NIH Eunice Kennedy Shriver National Institute of Child Health and Human Development
Healthy pregnancies. Healthy children. Healthy and optimal lives.

Early Learning

Early learning refers to the skills and concepts that children develop before they reach kindergarten. It is a crucial part of development and can set patterns for both school and adult learning.

By studying early learning, researchers can figure out the best ways for parents and caregivers to encourage children to develop these skills and concepts and to put children on a path to becoming lifetime learners.

About Early Learning

What is early learning?

Children begin learning in the womb. From the moment they're born, interaction with the world around them helps them build crucial skills. For example:[1]

- By 3 months of age, babies can recognize people they know.
- By 8 to 12 months, babies can recognize themselves in the mirror.
- From 18 months to preschool age, children can learn nine new words each day.

Children learn all kinds of basic skills and concepts from the people and world around them:

- In the first few years of life, children start to become independent, learning how to act and how to control their emotions and behaviors.
- They learn language; math skills such as shapes, numbers, and counting; pre-reading skills like how to hold a book and follow along as someone reads to them; and, with them, skills for lifelong learning.
- They also start forming relationships of trust and develop ways to handle and resolve problems.

Making sure children have good learning experiences during their early years—whether at home, in childcare, or in preschool—will support their lifelong learning, health, and well-being.

Citations

1. Committee on Integrating the Science of Early Childhood Development. (2009). *From neurons to neighborhoods: The science of early development.* Washington, DC: National Academy Press. Retrieved February 4, 2015, from http://www.nap.edu/catalog/9824/from-neurons-to-neighborhoods-the-science-of-early-childhood-development

Why is early learning important?

Early learning paves the way for learning at school and throughout life. What children learn in their first few years of life—and how they learn it—can have long-lasting effects on their success and health as children, teens, and adults.

Studies show that supporting children's early learning can lead to:[1,2,3]

- Higher test scores from preschool to age 21
- Better grades in reading and math
- A better chance of staying in school and going to college
- Fewer teen pregnancies
- Improved mental health
- Lower risk of heart disease in adulthood (/newsroom/releases/051214-podcast-early-childhood)
- A longer lifespan

Citations

1. Frank Porter Graham Child Development Institute. *The Carolina Abecedarian Project: Groundbreaking follow-up studies*. Retrieved September 16, 2015, from http://abc.fpg.unc.edu/groundbreaking-follow-studies
2. Kaplan, R.M. (2014). Behavior change and reducing health disparities. *Preventive Medicine, 68,* 5–10.
3. Reynolds, A. J., Temple, J. A., White, B. A., Ou, S. R., & Robertson, D. L. (2011). Age 26 cost-benefit analysis of the child-parent center early education program. *Child Development, 82*(1), 379–404.

What are some factors that affect early learning?

A child's home, family, and daily life have a strong effect on his or her ability to learn. Parents and guardians can control some things in their child's life and environment, but not everything.

Some factors that can affect early learning include:[1,2,3,4,5]

- Parents' education
- Family income (/newsroom/releases/082812-stress_learning)
- The number of parents in the home
- Access to books (/health/topics/reading/conditioninfo/teach) and play materials
- Stability of home life
- Going to preschool
- Quality of child care
- Stress levels and exposure to stress (in the womb, as an infant, and as a child)
- How many languages (/newsroom/releases/040312-bilingual-advantage) are spoken at home

Citations

1. Campbell, F.A., Pungello, E.P., Kainz, K., Burchinal, M., Pan, Y., Wasik, B.H., et al. (2012). Adult outcomes as a function of an early childhood educational program: An Abecedarian Project follow-up. *Developmental Psychology, 48*(4), 1033–1043.
2. National Institute of Child Health and Human Development. (2006). The NICHD study of early child care and youth development: Findings for children up to age 4½ years. Rockville, MD: Author. Retrieved February 4, 2015, from https://www.nichd.nih.gov/publications/pubs/Documents/SECCYD_06.pdf (PDF 1.2 MB)
3. Vandell, D. L., Belsky, J., Burchinal, M., Vandergrift, N., & Steinberg, L.; NICHD Early Child Care Research Network. (2010). Do effects of early child care extend to age 15 years? Results from the NICHD Study of Early Child Care and Youth Development. *Child Development, 81*(3), 737–756. Retrieved September 4, 2015, from https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2938040/.
4. Blair, C. (2012). Stress relief can be the key to success in school. *Scientific American Mind, 23*(4).
5. Barac, R., & Bialystok, E. (2012). Bilingual effects on cognitive and linguistic development: Role of language, cultural background, and education. *Child Development, 83*(2), 413–422.

