



Transform interactions in child care through job-embedded professional development.

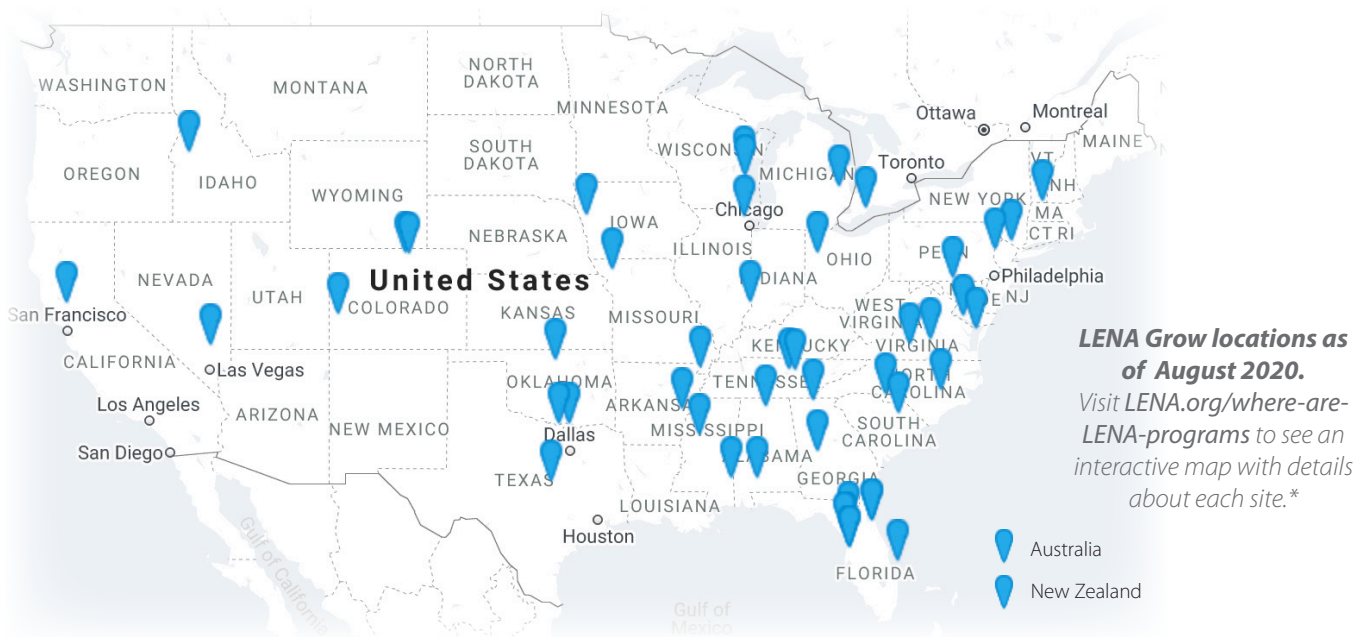
Introduction

LENA Grow is a professional development program to help teachers in early childhood classrooms (infant, toddler, and pre-kindergarten) increase interactive talk and thereby accelerate children’s brain growth and language development. It employs LENA’s “talk pedometer” technology, concise coaching curriculum, and reference materials to help teachers build more talk into their daily activities without burdening their schedules or distracting from care of the children.

LENA Grow addresses the recognized need for more professional education for early childhood teachers, especially in the birth to three age range. It provides objective measurement of children’s language environments without introducing additional assessments into the classroom. It can also help improve parent and family engagement by making parents more aware of the power of early talk.

This guide is intended for those exploring implementation of LENA Grow, and covers the following topics:

- Overview of LENA programs
- How LENA Grow works
- Effectiveness: the evidence behind LENA Grow
- Adopting LENA Grow: components, requirements, costs
- Sample implementation timeline



*Please visit the appendix on page 14 for a list of communities and partners.

Overview: The Opportunity Gap and How LENA Helps Close It

During a child's first three years, talk is one of the most critical factors driving brain growth and kindergarten readiness (see "The Evidence Behind LENA Grow" on page 10). Low levels of adult-child interaction in these earliest years are a key reason many children aren't ready for school. The often-cited "talk gap" has become a rallying cry on this important issue: by their fourth birthday, children from lower-talk families tend to hear many millions fewer words than those from higher-talk families.

A rich talk environment is critical for building not only a child's language and literacy skills, but also numeracy and social-emotional development. When we ensure children have a chance to gain these competencies before they enter school, they begin their academic careers more ready to learn, more likely to read proficiently by the end of third grade, and more likely to graduate from high school and go on to more successful life outcomes.

That's why LENA developed wearable technology that delivers detailed, reliable feedback to adults on how much they're talking and, even more importantly, how many back-and-forth interactions they are having with the children in their care. LENA technology has become the gold standard for measuring talk in early childhood, and partner sites across the country are implementing LENA programs to close opportunity gaps by boosting early language.

