



EARLY DEVELOPMENT INSTRUMENT

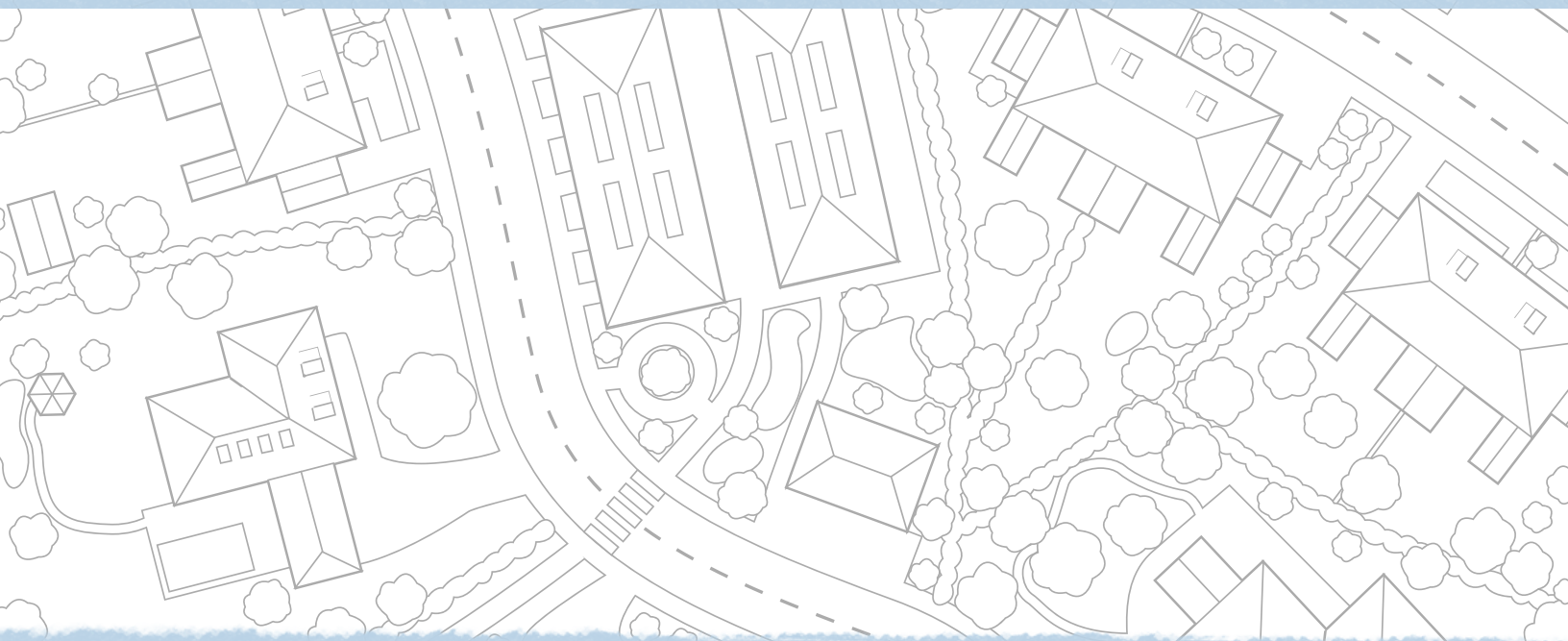


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University of Central Arkansas



EARLY DEVELOPMENT INSTRUMENT

Navigating Early Development Across Arkansas Communities Using Placed-Based Data



Phase 1 Report | January 2026

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**ARKANSAS
DEPARTMENT
OF EDUCATION**



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Introduction

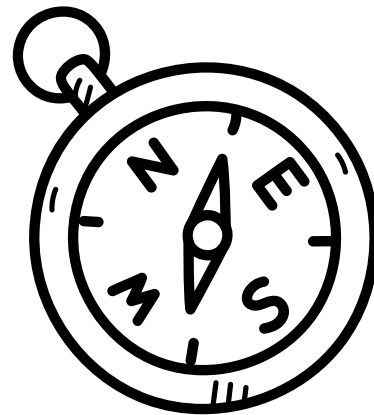
The Early Development Instrument (EDI) is a research-supported, population-based tool that gives a comprehensive, not just cognitive, view of early child development across five domains.

EDI results are linked to future educational achievements in reading and numeracy skills, as well as other measures of child well-being, including health and social outcomes. This data offers communities insight into how children are currently performing and what their future outcomes might be. To make the most of the critical years of brain development, educators, policymakers, and community members use the EDI to assess how they can improve conditions for young children before they start kindergarten.

Unlike many school readiness assessments, the EDI reports on groups of children rather than individual students. This population-level assessment broadens the responsibility of school readiness to the entire community by measuring how children are doing at the neighborhood level, not at the classroom or individual level. Communities can use this data to support school readiness in early childhood and to respond to the specific needs of incoming classes of students.

This community-level information encourages early childhood partners to work together locally to promote healthy development for all young children.