Why is it important to study early learning?

Early learning can improve children's health and well-being and have long-lasting benefits. Studying which factors affect early learning and education will help researchers:

- Design better ways to help at-risk children before they start school
- Improve parent, caregiver, child care provider, and preschool teacher training
- Use research findings to design better preschool and child care programs
- Study innovative early intervention settings, such as pediatrician's offices and home visitor programs, and ways to make these programs convenient for parents and caretakers.

For example, NICHD research has helped characterize a positive learning environment (/newsroom/releases/051410-early-child-care) as one with a warm caregiver and in which the child is supported and challenged cognitively. Findings of NICHD research also link early childhood education programs to improved adult health (/newsroom/releases/051214-podcast-early-childhood) and demonstrate that early learning programs are cost-effective (/newsroom/releases/031115-podcast-reynolds).

Recent examples include findings indicating that:

- Research shows that Head Start has positive effects on children's math, literacy, and vocabulary skills across the board. The program had an even greater impact—boosting early math skills most—among children whose parents spent little time reading to them or counting with them at home. (/newsroom/releases/060914-HeadStart) Children whose homes provided a medium amount of such activities had the biggest gains in early literacy skills.
- Children who have trouble developing language skills may also have trouble controlling their impulses and behaviors. (/newsroom/releases/081814-podcast-early-language)
- Bilingual speakers develop brain networks that help them filter out unnecessary information better than those who speak only one language. (/newsroom/releases/081814-podcast-early-language) These brain networks might protect against Alzheimer's disease and other age-related brain problems.
- Experience and genetic factors seem to influence whether a child will have "math anxiety"—very strong worries about math abilities that can be disabling.

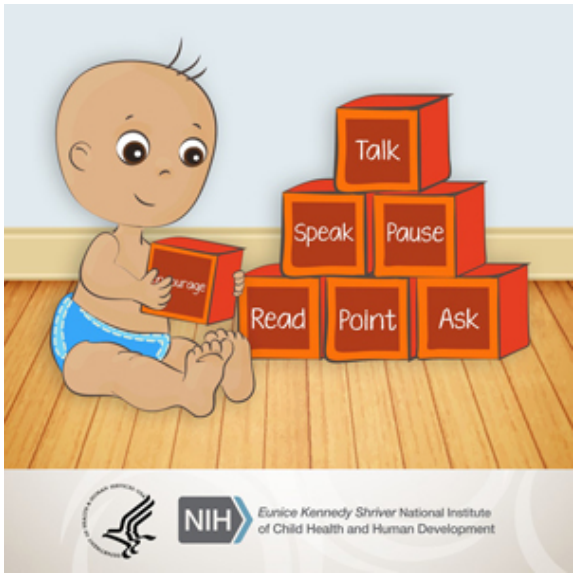
Read more about early education research supported by NICHD (/health/topics/early-learning/researchinfo#activities).

How can parents and caregivers promote early learning?

A child's home, family, and daily life have a strong effect on his or her ability to learn.

You are your child's first teacher, and every day is filled with opportunities to help him or her learn. You can help by: 1, 2, 3, 4

- Reading to your child (https://www.huffpost.com/entry/helping-your-child-improv_b_7965900) (/external-disclaimer), beginning when she or he is born
- Pointing out and talking with your child about the names, colors, shapes, numbers, sizes, and quantities of objects in his or her environment
- Listening and responding to your child as he or she learns to communicate
- Practicing counting together



(/news/resources/links/infographics/Pages/LanguageSkills.aspx) READ our infographic (/news/resources/links/infographics/Pages/LanguageSkills.aspx) for tips for developing your child's language skills.

Video Series: Developing Lifelong Learners

NICHD experts provide tips on how to encourage lifelong learning in your children using math, language, and reading skills:

Developing Lifelong Learners: Math Skills
https://www.youtube.com/embed/U7Nb1utXPi0

Read the Developing Lifelong Learners: Math Skills text alternative (/health/topics/early-learning/topicinfo/Pages/mathVTA.aspx).