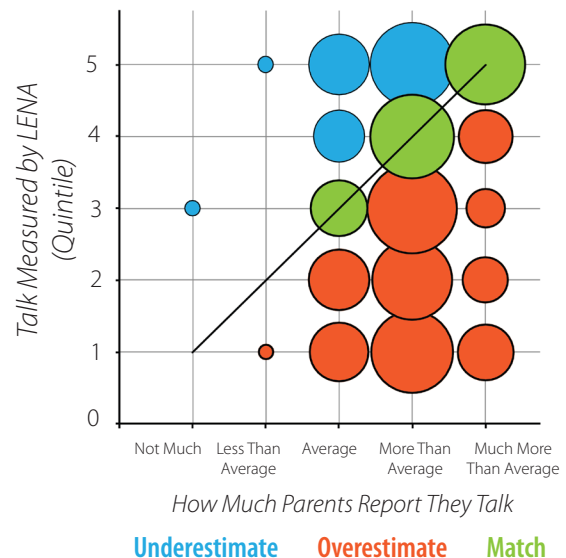
We emphatically believe three things:

1. Early talk is key.
2. Parents (and other conversational partners) are the secret sauce.
3. You can't improve what you don't measure.

LENA Grow springs from these core values, recognizing early childhood teachers as an underserved and underappreciated resource for change. The program focuses on the critical earliest years. Operationally, this means infant and toddler rooms in most preschools. Feedback to teachers is essential because adults generally lack any objective way of determining how much they are actually talking. In fact, research shows that most adults over-estimate how much they talk with children, and those of us who talk the least tend to overestimate the most.

The challenge in early childhood classrooms can be even steeper. Early childhood teachers work with multiple children at once, and tending to their primary physical needs generally takes priority. Often there is even an expectation that a quiet room is a successful room, so talk levels can be low. Feedback as to just how low, coupled with modeling techniques to increase interactive talk, can have a significant impact on teachers and set them on the path toward enriching children's language environments and more effectively building their brains.

Parent Talk: Subjective Belief vs. Objective Measurement



LENA Grow and How it Works

With many children spending as much as 60 percent of their waking time in child care or preschool, increasing talk in early childhood classrooms is at least equal in importance to increasing talk at home if we are to make the biggest possible difference for children.

LENA Grow provides professional development in two ways. The first is what might be called “data as PD”: regular feedback to the teacher about levels of interactive talk in the classroom, which can serve as a wakeup call as to just how much – or how little – verbal stimulation children are receiving. The second is regular, structured coaching sessions that build on that feedback to provide concrete methods for increasing talk without increasing the burden on the teacher.

Mindfulness of not burdening the teacher is central to the LENA Grow model. Unlike many assessments of teacher performance or activity, LENA Grow is not judgmental or labor-intensive. All teachers have to do to get detailed, helpful data is switch on LENA devices and put them on the children at the start of day, then take them off when the children leave. During each brief coaching session, teachers learn tips to increase talk during their normal daily routines. There are no additional activities for teachers to add into their schedule or time required to fit something else into their day.

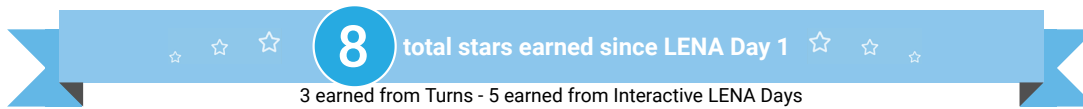
LENA Grow Use Model

Once a week, all children in a class or room wear LENA devices throughout their day. Each device is pre-assigned to a specific child so all the teacher has to do is make sure each device is put on the correct child. Assignment of devices and uploading of recordings for processing are handled between “LENA Days” by administrative staff—a process that takes about 30 minutes.

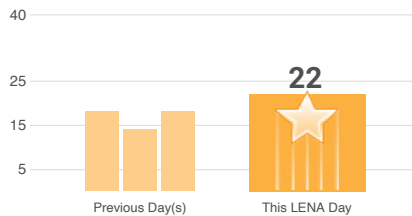
The LENA Online portal handles all recording processing, report generation, and management details, on an annual subscription basis (see “Adopting LENA Grow” on page 11).

LENA is happy to discuss the details of what makes the most sense for a particular LENA Grow implementation.



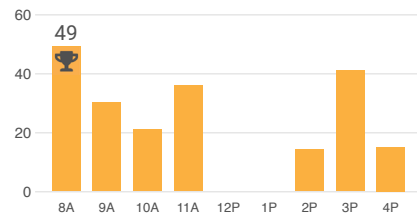


Conversational Turns per Hour

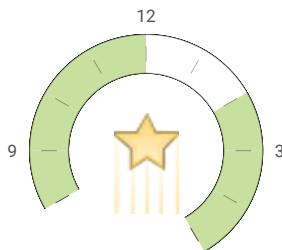


You earned a star because this LENA Day is higher than the average of the Previous Day(s): **16**

This LENA Day - Hourly Breakout

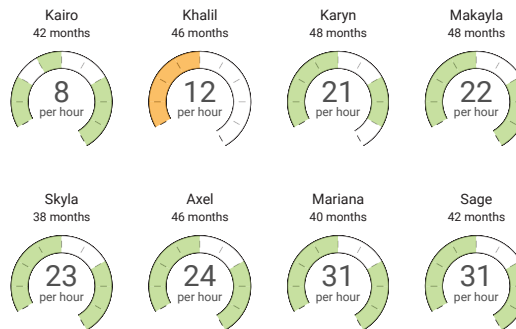


Room-Level Interactive Clock



You earned an Interactive Day star because the average turns were 5 or more for at least 5 hours of the day.