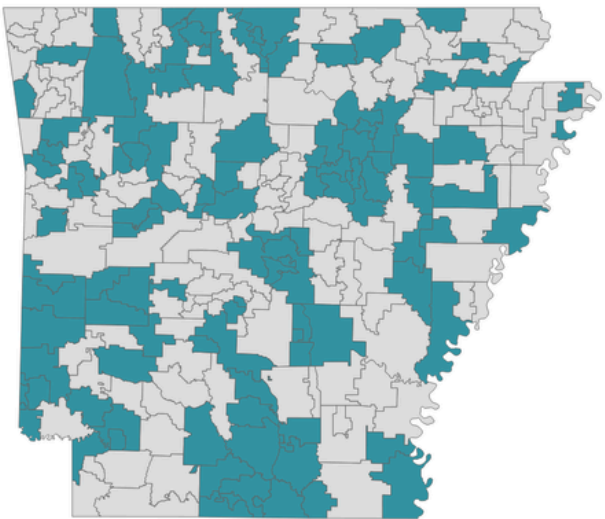
EDI domain scores are categorized as “On Track”, “At Risk” or “Vulnerable” based on norm-referenced cutoffs from a national sample. EDI domain scores at or below the 10th percentile of the national sample are considered “Vulnerable” and scores above the 25th percentile are “On Track”. Domain scores falling between those two categories are “At-Risk”. The subdomain results are scored as “Ready”, “Somewhat Ready” or “Not Ready” based on developmentally appropriate criteria cutoffs for each domain.



EDI Phase 1 Results

Phase 1 marks the first time the EDI has been offered statewide in Arkansas, capturing data from spring 2023 through spring 2025.

This data is collected from individual questionnaires completed by Arkansas kindergarten teachers about each of their students in the spring. Since the EDI operates on a three-year rolling cycle, each district participates once during that period. At the end of each phase, we can review the full cohort of participating districts together, identify patterns and strengths, and see how results change across phases over time.



Participation

- 68 counties represented
- 105 Districts
- 202 Schools
- 11,653 valid kindergarten surveys, representing about 36% of annual kindergarten enrollment.
- 98.1% completion rates for participating schools

Demographics

African-American		Asian		Hispanic		White		Other	
N	%	N	%	N	%	N	%	N	%
2,796	25%	265	2%	1,516	13%	6,028	53%	682	6%

Females		Mean Age	Students with ELL Status		Students with IEP Status	
N	%		N	%	N	%
5,703	49%	6 yrs, 2 mo	1,571	13%	1,858	16%

EDI Statewide Domains

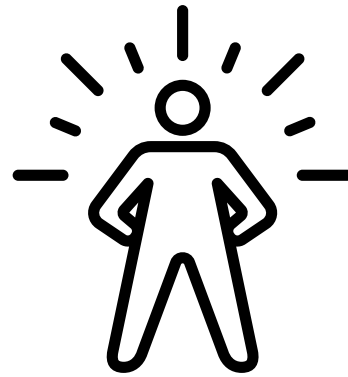
Whole child, whole community.

The following section highlights how children across Arkansas are doing in each of the five EDI domains: **Physical Health & Well-being, Social Competence, Emotional Maturity, Language & Cognitive Development, and Communication & General Knowledge.**

By examining statewide patterns, we can identify areas where children are thriving and where more support might be needed. These results provide a broad overview of early childhood development across the state and help lay the foundation for more in-depth conversations at the regional and district levels.

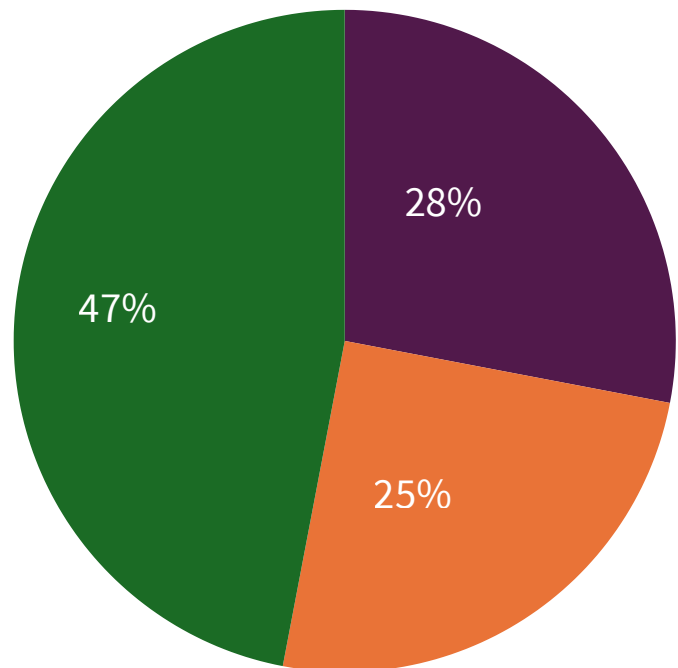
SPARK QUESTION

What changes when we can see how children are doing across an entire community, not just a single classroom?