Lifelong Learning: Language Skills for Kids
https://www.youtube.com/embed/91UwjegyzBw

Read the Developing Lifelong Learners: Language Skills text alternative (/health/topics/early-learning/topicinfo/Pages/languageVTA.aspx).

Lifelong Learning: Reading Skills for Kids
https://www.youtube.com/embed/iTPereUFukE

Read the Developing Lifelong Learners: Reading Skills text alternative (/health/topics/early-learning/topicinfo/Pages/readingVTA.aspx).

Basic things like getting enough sleep and eating a healthy diet are also important for a child's brain development and ability to learn. Creating a stable home with routines and support encourages children to learn and explore. Loud background sounds in the home (televisions, stereos, video games) can be distracting and stressful to young children and should be turned off or the volume lowered when they are present.

A good child care or preschool program also helps a child to learn and grow. For more information on evaluating and choosing a program, select a link below:

- HHS Office on Child Care Resources for Parents (https://www.acf.hhs.gov/archive/occ/occ/occ/parents)
- Apply for Head Start (http://eclkc.ohs.acf.hhs.gov/hslc/hs/directories/apply/howdoiapplyfo.htm)

You might also want to learn about the findings from the NICHD Study of Early Child Care and Youth Development (/sites/default/files/publications/pubs/Documents/SECCYD_06.pdf) (PDF 1.25 MB), which examined different features of child care and how they affected children's lives.

Citations

1. National Institute for Literacy. (2008). *Developing early literacy: Report of the National Early Literacy Panel: Executive summary.* Retrieved February 2, 2015, from https://www.nichd.nih.gov/publications/pubs/Documents/NELPSummary.pdf (PDF 681 KB)
2. U.S. Department of Health and Human Services Office of the Administration for Children and Families Early Learning & Knowledge Center. (1992). *Fun and learning for parents and children: An activities handbook.* Retrieved September 30, 2015, from https://eclkc.ohs.acf.hhs.gov/parenting/article/fun-learning-parents-children-activities-handbook
3. U.S. Department of Health and Human Services Office of the Administration for Children and Families Early Learning & Knowledge Center. (2010). *Parents and families as teachers.* Retrieved

September 30, 2015, from https://eclkc.ohs.acf.hhs.gov/curriculum/consumer-report/curricula/parents-teachers-foundational-curriculum-prenatal-3
4. American Academy of Pediatrics Council on Early Childhood. (2014). Literacy promotion: An essential component of primary care pediatric practice. *Pediatrics,134*(2), 404–409.

Video Text Alternative: Lifelong Learning Math

To view the original video, please go to http://www.nichd.nih.gov/health/topics/early-learning/topicinfo/Pages/promote.aspx (/health/topics/early-learning/topicinfo/Pages/promote.aspx)

Video/Graphics	Audio
TITLE SLIDE: **Developing Lifelong Learners: Math Skills** Animation of a young woman walking through the produce section of the grocery store with her little boy sitting in a shopping cart. Logo of the U.S. Department of Health and Human Services Logo of the NIH/*Eunice Kennedy Shriver* National Institute of Child Health and Human Development	[MUSIC]
Camera view of **Dr. Kathy Mann Koepke.** Banner text: Kathy Mann Koepke, Ph.D. Child Development and Behavior Branch	**Dr. Kathy Mann Koepke:** If you're a parent, and you want your children to be lifelonglearners, helping them to develop math skills is extremely important.
GRAPHICS SLIDE: Animation of a young woman walking through the produce section of the grocery store with her little boy sitting in a shopping cart. …	**Dr. Mann Koepke:** When you go to the grocery store, you can use this time to build math and vocabulary. You can talk about numbers and shapes by counting and pointing things out in your environment.