- not present/device off OR fewer than 5 turns
- 5 or more turns in that hour
- Interactive Day



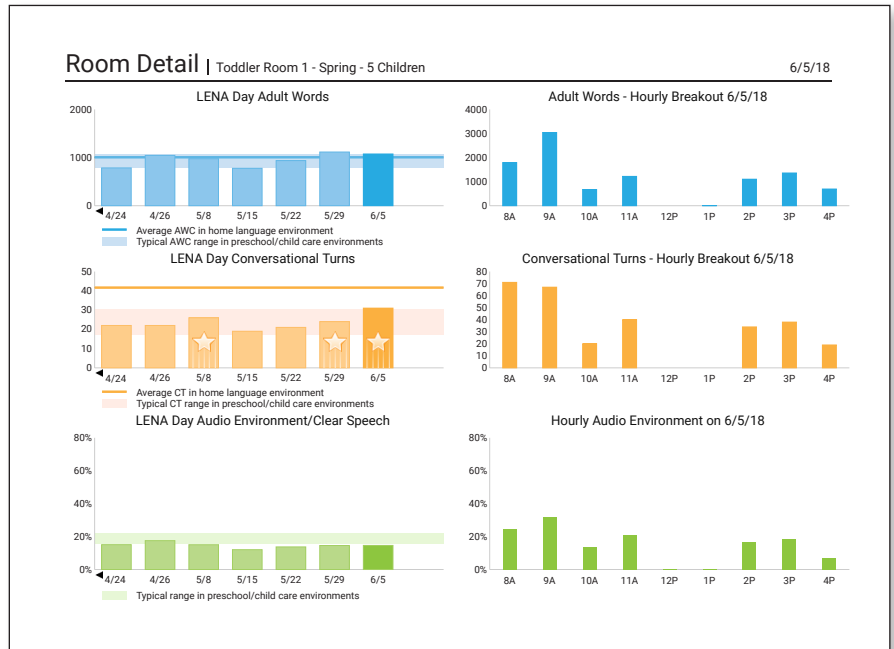
Room Summary Report

After each LENA Day, the teacher receives feedback in the form of a clear, action-oriented report, given as part of a coaching session (see “Coaching,” page 8). LENA Grow focuses especially on interactive talk as measured by “conversational turns”—a reliable measure of engaged interaction and predictor of brain growth (see “The Evidence Behind LENA Grow” page 10). The Room Summary Report provides a bird’s-eye view of the patterns of talk in the room, illustrating graphically how much of the most recent day was spent in interactive talk with children (measured against a benchmark of five turns per hour per child), what times of day were most interactive, how the day compared to the average of their previous days, and whether teachers have met their own goals for improvement.

The Room Summary Report also provides insights on individual children. “Interactive Talk Clocks” show how much adult/child conversation each child experienced each hour. Over time, the teacher can see trends that help identify which children are thriving and which may benefit from more individual attention.

Room Detail Report

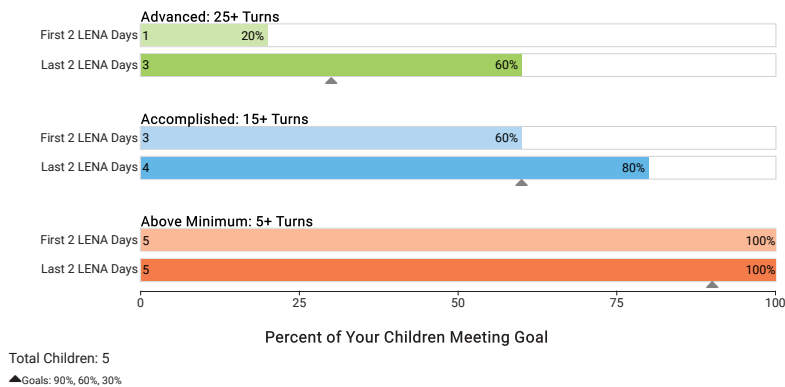
The Room Detail Report is a supplement to the Room Summary Report and is optional to include. It allows teachers and administrators to drill down further in analysis of talk environments. It shows hourly detail of the most recent LENA Day for the classroom on the right, in terms of hourly adult words and hourly conversational turns. History of "average" words and turns (left-hand side of report) is reported for all LENA Days, showing progress and comparing results to typical counts in both child care and home language settings.



Progress | Toddler Room 1 - Spring

From Apr 24, 2018 - Jun 5, 2018 (6 Weeks)

Children in each room who had at least four LENA Days and met attendance criteria for the time period indicated.