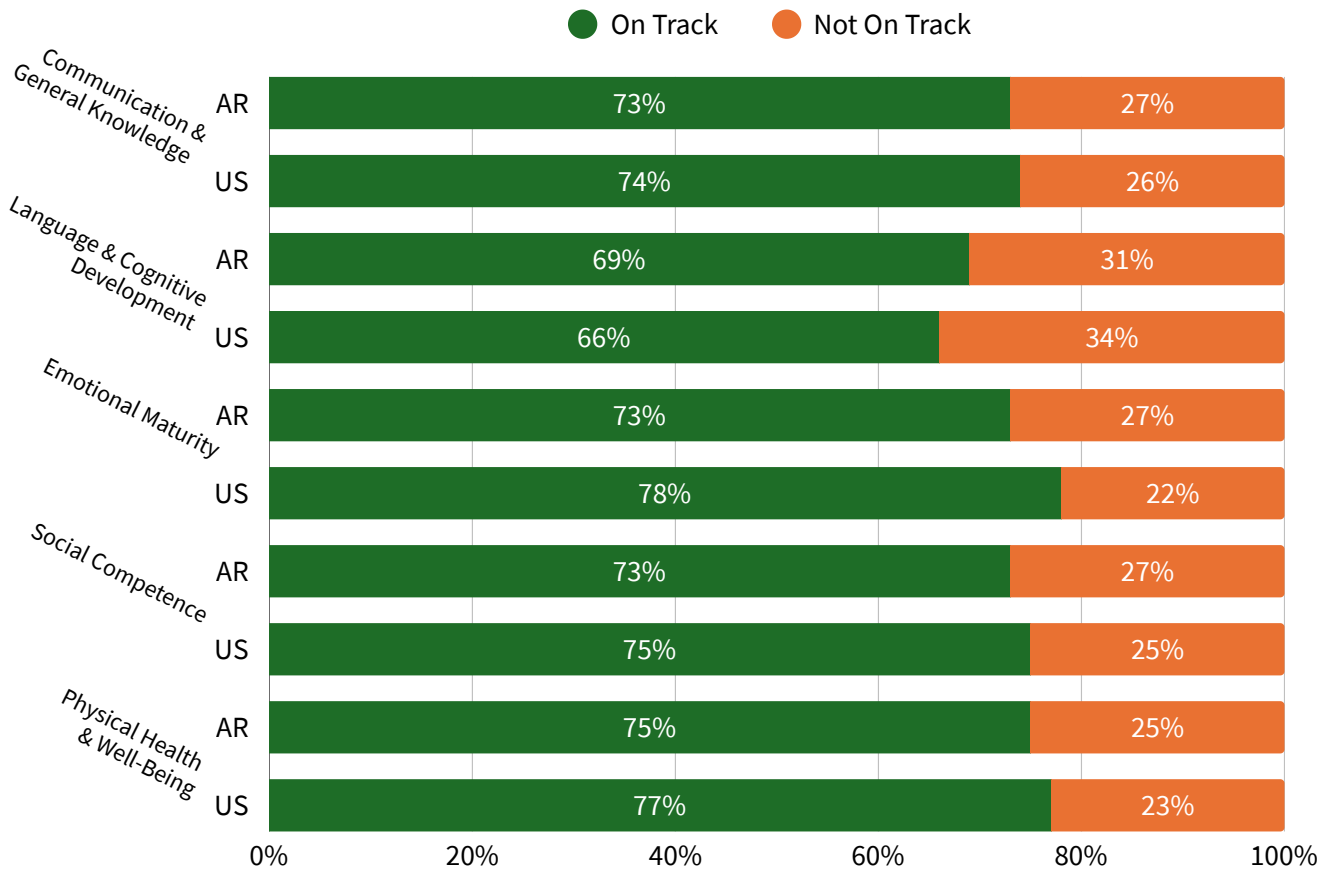
Arkansas Kindergarteners On Track for All Domains

- Developmentally Vulnerable on One or More Domains
- Developmentally At Risk on One or More Domains
- Developmentally On Track on All Domains



EDI Statewide Domain Scores

Arkansas Kindergartens On Track By Domain



WHY THIS MATTERS

The Early Development Instrument (EDI) provides a population-level picture of how young children are developing as they enter kindergarten, based on the daily observations of teachers who know them best. Rather than measuring individual achievement, EDI helps communities see patterns across neighborhoods, systems, and early experiences. This shared understanding allows educators, families, and community partners to move from isolated efforts to coordinated action--strengthening conditions for children long before challenges become harder and more costly to address.

Physical Health & Well-Being

Strong bodies, ready to grow.

The Physical Health and Well-Being domain assesses how well children have their basic health needs met and how capable they are of physically navigating the classroom. This includes access to good nutrition, absence of major illnesses, and the physical coordination needed for everyday school activities.

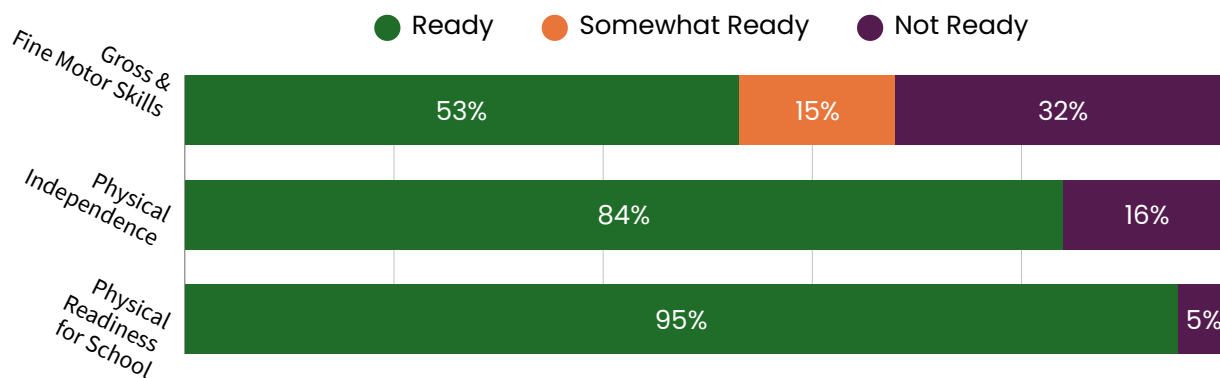
Tasks like holding a pencil, moving safely around the classroom, and turning pages gently also fall under this category.

SPARK QUESTION

What physical environments or supports help children thrive?



