Crosswalk with Arkansas Child Development and Early Learning Standards: Birth through 60 Months

About LENA
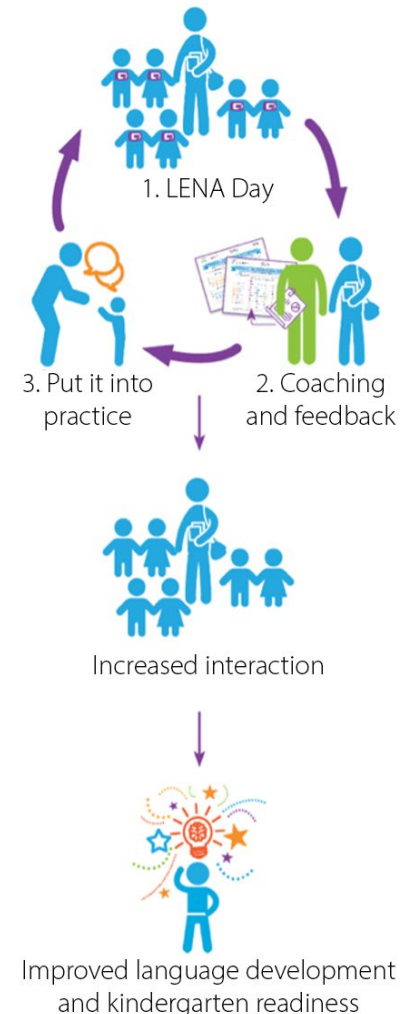
LENA is a national nonprofit on a mission to transform children's futures through early talk technology and data-driven programs. LENA's early talk technology, sometimes referred to as a "talk pedometer" or a "FitBit for conversation," is the global standard for measuring early language environments, including conversational turns. Visit www.LENA.org or email info@LENA.org to learn more about how LENA Grow supports early childhood teachers' professional development.

How LENA Grow Supports Arkansas Child Development and Early Learning Standards

LENA Grow is an evidenced-based professional development program that helps teachers equitably improve classroom language environments in early learning settings, complementing the Arkansas Child Development and Early Learning Standards' goals for children's early learning and development.[1] To measurably improve equitable interactions with each child in their care, teachers participate in LENA Grow's five-week reflective feedback cycle. The cycle employs LENA's "talk pedometer" technology, strengths-based coaching, and early talk strategies to measurably increase conversational turns, one of the most predictive metrics of child outcomes.

LENA Grow helps teachers form a reflective practice habit that supports language development and builds responsive relationships. As teachers begin to talk *with* each child rather than *to* the children, they learn how to adapt their interactions to support each child's learning and development. Just as Arkansas Child Development and Early Learning Standards serve teachers across a wide variety of settings, LENA Grow is implemented in a variety of early learning settings throughout the U.S., including private/state-funded child care centers, family child care homes, and Early Head Start and Head Start programs.

How LENA Grow Works

1. LENA Day

2. Coaching and feedback

3. Put it into practice

Increased interaction

Improved language development and kindergarten readiness

Core Elements of LENA Grow

These elements work together to provide a cohesive, empowering professional development experience for teachers that drives meaningful and lasting increases in interaction. This change leads to more equitable language environments, higher TS GOLD® and CLASS® scores, accelerated language development, and increased teacher job satisfaction and self-efficacy.

1. **Research base:** LENA Grow is rooted in over a decade of peer-reviewed research linking conversational turns to improved language, brain, and social-emotional development. More than 400 researchers and clinicians in over 40 countries have used LENA technology to study early language development.[2]

2. **Early talk strategies:** At each coaching session, teachers receive research-based curriculum materials that provide strategies for increasing interactive talk. Areas of focus include personal care, transitions, indoor play, outdoor play, mealtimes, shared reading, early math, early literacy, and songs & rhymes.

3. **LENA Room Report:** At each coaching session, teachers review the Room Report, which provides objective interaction data on overall room averages and child-specific averages. It quantifies the number of conversational turns in the classroom across the day.

4. **LENA Child Report:** At each coaching session, teachers review the Child Report, which provides a detailed view of each individual child's experience across the day, including hourly counts of interactions and child vocalizations that highlight further engagement opportunities for teachers. This report is also used to engage families in a conversation about their child's early talk experiences and language development.

5. **Weekly strengths-based coaching:** LENA Grow coaches provide 30-60 minutes of coaching each week. The Coach Guide supports them in bringing a strengths-based lens to the data analysis and goal setting conversation with teachers.