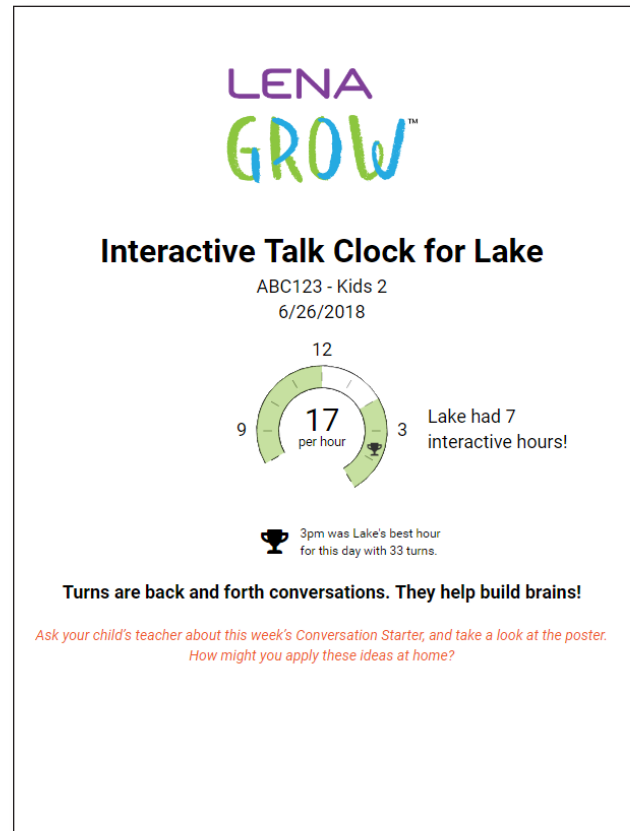
The Progress Report

The Progress Report is a breakdown of the data to facilitate discussion with the teachers on how things are going compared to where they started, and can be introduced to teachers about halfway through the program. It compares average turns for a child's first two and most recent two LENA Days, and includes all children who have at least four LENA Days.

Parent Reports

LENA Grow is designed to support parent and family engagement efforts by fostering conversations between parents and teachers about the importance of language and interaction. The Parent Reports allow parents to see how often their children are interacting with teachers throughout the day, and invites more conversation about the importance of early talk. They include the same information teachers receive on their Room Summary Reports, including the average number of turns the child experienced, and which hour of the day was the child's most interactive hour.

The Parent Reports also include a letter with a key and an explanation of how to read and interpret the report.



The 14 Talking Tips

The basic coaching sequence teaches how to understand LENA reports and the science behind them, then provides simple tips and techniques for increasing interactive talk in common classroom situations. Content centers around the “14 Talking Tips,” research-based, concrete strategies that readily fit a teacher’s busy schedule.

The tips are demonstrated in short videos of real teachers interacting with children during daily care routines— clothing changes, mealtimes, morning arrival, etc. — and point out regular activities where talk can naturally be increased. After watching each video, teachers use a list of the Talking Tips to discuss which ones they saw being used. These segments are also a good opportunity for the coach to model behaviors or add an extra activity.

The 14 Talking Tips

Use these tips to increase words & turns when talking, reading, or singing with a child.

1. **Talk about** what you’re doing and thinking.
2. **Comment on** what they’re doing or looking at.
3. **Name things** that they’re interested in.
4. **Get down to their level:** face to face.
5. **Touch, hug, hold.**
6. **Tune in and respond** to what they look at, do, and say.
7. **Wait for their response.**
8. **Imitate them**, and add words.
9. **Make faces, use gestures.**
10. **Take turns** – don’t do all the talking.
11. **Repeat and add** to what they say and do.
12. **Follow their lead**, do what interests them.
13. **Encourage them**, be positive.
14. **Be silly!** Relax and have fun!

Award Stickers!

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Conversation Starters

As a supplement or alternative to the videos, Conversation Starters™ are illustrated colorful posters that provide reminders on how to use the Talking Tips during daily care routines. They can be posted near where the activity usually takes place, like next to a changing table or near a classroom door.

Try LENA's Conversation Starters™ for Indoor Play

#3: Name things that they're interested in.
When the child comes, name the picture. Challenge: describe it too.
Point out objects, animals and actions that are **meaningful to the child**. "That boy is fishing. When we go outside, let's play a game and pretend we're fishing!"

#7: Wait for their response.
Choose a **call and response** song where the leader sings and the group sings back – just like a conversational turn!
With older children, pretend to "ford the words" to a familiar song. Leave it hum a word, or put in a rhyming nonsense word. Wait for the child's notice and correct your "mistake!"
Sing songs that have accompanying **bangs, raps, gestures, or body movements.**

#8: Imitate and add.
Copy their actions, and add words – "Soaking my pants... trying off all the drops."
A new talker may say one word: "cold." An older child may say: "Washing my hands... hot... Cold... add just a little... Cold... Washing my hands for..."
Talk about or **copy** what the child seems to be doing.

#1: Talk about what you're doing.
Use **specific words and descriptive language**. Instead of "This is yummy," try "Yum, I like these crunchy apples. This one is so juicy, too!"
State your expectations. "I have a plate for each child who's ready, steady means sitting down!"

#4: Get down to their level: face to face.
Sit down with the children when possible. Use your presence to encourage calm, courtesy, and conversation!
Getting down helps you see from their **perspective** in and respond that you do!

#6: Tune in and respond to what they look at.
Watch for non-verbal communication. "That word chillin'! This soap like flower!"