Physical Health & Well-Being Subdomains
% of Arkansas Kindergarteners Meeting Developmental Milestones



WHY THIS MATTERS

Physical health and well-being reflect the foundational conditions that support children’s ability to participate fully in learning and daily life. Early patterns related to motor skills, physical independence, and overall health influence how children explore their environments, engage with peers, and access classroom experiences. When communities understand these patterns early, they can design environments, routines, and supports that promote healthy development before physical challenges begin to limit participation or learning opportunities.

Physical Health & Well-Being

SIGNAL STORY

Across several Arkansas communities, EDI data helped identify gross and fine motor skills as important parts of children’s physical readiness for learning.

In **Mena Public Schools**, kindergarten teachers used EDI subdomain data to better understand patterns in students’ motor development and recognized the need for targeted support. Similarly, in Sevier County, community input and developmental screeners highlighted concerns about gross and fine motor skills, which were later confirmed and understood in context through community-level EDI results. These communities responded by designing practical, place-based strategies to support children’s physical development.

In Mena, the school district included an occupational therapy rotation into a campus-wide parent night, giving families hands-on strategies to strengthen fine motor skills like shoe tying and manipulative play.

In **Sevier County**, partners collaborated with the Horatio Library to create outdoor, family-friendly learning spaces, such as Story Walks, motor skill activity boards, and the Born to Learn Trail, combining movement and early literacy through kinesthetic learning. These efforts illustrate how EDI data can inform both school and community approaches to strengthening physical health and well-being before children start kindergarten.



Social Competence

Strong connections, ready to belong.

The Social Competence domain explores how children interact with others.

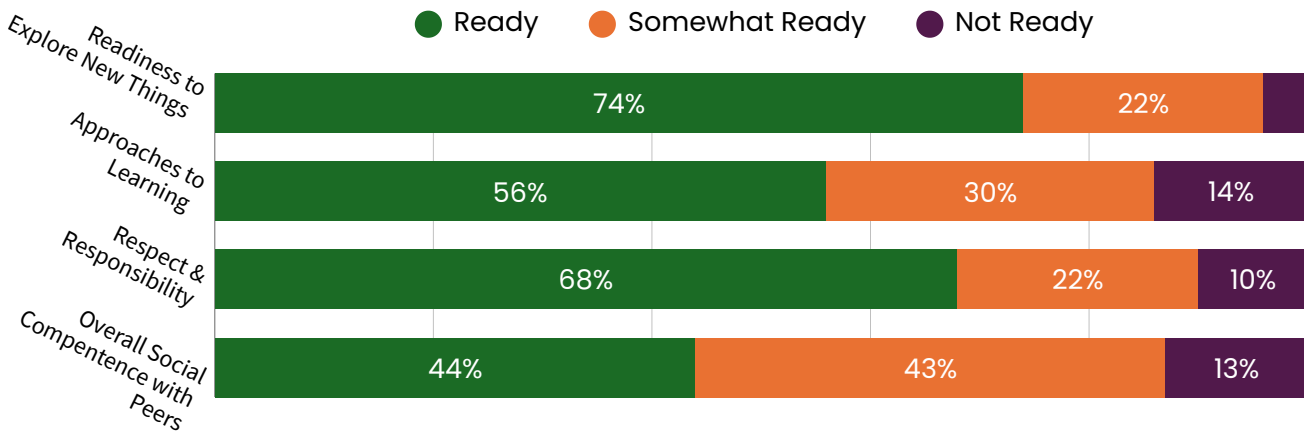
This includes meeting basic expectations in group settings, controlling their behavior, cooperating with peers, showing respect for adults, and communicating their needs clearly to others.

SPARK QUESTION

What helps children in your community feel confident joining group activities?



Social Competence Subdomains
% of Arkansas Kindergarteners Meeting Developmental Milestones



WHY THIS MATTERS

Social competence lays the foundation for teamwork, self-regulation, and positive peer and teacher relationships. Social competence captures how children interact with others, manage transitions, and participate in group settings. These early skills are closely connected to classroom engagement, peer relationships, and long-term school adjustment. Identifying social development patterns helps communities strengthen supportive relationships and environments that foster cooperation, belonging, and positive behavior from the start.

Social Competence

RESEARCH SPOTLIGHT

SCREEN TIME

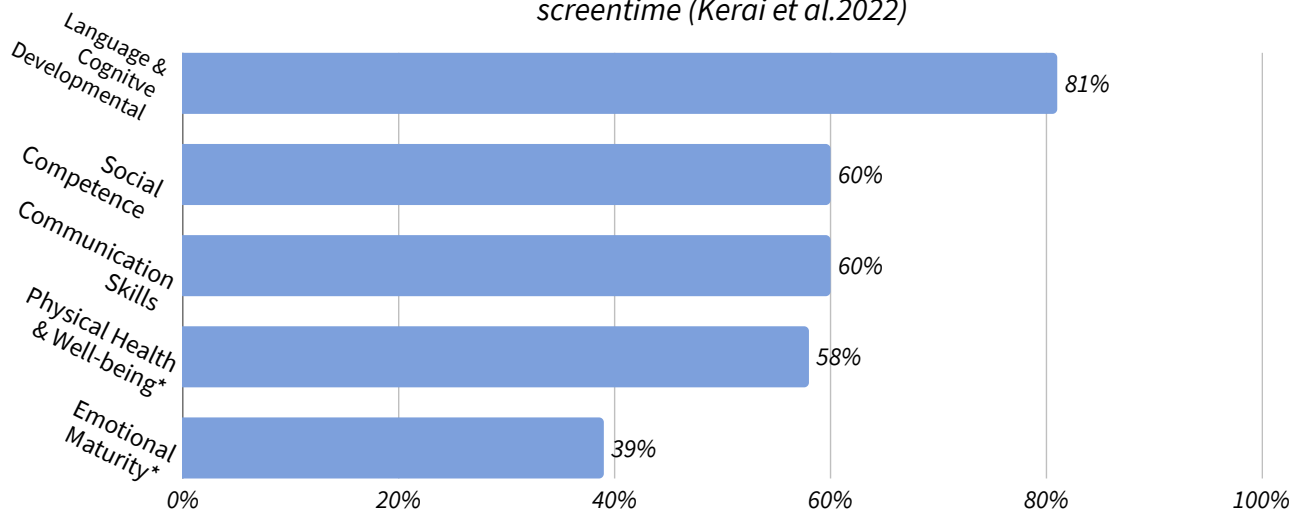
Excessive screen time in early childhood negatively impacts multiple domains of development, as measured by the EDI. A 2022 Canadian study found that children who engaged in more than one hour of daily screen use were significantly more likely to be developmentally vulnerable, including a 60% higher likelihood of vulnerability in the Social Competence domain (Kerai et al., 2022).