GRAPHICS SLIDE CONTINUED: A chalkboard drops down in the upper left corner of the screen and displays the words “more,” “smaller,” “longer,” and “heavier” one at a time. …	**Dr. Mann Koepke:** It’s helpful to use comparative words like “more,” “smaller,” “longer,” and “heavier” when you’re talking about numbered objects.
GRAPHICS SLIDE CONTINUED: The chalkboard disappears. Three red apples appear in the middle of the screen, next to the young woman and her son. …	**Dr. Mann Koepke:** For example: “Let’s buy three red apples.”
GRAPHICS SLIDE CONTINUED: A purple eggplant appears in the middle of the screen, next to the three red apples. …	**Dr. Mann Koepke:** “We can share one of those oblong eggplants because it’s bigger than the apples.”
GRAPHICS SLIDE CONTINUED: The apples and eggplant drop into the woman’s shopping cart, and a big watermelon appears in the middle of the screen. Then the watermelon shrinks in size and drops into the shopping cart.	**Dr. Mann Koepke:** “That big watermelon is too heavy for me to lift! Let’s find a smaller one.”
GRAPHICS SLIDE: Animation of the woman and her son at the checkout counter with an empty shopping cart. A cashier stands behind the register, ringing up the items on the counter.	**Dr. Mann Koepke:** By taking advantage of these opportunities, you immerse your child in math, language, and reasoning-rich environments.

GRAPHICS SLIDE: Video fades to text: Logo of the NIH/*Eunice Kennedy Shriver* National Institute of Child Health and Human Development For more information, visit www.nichd.nih.gov (/Pages/index.aspx)	[MUSIC]
FADE TO BLACK SCREEN	

Video Text Alternative: Lifelong Learning Language

To view the original video, please go to http://www.nichd.nih.gov/health/topics/early-learning/topicinfo/Pages/promote.aspx (/health/topics/early-learning/topicinfo/Pages/promote.aspx)

Video/Graphics	Audio
TITLE SLIDE: **Developing Lifelong Learners: Language Skills** Animation of a woman with a young child walking toward an apple tree. Logo of the U.S. Department of Health and Human Services Logo of the NIH/*Eunice Kennedy Shriver* National Institute of Child Health and Human Development	Instrumental music plays in the background.
Camera view of **Ruben P. Alvarez.** Banner text: Ruben P. Alvarez, Ed.D. Child Development and Behavior Branch	**Ruben Alvarez:** If you're a parent, and you want your children to be lifelong learners, helping them develop language skills is extremely important.
GRAPHICS SLIDE: Animation of a mother and her son walking through a park with apple trees and a lake in the background. The scene zooms out to show the father and his daughter flying a kite.	**Dr. Alvarez:** This can start with creating a language-rich environment at home, one where children have daily opportunities to hear and take part in conversations.

GRAPHICS SLIDE CONTINUED: The scene zooms in to show the mother and the little boy walk over to an apple tree. The mother points to the tree as a speech bubble appears above her with the text “These apples are red.” The little boy points to an apple in the tree as a speech bubble appears above him with the text “Red!”	**Dr. Alvarez:** You can make eye contact with your child, comment on something he or she is interested in, and pause for a response. This way, children learn the building blocks of a conversation.
GRAPHICS SLIDE CONTINUED: The scene shifts to the father with the little girl flying a kite. A speech bubble appears above the girl with the text “How do you say wind in Spanish, papa?” A speech bubble appears above the father with the text “*Viento*, hija. *Viento* means wind.”	**Dr. Alvarez:** If you are a parent who speaks a native language other than English, speaking to your children in this language can be beneficial.
GRAPHICS SLIDE CONTINUED: The mother and father sit at a picnic table with their son and daughter sitting between them. On the table are three bowls of salad, a sliced loaf of bread, a small bowl of dressing and a pie. A speech bubble appears above the little girl with the text “¡Él quiere postre!” The little boy puts his hands in the pie. His father looks shocked. A speech bubble appears above the mother with the text “You’re right. He does want dessert.”	**Dr. Alvarez:** Children who speak their parents’ native language tend to experience healthier family relationships and a stronger self-identity.