#7: Wait for their response.
Try **waiting for a full five seconds** after you speak or do something with a child. See how they respond in this case time. (PS, it's much harder than it sounds!)
With preschoolers, occasionally leave out one item they need for the activity. Wait for the children to notice what's missing, and help them with the words to find it. "Where's the doll's blanket?" "We need the green blanket!"
Encourage **turn-taking** games. Games can be of objects, face and words. Facilitator can take turns in simple games using ball or pretend microphones. Add words!

#13: Encourage them, be positive.
Praise with **specific words**. "Good job talking with your friend! Wow, you worked hard on that block tower!"

#3: Name things that they're interested in.
For five minutes, recall a game plan to make eye contact while you chat about the activity.
Get down and join in! Smile and make eye contact while you chat about the activity.

#4: Get down to their level: face to face.
Place yourself at the child's level **perspective**, to better tune in and respond. What's different down there!

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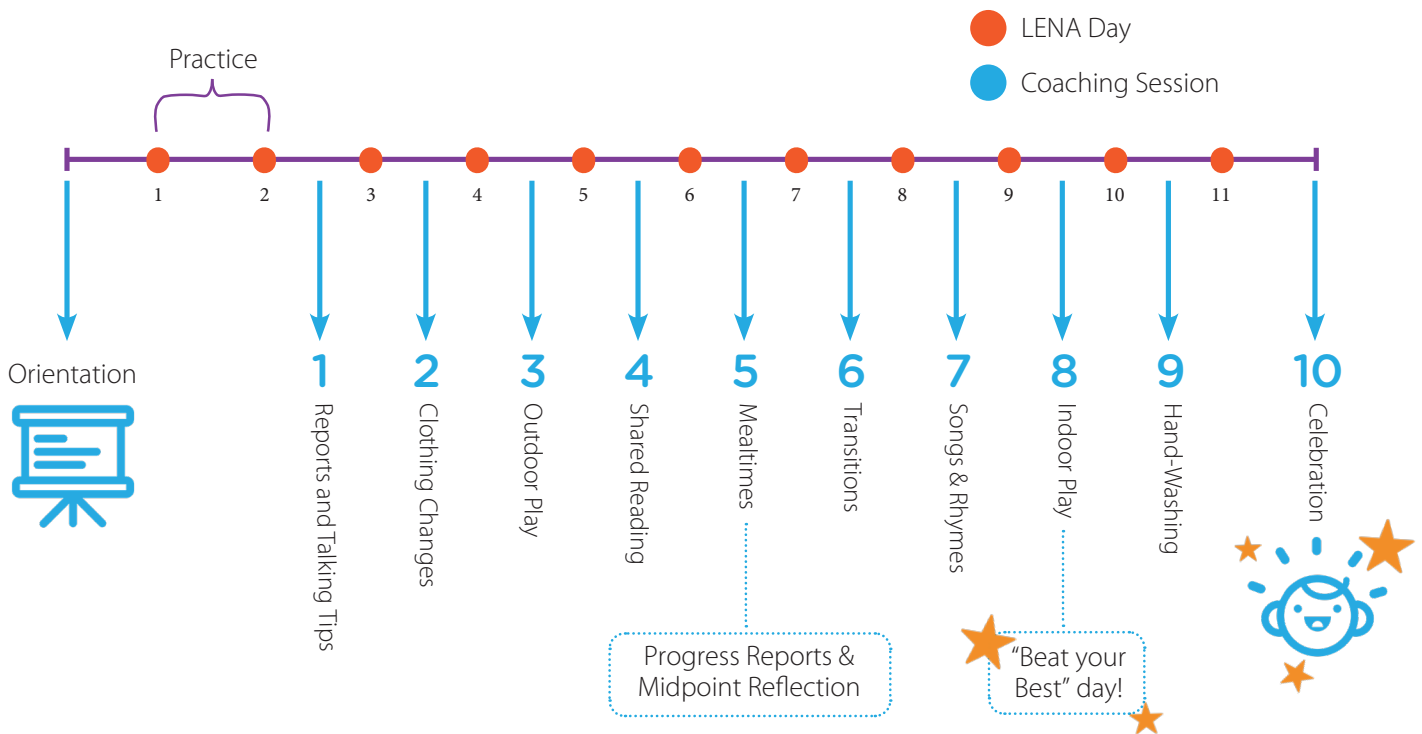
Coaching Sessions

LENA Grow consists of an Orientation and 10 coaching sessions that are designed to be delivered weekly, constituting a three-month program. Sessions can be delivered one-on-one or in small peer groups. Orientation and Session 1 contain a lot of key information and take about an hour each to deliver. The remaining sessions, 2-10, can be completed in about 20 minutes.

Between Orientation and Session 1, there are two baseline, or “practice,” LENA Days. Teachers complete these to have an accurate representation of where they started before their behavior is influenced by program content.