The strongest association was observed in the Language and Cognitive Development domain (80% higher likelihood of vulnerability) (Kerai et al., 2022).

Other research on the impact of screen time shows that "the odds of being classified as vulnerable on the EDI are increased by 14% for every additional hour of screen use" (Vanderloo et al., 2022). The EDI's Social Competence domain reflects children's ability to cooperate with peers, follow classroom routines, and demonstrate respect for others – skills that are essential to kindergarten readiness. When young children spend excessive time with screens, they may miss crucial opportunities for interactions that develop fundamental social skills.

Screen Time Increases EDI Vulnerability

Increased likeliness of vulnerability among children with more than 1 hour/day of screentime (Kerai et al.2022)



*Statistical significance after interaction removed from the model

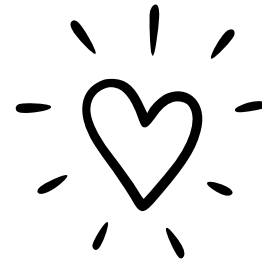
Emotional Maturity

Strong hearts, ready to thrive.

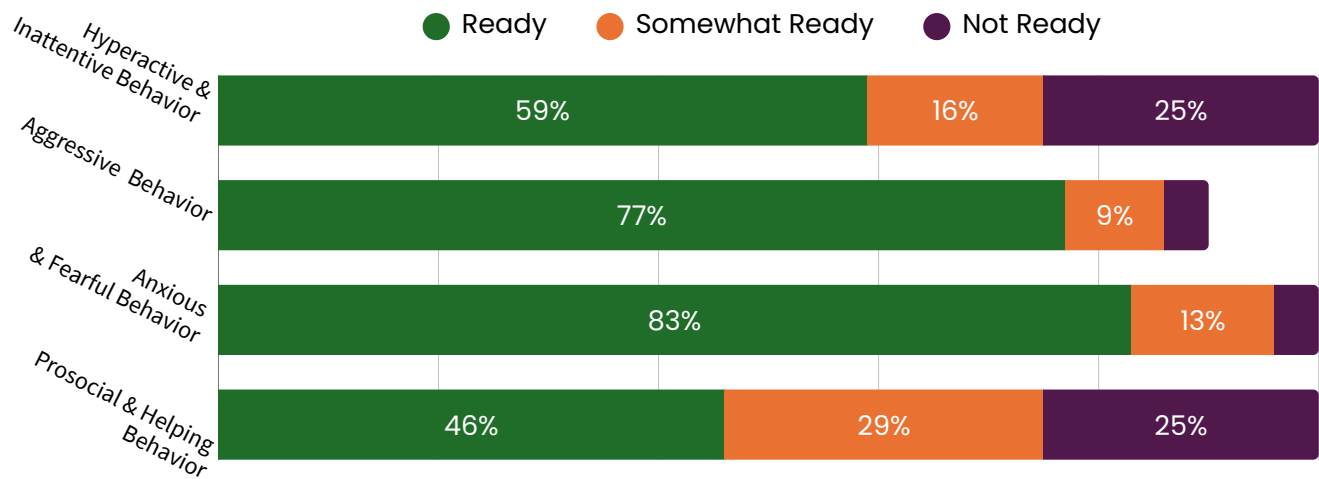
The Emotional Maturity domain considers children’s curiosity, willingness to try new things, and ability to pause and think before acting. A child who feels confident exploring and engaging with new experiences is more likely to take advantage of the learning opportunities around them.

SPARK QUESTION

How do children in your community learn to manage big feelings?



Emotional Maturity Subdomain
% of Arkansas Kindergarteners Meeting Developmental Milestones



WHY THIS MATTERS

Emotional maturity reflects how children regulate emotions, cope with stress, and respond to everyday challenges. Early emotional patterns influence children’s ability to focus, persist, and form secure relationships in learning environments. By understanding these trends early, communities can invest in strategies that support emotional well-being and resilience before difficulties escalate into persistent behavioral or mental health concerns.

Emotional Maturity

RESEARCH SPOTLIGHT

Emotional Maturity

Research shows that emotional maturity is more than just a part of well-being (Napolitano et al., 2021; Rohayati et al., 2023; Wong, T. K. Y. et al., 2023). It affects how children perform in school, manage challenges, build relationships, and ultimately succeed both academically and in life (Adynski et al., 2024; Faria et al., 2025; Nilfyr & Plantin Ewe, 2025).

