities are disproportionately affected by adverse language and literacy outcomes.²³⁻²⁷ Gaps in children's vocabulary and speech processing skills start to appear as early as 18 months of age, and by 24 months old, the gaps are significantly wider.³⁷ On average, 24-month-old children in low-socioeconomic group performed similar to 18-month-old children in high-socioeconomic group. This difference was equivalent to a 6-month disparity between high- and low-socioeconomic groups^{viii} in speech processing skills critical to language development.³⁷

Emergent literacy coaching programs have the potential to address these disparities in language development by increasing conversational turns between parents and children, improving the quantity and quality of parental speech during interactions, and increasing child-initiated conversations. More research is needed on how the implementation of emergent literacy coaching programs may promote equitable child development for families with low incomes.

Has the Return on Investment for Emergent Literacy Coaching Programs Been Studied?

To date, no strong causal evidence has evaluated the cost effectiveness of emergent literacy coaching programs.

What Do We Know, and What Do We Not Know?

LENA Start and 3Ts-Home Visiting programs demonstrate consistent and beneficial impacts on outcomes in the birth-to-3 period with respect to increasing conversational turns and child initiated conversations.^{A,C} By contrast, it is unclear whether LENA Start consistently increases the quantity of parent speech because of the mixed impacts on this indicator.

Studies included in this evidence review also show beneficial impacts of 3Ts-Home Visiting on parental language quality and positive parenting.^{B,C} It is possible that these intermediate parental outcomes might play a crucial, mediational role in promoting child developmental outcomes in the long term. Using larger, nationally-representative samples, future studies should examine the effects of emergent literacy coaching programs on children's developmental outcomes using experimental research designs.

The studies included in this review are limited by small sample sizes (total N<200) and restricted to two urban cities (i.e., Philadelphia, Chicago). More rigorous studies with larger sample sizes in

^{viii} Socioeconomic groups were based on the score of the Hollingshead Four Factor Index of Socioeconomic Status (HI; Hollingshead, 1975). The index is based on a weighted average of maternal education and occupation and has a score range from 8 to 66. Families were divided into low (HI≤45, n=23) and high (HI>47, n=25) sub-groups in this study, based on a median split of the HI scores in the sample.

broader geographical locations with more diverse samples across racial, ethnic, and socioeconomic groups are needed to build the evidence for emergent literacy coaching programs.

Although this evidence review is limited to emergent literacy coaching programs for parents, emergent literacy coaching programs also exist for early educators of infants and toddlers. LENA Grow is an emergent literacy coaching program that is similar to LENA Start but delivered in child care settings, and the target of intervention is early educators.³² Two program evaluations that used the RCT approach in examining the impacts of LENA Grow found preliminary, beneficial results of the program.^{30,31} However, because these two program evaluations do not specifically focus on infants and toddlers, and they have small teacher samples ($N < 30$), they do not meet our standard of rigor and are not included in the Evidence of Effectiveness table.

Nonetheless, one program evaluation shows that teacher-child conversational turns significantly increased in LENA Grow classrooms after a 10-week intervention.³⁰ Although positive in magnitude, teachers in LENA Grow classrooms did not significantly increase their speech quantity around children compared to teachers in the control classrooms. The same program evaluation also shows that teachers in LENA Grow classrooms reported their students as having greater language and literacy skills, compared to the teachers in the control group. Both program evaluations show that teachers in LENA Grow classrooms significantly increased their self-efficacy scores after a 10-week intervention.^{30,31}

Despite this promising preliminary evidence, it remains unclear whether such coaching programs are effective for early educators of infants and toddlers. Future research should examine emergent literacy coaching programs beyond parent-child dyads to examine the effects of these programs in early care and learning settings.

States can implement LENA Grow through their Child Care Resource and Referral (CCR&R) agencies, which are the central entities in the state that offer professional development and technical assistance to early childhood professionals.³³ The LENA Grow team can work with CCR&R specialists, who provide technical assistance to regional and local coaches, to bring LENA Grow coaching to center-based and family child care providers across the state.

Ohio and Tennessee are two recent examples of states that have implemented LENA Grow statewide through their CCR&R agency.²⁰ Ohio CCR&R adopted LENA Grow as a professional development and technical assistance program in 2022. By the end of 2023, 346 early educators had participated in LENA Grow through Ohio CCR&R.³⁴ The Tennessee CCR&R is incorporating LENA Grow into its infant-toddler and preschool specializations, which allows LENA Grow coaching hours to count toward the required annual training hours for child care providers in Tennessee.³⁵

Future studies should examine emergent literacy coaching programs, such as LENA Grow, in child care settings with a specific focus on infants and toddlers. Future studies should also recruit larger educator samples to assess the impacts of the programs on a variety of educator outcomes, such as teaching beliefs, self-efficacy, and job satisfaction.

Are Emergent Literacy Coaching Programs an Effective Policy for Improving Prenatal-to-3 Outcomes?

The current evidence base demonstrates the effectiveness of emergent literacy coaching programs at promoting nurturing and responsive child-parent relationships in the birth-to-3 period. Currently, although no states invest directly in emergent literacy coaching programs for parents, states can fund or partner with community organizations that implement these coaching models.

How Did We Reach Our Conclusions?

Method of Review

This evidence review began with a broad search of all literature related to the policy and its impacts on child and family wellbeing during the prenatal-to-3 period. First, we identified and collected relevant peer-reviewed academic studies as well as research briefs, government reports, and working papers, using predefined search parameters, keywords, and trusted search engines. From this large body of work, we then singled out for more careful review those studies that endeavored to identify causal links between the policy and our outcomes of interest, taking into consideration characteristics such as the research designs put in place, the analytic methods used, and the relevance of the populations and outcomes studied. We then subjected this literature to an in-depth critique and chose only the most methodologically rigorous research to inform our conclusions about policy effectiveness. All studies considered for this review were released on or before July 31, 2024. This evidence was first published in 2024 and is updated on a recurring basis.

Standards of Strong Causal Evidence

When conducting a policy review, we consider only the strongest studies to be part of the evidence base for accurately assessing policy effectiveness. A strong study has a sufficiently large, representative sample, has been subjected to methodologically rigorous analyses, and has a well-executed research design allowing for causal inference—in other words, it demonstrates that changes in the outcome of interest were likely caused by the policy being studied.

The study design considered most reliable for establishing causality is RCT, an approach in which an intervention is applied to a randomly assigned subset of people. This approach is rare in policy evaluation because policies typically affect entire populations; application of a policy only to a subset of people is ethically and logistically prohibitive under most circumstances. However, when available, RCTs are an integral part of a policy's evidence base and an invaluable resource for understanding policy effectiveness.

The strongest designs typically used for studying policy impacts are quasi-experimental designs (QEDs) and longitudinal studies with adequate controls for internal validity (for example, using statistical methods to ensure that the policy, rather than some other variable, is the most likely cause of any changes in the outcomes of interest). Our conclusions are informed largely by these types of studies, which employ sophisticated techniques to identify causal relationships between policies and outcomes. Rigorous meta-analyses with sufficient numbers of studies, when available, also inform our conclusions.

Studies That Meet Standards of Strong Causal Evidence

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