Following the same basic structure, Sessions 2-10 have four main parts:

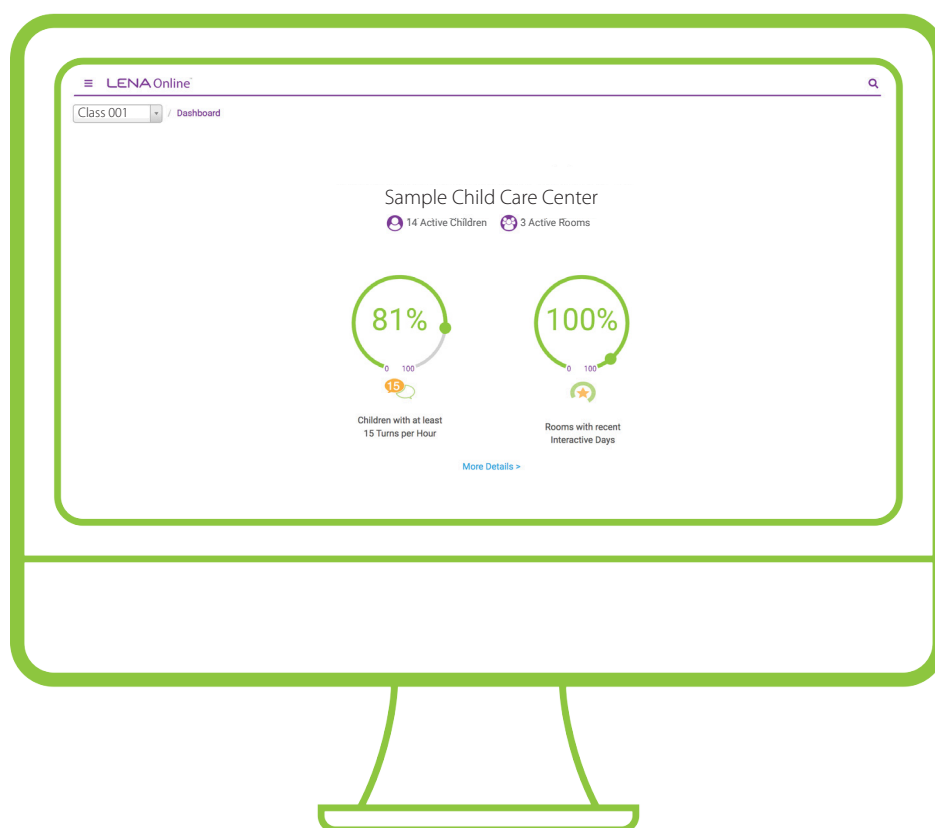
- Step 1: Discuss previous LENA Day.
- Step 2: Review LENA Reports.
- Step 3: Review Talking Tips activity (videos and/or Conversation Starters)
- Step 4: Set goals for next time.



LENA Online

LENA intentionally built program management into the design of LENA Grow and the systems that support it. The central tool that facilitates awareness and implementation is the LENA Online portal. LENA Online provides program staff secure, 24/7 access to LENA data from any device, with numerous administrative supports and built-in, real-time measures of effectiveness.

Effectiveness measures are available for program directors, coaches, and teachers. LENA data on change in conversational turns and adults words, for example, provides timely and quantitative feedback on teacher behavior change and progress for specific children that may be receiving additional attention as a result of previous data. The Developmental Snapshot (a validated and normed language development assessment) can also be administered to measure growth in the child's language skills. We generally recommend sites defer adding Snapshot administration until after they've completed at least one complete cycle of the program.



Privacy and Security

LENA takes confidentiality and data security seriously. We have implemented robust physical, electronic, and managerial procedures to safeguard the personal information we collect and to prevent unauthorized access and use of such data. No one listens to LENA Grow audio recordings, and the audio is deleted once processed into data. We are System and Organization Controls (SOC) 2 Type II compliant (visit www.LENA.org/security to learn more). While not all customers require this level of data security and protection, we operate to the most stringent requirements in our systems, technology and processes. More information can be found at www.LENA.org/privacy.

Effectiveness: The Evidence Behind LENA Grow

Early language exposure, in particular interactive talk, is one of the strongest predictors of brain development.¹ The amount of language interaction a child experiences affects brain processing speed,² brain structure³ and function,⁴ IQ and language abilities 10 years later,⁵ as well as subsequent vocabulary acquisition.⁶ Vocabulary at age three drives language and reading skills at age 9-10, which, in turn, strongly predict high-school graduation rates.⁷



Some young children spend up to 60 percent of their waking hours in a child care environment and the early childhood classroom serves as an important context to provide learning experiences that foster kindergarten readiness⁸, and longer-term benefits including increased high school graduation rates.⁹ In the Grow program, LENA wearable technology provides teachers with regular feedback on the language environment, which has been shown to increase interactive talk and child language ability.¹⁰ Focusing on infant/toddler rooms targets an age range before developmental trajectories¹¹ are too firmly fixed. Technology informs teachers how much they are talking with their children – often over-estimated in absence of objective measurement.¹²

Techniques for increasing talk in LENA Grow comprise the research-based strategies of following the child's lead and creating joint attention,¹³ and recasting child vocalizations.¹⁴ Concentrating on conversational turns is in line with recent research validating LENA conversational turns as a quality measure of children's language experience, and one directly linked to increases in children's composite language scores.¹⁵

Classrooms with intentionally crafted learning opportunities and frequent, responsive, and stimulating adult-child interactions promote language and literacy skills¹⁶, early brain development¹⁷ and kindergarten readiness. The types of coaching activities included in LENA Grow (data-driven feedback, cycles of reflection and analysis, and video examples) have been shown to increase effective teacher behaviors.¹⁸ The techniques for increasing talk are designed to produce a responsive style of interaction, which is associated with accelerated language and cognitive growth worldwide.¹⁹

¹ Capute, Shapiro, and Palmer, 1987; Hart and Risley, 1999; Gilkerson and Richards, 2008.