The EDI's Emotional Maturity domain provides more than just an assessment of current behavior; it offers insight into future mental health. Children who do not develop prosocial skills or struggle to manage anxiety and aggression in kindergarten often face measurable disadvantages later in life (Reimann et al., 2024; Vergunst & Vitaro, 2024).

The EDI Emotional Maturity domain in kindergarten is strongly linked to other measures of emotional well-being in later grades. Scores in the Emotional Maturity domain in kindergarten relate to measures of life satisfaction, optimism, sadness, and worries in 6th grade, as well as emotional well-being in 4th grade (Gregory et al, 2021; Guhn et al., 2016).

Children who were considered vulnerable on the EDI Emotional Maturity domain scored .33 points higher on a 5-point depression questionnaire in 6th grade (Gregory et al, 2021). Early vulnerabilities identified by the EDI, especially in the Social Competence and Emotional Maturity domains, are also associated with higher chances of mental health challenges later in childhood and adolescence, including depression, anxiety, and ADHD (Thomson, 2019).

“

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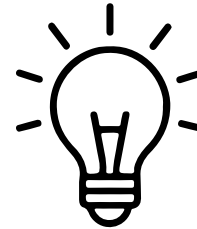
Language & Cognitive Development

Strong minds, ready to learn.

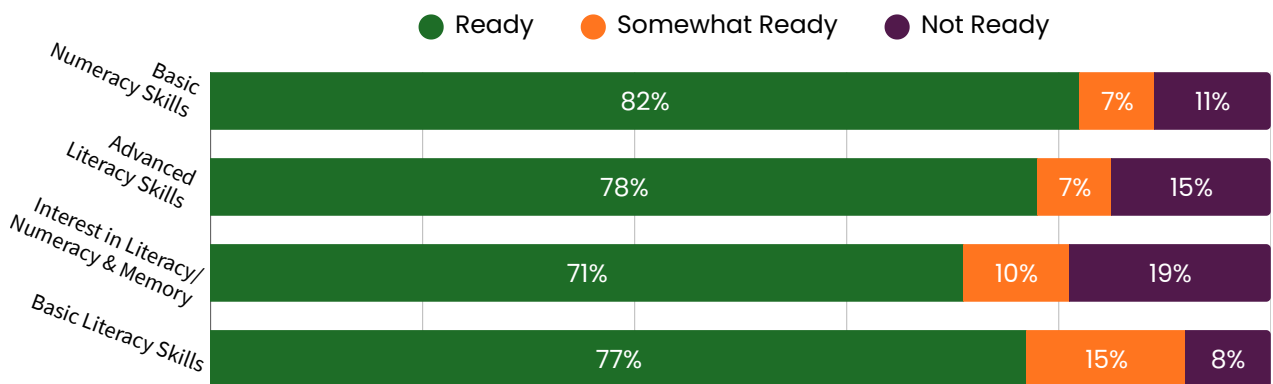
The Language and Cognitive Development domain assesses children’s language skills, including vocabulary growth, letter recognition, and their ability to focus on the sounds that make up words. It also evaluates how children make sense of information and understand what’s happening around them

SPARK QUESTION

Where are children in your community building strong language and learning skills?



Language & Cognitive Development
% of Arkansas Kindergarteners Meeting Developmental Milestones



WHY THIS MATTERS

Strong language and cognitive skills at kindergarten entry predict later academic success and third-grade reading proficiency. Language and cognitive development form the foundation for early learning, communication, and problem-solving. Early differences in language exposure and cognitive experiences can compound over time, shaping children’s readiness to engage with academic content. Population-level insights allow communities to strengthen early language-rich environments and learning opportunities before gaps widen and become harder to close

Language & Cognitive Development

SIGNAL STORY



In **Independence County**, with support from Excel by 8, early childhood and education leaders used EDI data to guide countywide planning aimed at strengthening a culture of literacy and supporting children’s language and cognitive development. Through a collaborative initiative involving multiple school districts, businesses, and community partners, stakeholders reviewed EDI results alongside other local data sources to identify shared priorities. Community data walks held at public events, including the county fair and family engagement nights, invited participants to examine EDI indicators and identify data points that resonated most with their experiences and concerns.



EDI data helped guide a coordinated response focused on embedding literacy supports throughout the community, not only in schools. School districts and partners used EDI findings to shape local improvement plans and expand participation in Arkansas’s RISE reading initiative.

These efforts included placing books and literacy materials in medical offices and businesses, integrating reading activities into restaurant menus, and hosting community literacy events such as “Reading on the River” and family movie nights paired with books.

By using EDI data as a common reference, Independence County brought schools, families, and community spaces together around strategies that promote early language and cognitive development before children enter kindergarten.

Communication & General Knowledge

Strong voices, ready to share.

The Communication Skills and General Knowledge domain examines how well children understand what others say to them and how easily they share their own ideas, experiences, and feelings in ways others can understand.

It also includes demonstrating basic knowledge of the world around them as they start school.

SPARK QUESTION

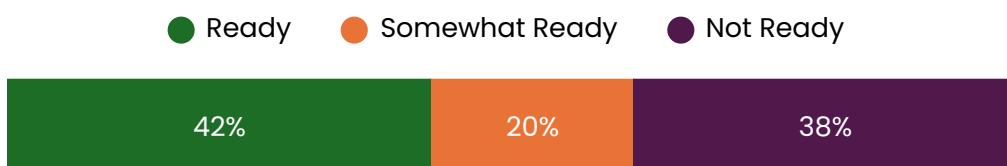
How do children in your community learn to share their stories and ideas?