6. **Weekly goal setting, documentation, and practice:** At each coaching session, the teacher sets a specific and measurable goal for the coming week. The teacher then documents progress toward that goal as they practice integrating early talk strategies throughout the week, including the next LENA Day.

7. **Family Engagement:** A Family Talk handout is provided each week for teachers to send home. Teachers also spend one coaching session developing a family engagement strategy and making plans for how they will engage families in extending quality interactions into the home setting.

How LENA Grow Supports Arkansas Child Development and Early Learning Standards

LENA Grow supports each domain of the Arkansas Child Development and Early Learning Standards by improving the early talk environment for children, focusing specifically on the quantity and quality of adult-child interaction. LENA Grow's detailed child-level data helps teachers individualize instruction.

Arkansas Child Development and Early Learning Standards		How LENA Grow Supports
Domain	Domain Component	
Social and Emotional Development	SE1. Relationships with Others	LENA Grow supports interactive talk between teachers and children, fostering positive, responsive adult-child relationships. Teachers receive research-based curriculum materials that provide ideas on how to effectively engage young children during times of the day that may be stressful for them, including personal care routines and transitions. As children begin to vocalize more during LENA Grow, they are better able to express their emotions and needs. Peer-reviewed research has established a causal link between increased conversational turns and improved social-emotional competencies in the first three years of life.[3] Furthermore, research has shown LENA Grow to have impacts on children's social and emotional health, including improved DECA (Devereux Early Childhood Assessment) scores.[4]
	SE2. Emotional Expression and Understanding	
	SE3. Self-Awareness and Self-Concept	
Cognitive Development	CD1. Approaches to Learning	Teachers receive research-based curriculum materials that provide strategies on how to effectively engage young children, creating joint attention, increasing conversational turn-taking, and recasting. Areas of focus include indoor play, outdoor play, songs & rhymes, mealtimes, and early math. During the LENA Grow sequence, teachers practice new strategies to scaffold children's cognitive development. Peer-reviewed research has linked conversational turns to brain structure,[5] brain function,[6] reading skills,[7] and executive functioning[8] early in life, as well as IQ scores and language skills in adolescence.[9]
	CD2. Executive Function	
	CD3. Logic and Reasoning	

Arkansas Child Development and Early Learning Standards		How LENA Grow Supports
Domain	**Domain Component**	
Language Development	LD1. Receptive Language	LENA Grow supports interactive talk among teachers and children, promoting language development and communication. Teachers receive research-based curriculum materials that provide strategies on how to increase interactive talk by creating joint attention, increasing conversational turn-taking, and recasting. Areas of focus include shared reading, early literacy, and songs & rhymes. LENA technology is language agnostic and supports multi-language classrooms. This is especially important considering recent research showing that dual language learners experience, on average, fewer conversational turns than their monolingual peers.[10]
	LD2. Expressive Language	
	LD3. Communication Skills	
	LD4. English Language Development of Dual Language Learners	
Emergent Literacy	EL1. Engagement in literacy experiences and understanding of stories and books	Teachers receive research-based resources that provide strategies for increasing interactive talk, with a focus on shared reading, early literacy, and songs & rhymes. Teachers receive strengths-based coaching, review classroom and child level data, set measurable goals, and practice new strategies, shaping teachers' ability to scaffold children's literacy skills. Children in LENA Grow classrooms have shown increases in TS GOLD® language scores[11] and LENA Developmental Snapshot scores.[12] In addition, peer-reviewed research has shown a link between increased conversational turns in preschool settings and improved vocabulary scores.[13]
	EL2. Phonological Awareness	
	EL3. Knowledge and Use of Books, Print, and Letters	
Mathematical Thinking	MT1. Number Concepts and Operations	Teachers receive research-based resources that provide strategies for increasing interactive talk focusing on indoor play, outdoor play, mealtimes, and early math, presenting examples of opportunities to increase engagement around math concepts throughout the day. Teachers receive strengths-based coaching, review classroom and child level data, set measurable goals, and practice new strategies, promoting teachers' ability to scaffold children's math skills.
	MT2. Algebraic Thinking	
	MT3. Measurement and Comparison	
	MT4. Geometry and Spatial Sense	
Creativity and Aesthetics	CA1. Music and Movement	Teachers receive research-based curriculum materials that provide strategies for increasing interactive talk through songs & rhymes and during indoor and outdoor play. The LENA Grow Room Report and Child Report highlight further engagement opportunities to aid teachers in targeting the times of the day and/or children to focus on interactive talk during dramatic play as well as in the form of songs and rhymes.
	CA3. Drama	

*The Domains of Physical Development and Health, Science and Technology, and Social Studies are not explicitly addressed in the LENA Grow program.