² Fernald, 2009.

³ Romeo et. al, 2018.

⁴ Romeo, West, Rowe & Gabrieli, 2018.

⁵ Gilkerson et. al, 2018.

⁶ Saffran, Aslin, and Newport 1996.

⁷ Hernandez, 2011.

⁸ Mashburn et al., 2008; McWilliam & Casey, 2008; Williford, Vick, Whittaker, Vitiello, & Downer, 2013

⁹ McCoy et al., 2017

¹⁰ Gilkerson, Richards, and Topping, 2017.

¹¹ Rowe, Raudenbush, and Goldin-Meadow, 2012.

¹² Richards, Gilkerson, and Topping, 2017b.

¹³ Tamis-LeMonda, Kuchirko, and Song, 2014; Goldstein and Schwade, 2008; Dunham and Dunham, 1992; Landry, Smith, Swank, and Guttentag, 2008; Charlop-Christy and Carpenter, 2000; Alpert and Kaiser, 1992.

¹⁴ Nelson, 1977; Baker and Nelson, 1984; Clark, 2007; Nelson, Welsh, Trup, and Greenburg, 2011.

¹⁵ Romeo, West, Rowe & Gabrieli, 2018.

¹⁶ Nix, Bierman, Domitrovich & Gill, 2013

¹⁷ Downer, Sabol, & Hamre, 2010

¹⁸ Pianta et al., 2014; Allen, Pianta, Gregory, Mikami, & Lun, 2011; Pianta, Mashburn et. al., 2008

¹⁹ Landry, Smith & Swank, 2006

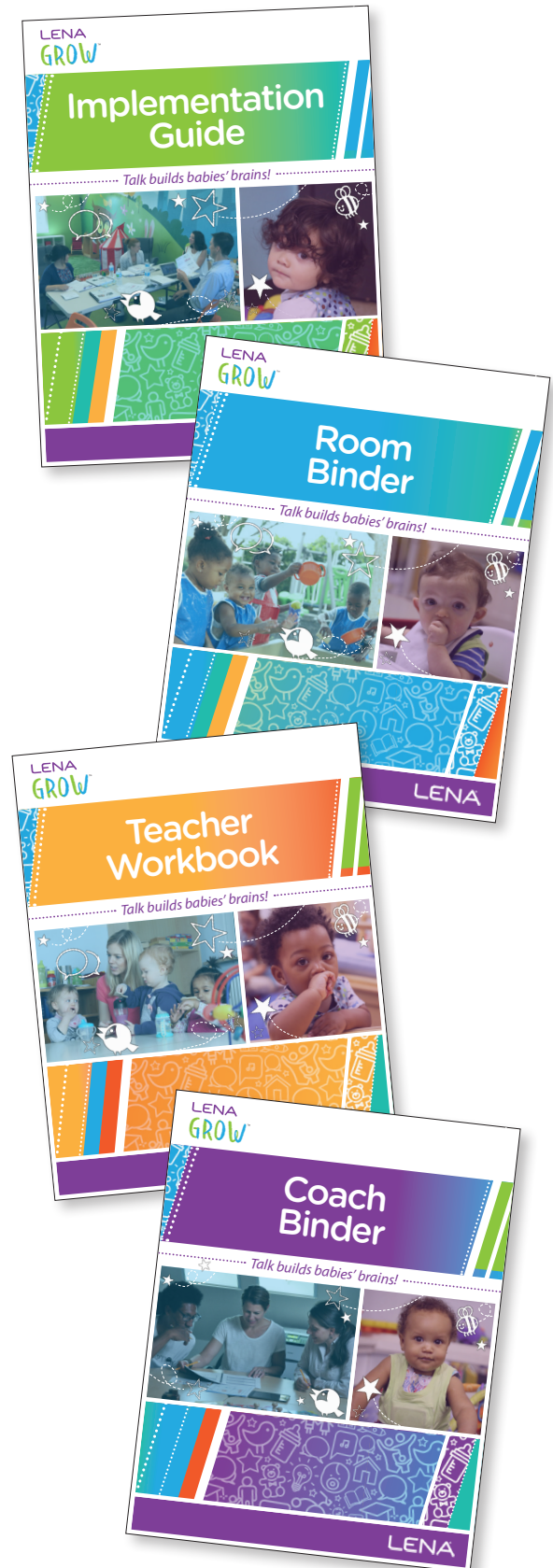
Adopting LENA Grow: Components, Requirements, and Costs

Centers adopting LENA Grow require enough **LENA devices** to record each participating room once between each coaching session. For example: If you plan to deliver LENA Grow to four rooms with eight children each, we recommend a minimum of 35 devices, allowing for a few extras. When ordered in quantities greater than 30, devices cost \$199 each. While purchased up-front, LENA device costs can be spread over an expected life of five years for planning purposes.