Communication & General Knowledge Subdomain

% of Arkansas Kindergarteners Meeting Developmental Milestones

Communication Skills & General Knowledge



WHY THIS MATTERS

Communication skills and general knowledge reflect how children express themselves, understand information, and make sense of the world around them. These early abilities support classroom participation, comprehension, and confidence in learning environments. When communities recognize patterns in communication and knowledge development early, they can align supports across homes, early learning settings, and schools to build shared foundations for success.

Communication & General Knowledge

SIGNAL STORY

Across **Independence and Conway Counties**, community leaders used EDI data, along with other local data sources, to better understand children's early communication skills and to guide community-wide planning. In both counties, EDI data acted as a shared reference point to align stakeholders about communication as a foundational component of school readiness.

Building on this shared understanding, partners expanded the use of the LENA® Grow program, a professional development and coaching model that supports early educators in increasing the number of meaningful adult-child interactions and conversational turns.

In Independence County, over 90% of participating teachers reported feeling more confident and more satisfied in their roles as a result of LENA-focused professional development. In Conway County, partners increased access to LENA across childcare settings, promoting oral language development for young children and revisiting and updating community priorities following the pandemic.

Together, these efforts demonstrate how EDI data can guide coordinated, data-informed strategies that strengthen communication and general knowledge for children before kindergarten.

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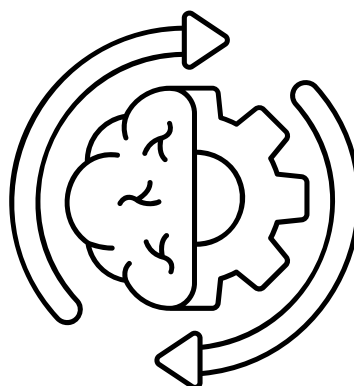
National Trends & Research

The Science of Early Foundations

The first five years of life represent a period of extraordinary growth—about 90% of brain development occurs before age five, forming the foundation for all future learning, behavior, and health (Brown & Jernigan, 2012). During this time, the brain is building rapidly, creating more than one million new neural connections every second, especially in areas tied to language, emotional regulation, and executive functioning (Center on the Developing Child, 2023).

This early growth is powerful, but also highly sensitive. Adverse experiences like poverty, chronic stress, neglect, or limited enrichment can disrupt the brain's developing architecture. However, research shows that nurturing relationships, stable environments, and supportive caregiving can buffer these effects and promote healthier developmental pathways (Baroncelli et al., 2010; Bick & Nelson, 2016; Franke, 2014; Garner et al., 2021; Teicher et al., 2022).

High-quality early childhood education programs play a crucial role in fostering this growth. These programs have consistently been associated with better school readiness and academic achievement, a decreased need for special education services, and higher high school graduation rates—benefits that extend well beyond the early years (Atkinson et al., 2022; Duncan et al., 2007; McCormick et al., 2018; Muschkin et al., 2015; Reynolds et al., 2011; Schweinhart et al., 2005).



Impact of COVID on Early Learners

Recent national EDI research points to a concerning decline across several key developmental domains. These downward trends did not begin with COVID-19; they were already emerging before the pandemic and continued throughout it and beyond. The most notable drop since COVID has been in the Language and Cognitive Development domain, reflecting a nationwide pattern of children entering kindergarten with fewer foundational language and early learning skills than in previous years (Perrigo et al., 2025).

Experts also emphasize that these national shifts are not solely pandemic-related. Even young children who were infants or toddlers during the height of the pandemic may be experiencing these ripple effects. Some researchers describe this as a “trickle-down” impact, noting rising challenges like emotional regulation issues and more frequent kindergarten tantrums in classrooms across the country (Heubeck, 2025).

National Trends & Research

EDI & Future Academic Outcomes

The EDI is also a strong indicator of children's academic trajectories. One study found that EDI scores explained 36% of the variance in first-grade school achievement, a level of predictive power comparable to other school-readiness assessments that require far more time and resources to administer (Forget-Dubois et al, 2007).

Multiple studies have reinforced these findings, demonstrating that EDI scores can reliably forecast third-grade achievement in reading, writing, and math, as well as fourth-grade literacy, numeracy, and basic skills (Brinkman, 2013; Guhn, 2016; D'Angiulli, 2009; Davies, 2016; Duncan, 2020; Davies, 2021).



Researchers have found that the EDI's link to third-grade achievement extends beyond measuring cognitive abilities.

While cognitive development at school entry plays a significant role in future academic success, researchers found that "physical, social, and emotional domains also were significantly associated with achievement scores, independent of cognitive readiness..." emphasizing the importance of "holistic measures of school readiness, encompassing cognitive and non-cognitive areas" (Davies, 2016).

“ Multiple studies have reinforced these findings, demonstrating that EDI scores can reliably forecast third-grade achievement in reading, writing, and math, as well as fourth-grade literacy, numeracy, and basic skills (Brinkman, 2013; Guhn, 2016; D'Angiulli, 2009; Davies, 2016; Duncan, 2020; Davies, 2021). ”

Implications & Sustainability

Implications & Sustainability

Throughout the three years of Phase 1 implementation, the Early Development Instrument has shown communities what is possible when data becomes a shared language for community development. As more districts engage in EDI, the importance of fostering local partnerships, sustaining data literacy, and creating alignment among public and private entities and community partnerships becomes increasingly clear.