How LENA's 14 Talking Tips Support the Language Development and Communication (LDC) Domain

LENA's early talk strategies, the 14 Talking Tips, are research-based techniques for increasing early talk and supporting healthy language development. Three research-based "active ingredients" power the 14 Talking Tips: creating joint attention, increasing conversational turn-taking, and then recasting.[14] This chart dives deeper into the Language Development and Communication domain to illustrate how LENA's 14 Talking Tips align with specific communication goals.

Language Development	14 Talking Tips													
	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!
LD1. Receptive Language 　LD1.1. Understands and responds to language (in child's home language)	√	√	√			√	√				√			
LD2. Expressive Language 　LD2.1. Uses increasingly complex vocabulary, grammar, and sentence structure (in child's home language)		√	√					√		√	√		√	
LD3. Communication Skills 　LD3.1. Communicates using social and conversational rules				√		√	√	√	√	√	√			

References

[1] Division of Child Care and Early Childhood Education & Arkansas Head Start State Collaboration Office (2016). Arkansas Child Development and Early Learning Standards: Birth Through 60 Months. https://www.arheadstart.org/Ark_Early_Learning_Standards%20(19)%20(1).pdf

[2] LENA Foundation (2023). LENA's impact is powered by partnerships. https://lena.org/where-are-LENA-programs

[3] Gómez, E., & Strasser, K. (2021). Language and socioemotional development in early childhood: The role of conversational turns. Developmental Science, 24(5). https://doi.org/10.1111/desc.13109

[4] LENA Foundation (2022, September 2). Research shows links between LENA Grow participation and social-emotional growth. LENA Blog. https://www.lena.org/research-shows-links-between-lena-grow-participation-and-social-emotional-growth/

[5] Romeo, R., et al. (2018). Language Exposure Relates to Structural Neural Connectivity in Childhood. Journal of Neuroscience 38(36): 7870-7877. https://doi.org/10.1523/JNEUROSCI.0484-18.2018. Huber, E., et al. (2023). Language Experience During Infancy Predicts White Matter Myelination at Age 2 Years. Journal of Neuroscience 43(9): 1590-1599. https://doi.org/10.1523/JNEUROSCI.1043-22.2023

[6] Romeo, R., et al. (2018). Beyond the 30-Million-Word Gap: Children's Conversational Exposure Is Associated with Language-Related Brain Function. Psychological Science 29(5). https://doi.org/10.1177/0956797617742725

[7] Weiss, Y., et al. (2022). Language input in late infancy scaffolds emergent literacy skills and predicts reading related white matter development. Frontiers in Human Neuroscience 16. https://doi.org/10.3389/fnhum.2022.922552

[8] Romeo, R., et al. (2021). Neuroplasticity associated with changes in conversational turn-taking following a family-based intervention. Developmental Cognitive Neuroscience 49. https://doi.org/10.1016/j.dcn.2021.100967

[9] Gilkerson, J. et al. (2018). Language experience in the second year of life and language outcomes in late childhood. Pediatrics 142(4). https://doi.org/10.1542/peds.2017-4276

[10] LENA Foundation (2023, April 18). Are we failing our youngest dual language learners?: New data insights on child care language environments. LENA Blog. https://www.lena.org/dual-language-learners-in-child-care/

[11] Dynia, J. (2022). The Impact of a Language-Based Intervention with Individualized Coaching in Early Childhood Education Classrooms [White paper]. SproutFive Center for Early Childhood Innovation. https://drive.google.com/file/d/1dIN71WcKQ_FZAxnTWOWfNQihmCoAXCul/view

[12] LENA Foundation (2022, February 1). Preliminary findings suggest LENA Grow accelerates language development. LENA Blog. https://www.lena.org/lena-grow-developmental-snapshot-preliminary-results/

[13] Duncan, R., et al. (2022). Predictors of preschool language environments and their relations to children's vocabulary. Infant and Child Development 32(1). https://doi.org/10.1002/icd.2381

[14] Warren, S. (2015). Right from Birth [White paper]. LENA. https://info.lena.org/hubfs/RightFromBirth_Warren.pdf