LENA clothing must also be purchased in appropriate sizes for the ages of children involved and in sufficient quantities to support any planned rotation (allowing for laundering after each use). LENA clothing is required to ensure proper placement of the device in relation to the child's mouth, and is made from material that minimizes fabric noise that can interfere with recording fidelity. LENA clothing starts at \$25 each. A per-item discount of \$5 applies for orders of 100 or more items. Clothing is reusable, so this investment can be spread over several years.

A per-room fee of \$250 (minimum of 10 rooms per year) includes **room and teacher materials** and use of LENA's **cloud-based software**, which enables processing of recordings, delivery of reports, and program management. The software can be used by any number of LENA devices, with cloud-based processing available through any secure, high-speed internet connection. Processing may also be done locally, if required by data-protection policies. Per-room discounts apply for partners implementing Grow in more than 20 classrooms. An additional annual affiliate fee of \$1,000 covers ongoing support and training.

There is a one-time \$6,500 startup fee to cover software configuration, initial training, coaching materials, and launch support. The provider supplies coaching staff and any incidental costs, such as possible teacher incentives.



Planning Ahead: Sample Implementation Timeline

The figure below outlines a general program schedule to launch LENA Grow from the initial signing of the Program Agreement to completion of the first coaching sequence with teachers.



Next Steps

Get buy-in: Depending on the scale of your initiative, implementing LENA Grow may require buy-in from multiple stakeholders. This includes, but is not limited to, center directors, teacher coaches, teachers, and parents. These partners can support recruitment efforts, promote awareness of the need for interactive talk, and share the successes of the program.

Representatives from LENA are happy to lead or join calls, webinars, or in-person presentations to support partner engagement. We can also provide presentation decks and shareable resources that explain the importance of closing the talk gap and give background on LENA and LENA Grow.

Determine and solidify funding: LENA will provide you with a budget template to help assess your funding needs for the program. LENA has worked with partners using a variety of funding sources, including grants, local philanthropic partners, research partners, school district budgets, economic council budgets, intervention agencies, and in-kind funding of staff time and resources.

Formalize partnership: LENA will provide a formal quote and program agreement with a mutually agreed upon effective date.

Get started: Following the signing of your contract, LENA's program team will contact you to set up the first training and connect you to other LENA staff as needed. Our team will provide ongoing support through launch and implementation, including logistics planning such as scheduling trainings, recruiting participants, and confirming availability of staffing and facilities.

Appendix A — LENA Grow Implementing Partners

Alabama

- Birmingham — Birmingham Talks, Jefferson County Committee for Economic Opportunity

Australia

- Victoria, Australia — Adventurers Education

California

- East Palo Alto — The Primary School

Colorado

- Cortez — Montelores Early Childhood Council
- Denver — Clayton Early Learning Center, Colorado Dept. of Human Services

Connecticut

- Hartford — City of Hartford

Florida

- Clearwater — Eckerd Connects, ELC of Pinellas County
- Orlando — Early Learning Coalition of Orange County, Community Coordinated Care for Children, Inc. (4C)
- Pensacola — Early Learning Coalition of Escambia County
- Sarasota — Step Up Suncoast
- Spring Hill — ELC of Pasco & Hernando Counties
- West Palm Beach — Opportunity Early Childhood Education & Family Center

Georgia

- Albany — Phoebe Putney Health System Family Tree CDC
- Atlanta — *Statewide*: Georgia Department of Early Care and Learning (DECAL)

Illinois

- Bourbonnais — Bourbonnais 53 School District

Kansas

- Kansas City — Juniper Gardens Children's Project

Maryland

- Baltimore — Maryland Family Network

Michigan

- Detroit — Wayne Metro Community Action Agency

Mississippi

- Greenville — Washington County Opportunities
- Jackson — Mississippi Head Start Association
- Moss Point. — Jackson County Civic Action Agency

Nebraska

- Omaha — Nebraska Early Childhood Collaborative

New Jersey

- Monmouth and Middlesex — Acelero Learning

Nevada

- Clark County — Acelero Learning

New Zealand

- Auckland — COMET Auckland

North Carolina

- Burlington — Alamance Partnership for Children
- Henderson — Franklin-Granville-Vance Partnership for Children
- Wilmington — Smart Start of New Hanover County

Ohio

- Cleveland — Cuyahoga County Invest in Kids, Starting Point
- Dayton — Learn to Earn Dayton

Oklahoma

- Oklahoma City — Sunbeam Family Services
- Tulsa — Oklahoma Partnership for School Readiness

Pennsylvania

- Camden, N.J./Philadelphia — Acelero Learning

South Carolina

- Moncks Corner — Berkeley County School District

Tennessee

- Jasper — Sequatchie Valley Head Start
- Memphis — University of Memphis

Texas

- Austin — Workforce Solutions Capital Area
- Dallas — Workforce Solutions Greater Dallas, Childcare Group
- Fort Worth — Fort Worth ISD

Virginia

- Virginia Beach — Virginia Beach GrowSmart
- Williamsburg — Virginia Child Development Resources

Washington, DC

- Washington, DC — Bright Beginnings

Wisconsin

- Milwaukee — Acelero Learning, Next Door, Marquette University, University of Wisconsin-Milwaukee