Taken together, EDI findings demonstrate that when children are understood through a community lens, the broader systems begin to shift. Kindergarten readiness is not a single program or classroom; it reflects the collective experiences a child has from birth to kindergarten, shaped by families, early learning environments, neighborhoods, and community supports.

We invite school districts, community partners, businesses, and families to continue this shared work: using data to spark dialogue, deepen understanding, and build solutions that support the full and healthy development of young children across Arkansas.



Sustaining & Expanding the EDI Framework

Building on this shared understanding, ARC and its partners will continue to expand capacity-building efforts, strengthen our data-literacy tools, and refine frameworks that support communities in moving from insight to action. This work will prioritize support for LEARNS Local Leads, elevate community success stories, and connect districts with opportunities aligned to EDI findings.

The shared mission remains clear: to create environments in which every child, in every neighborhood, has the conditions needed to thrive. EDI is not an endpoint, but a foundational tool that supports the next stage of Arkansas's early childhood efforts through sustained learning, collaboration, and system-level alignment.

Deepening Facilitation Capacity

As more communities engage with EDI results, the need for skilled facilitation becomes central to sustaining progress. In the coming year, ARC will continue refining and expanding our facilitation supports, providing structured frameworks that help districts and community partners move from data interpretation to shared understanding and coordinated action.

Our goal is to ensure that every community has the confidence and clarity to lead meaningful conversations driven by EDI data.

Implications & Sustainability

Advancing Data Literacy Across Arkansas

Data literacy continues to be a fundamental part of the Early Development Instrument's impact. This year, ARC will enhance our statewide approach for developing practical, user-friendly data literacy for superintendents, principals, teachers, and community stakeholders.

We will offer targeted learning opportunities that help participants understand EDI trends, analyze neighborhood-level patterns, and connect developmental vulnerability and existing resources, initiatives, and community needs.

Through expanded training, new visual tools, interactive learning modules, and tailored district consultations, ARC aims to make EDI data not only understandable but also actionable — serving as a catalyst for communities to better support families with young children by helping to identify gaps in services and providing a foundation for local plans and initiatives.

Aligning EDI with Excel by Eight Initiatives

Community partnerships with E8 continue to be a strong force driving alignment across early childhood systems. Many communities have begun using EDI findings to inform E8 strategies around early literacy, childcare quality, family engagement, and health. This collaboration strengthens the connection between data, community voice, and practical action — ensuring that EDI informs both local and statewide early childhood efforts.

Strengthening the Local Lead Network

LEARNS Local Leads are the foundation of community-level EDI activation. They turn data into stories, build bridges between partners, and maintain momentum long after the initial results are shared.

ARC will:

- collaborate with Excel by Eight (E8), LEARNS Local Leads, and community organizations to expand capacity and alignment
- offer facilitation support
- develop toolkits that help LEARNS Local Leads plan, host, and document community EDI sessions
- support peer learning spaces for sharing successes and challenges

By investing in the LEARNS Local Lead network, we are supporting Arkansas' investment in long-term, scalable, locally driven community development.

Expanding Storytelling & Impact Capture

As communities across Arkansas continue to innovate, there is a growing need to capture and share these stories. ARC will develop a standardized approach to documenting impact through success stories, video highlights, district profiles, and community case studies.

These stories will serve as a resource for stakeholders and partners — demonstrating what is possible when data becomes a shared language for change.

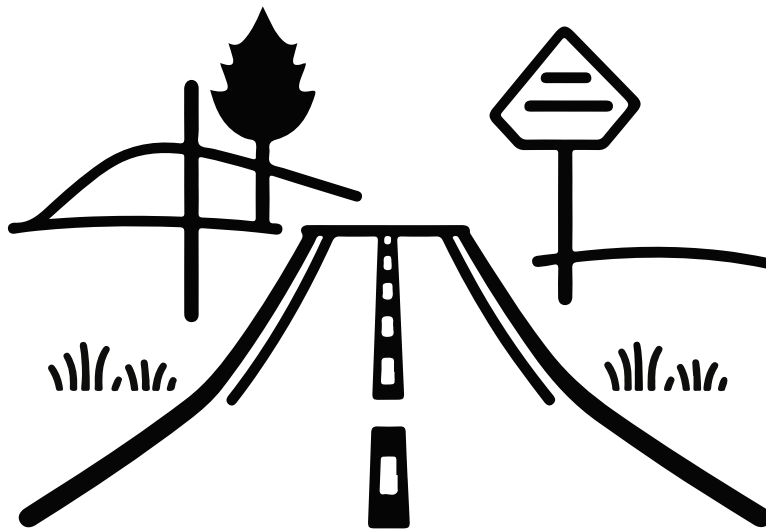
Implications & Sustainability

Looking Ahead

The Early Development Instrument has opened the door to a more connected, collaborative approach to supporting young children and access to early childhood programs in Arkansas. Specifically, it has helped identify gaps in services/resources, helped foster local partnerships and also helped facilitate alignment among private and public entities.

In Phase 2, our work will focus on deepening facilitation capacity, expanding data literacy, strengthening LEARNS Local Lead networks, and aligning more fully with Excel by Eight to integrate EDI insight into community and statewide action and harness the promise of the LEARNS Act for the state's youngest children.

The long-term vision for EDI implementation in Arkansas supports the work of the Office of Early Childhood: to help build communities where every child, in every neighborhood, starts school healthy, supported, and ready to learn. The momentum is strong. Partnerships continue to grow. Arkansas is prepared for its next chapter of collective early childhood innovation.



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