GRAPHICS SLIDE: Video fades to text: Logo of the NIH/*Eunice Kennedy Shriver* National Institute of Child Health and Human Development For more information, visit www.nichd.nih.gov (/Pages/index.aspx)	Instrumental music plays in the background.
FADE TO BLACK SCREEN	

Video Text Alternative: Lifelong Learning Reading

To view the original video, please go to http://www.nichd.nih.gov/health/topics/early-learning/topicinfo/Pages/promote.aspx (/health/topics/early-learning/topicinfo/Pages/promote.aspx)

Video/Graphics	Audio
TITLE SLIDE: **Developing Lifelong Learners: Reading Skills** Animation of a young mother sitting outside with her daughter on her lap. The mother holds an open book while the daughter turns the pages. Logo of the U.S. Department of Health and Human Services Logo of the NIH/*Eunice Kennedy Shriver* National Institute of Child Health and Human Development	Instrumental music plays in the background.
Camera view of **Dr. Brett Miller.** Banner text: Brett Miller, Ph.D. Child Development and Behavior Branch	**Brett Miller:** If you're a parent and want to develop lifelong learners in your children, I think there's a range of things that you can do.

GRAPHICS SLIDE: Animation of a young mother sitting on a couch with her daughter on her lap. The mother holds an open book while the little girl looks at the pages. A speech bubble appears above the little girl with the text “Does her wish come true?” Then a speech bubble appears above the mother with the text “Turn the page, and we’ll see.” The little girl turns the page.	**Dr. Miller:** You can read books to children every day. You’re giving them not only experience to the content of what’s in the book in terms of the story, the vocabulary, the sorts of background knowledge that you build through reading.
GRAPHICS SLIDE CONTINUED: Animation of a book opening to show two blank pages. A castle on a hillside with the sun in the background appears on the left-hand page. Lines of text appear on the right-hand page. A person’s hand turns the page. The text “THE END!” is on the new left-hand page and a picture of the woman and her daughter is on the right-hand page.	**Dr. Miller:** But it also gives them an understanding of the structure in the text, the flow of reading from left to right in English, flipping of a page to get you to the next content.
GRAPHICS SLIDE CONTINUED: Animation of the woman and her daughter sitting on the couch discussing the book. A speech bubble appears above the mother with the text “Where does the princess live?” A thought bubble appears above the little girl with an image of the castle from the book in the previous animation. Another speech bubble appears next to the mother with the text “What wakes her every morning?” A thought bubble appears next to the little girl with an image of the sun.	**Dr. Miller:** You can ask children questions to try to encourage them to think about what’s going to happen next—what we talk about as “W-H” questions in English: who, what, when, where, why?

GRAPHICS SLIDE CONTINUED: Animation of a table with an open cookbook on it, along with butter, flour, eggs, oranges, a pie pan and a bowl of apples. On the wall in the background hang three pictures. The picture on the left has the word “Eggplant” above an image of an eggplant. The picture on the right has the word “Apples” above an image of two red apples. The picture in the middle has the word “Oranges” above an image of three oranges. The woman and her daughter pop up behind the table and point to the pages of the cookbook. A speech bubble appears above the little girl with the text “How many apples fit inside a pie?” A speech bubble appears above the mother with the text “Let’s find out. Read the recipe to me.”	**Dr. Miller:** Also creating an environment where they see role models that are involved in these sort of lifelong processes of learning. Do whatever activities are going to be fun for you to engage with your children.
GRAPHICS SLIDE: Video fades to text: Logo of the NIH/*Eunice Kennedy Shriver* National Institute of Child Health and Human Development For more information, visit www.nichd.nih.gov (/Pages/index.aspx)	Instrumental music plays in the background.
FADE TO BLACK SCREEN	

Other Early Learning FAQs

Basic information for topics, such as "What is it?" is available in the About Early Learning (/health/topics/early-learning/conditioninfo) section. Answers to other frequently asked questions (FAQs) specific to early learning are in this section.

Where can I find information about early educational programs for my child?

Individual states offer different early education programs and resources. The website and contact information for the department of education in each state is accessible through this directory on the U.S. Department of Education website (https://www2.ed.gov/about/contacts/state/index.html).

What is "school readiness"?

School readiness refers to having the skills, knowledge, abilities, and attitudes needed for success in school and for later learning and life.

School readiness includes:

- The child's ability to meet milestones appropriate for their stage of development, including motor skills, language development, and general knowledge; their curiosity and enthusiasm; and their ability to explore and try new things
- The environment provided by the school, including high-quality instruction, leadership, appropriate teacher training, and support of relationships with parents and the community
- Appropriate support from the child's family and community, such as daily learning opportunities and supporting the child's mental and physical health

More information about school readiness and resources for helping your child are available on the Head Start website (https://eclkc.ohs.acf.hhs.gov/school-readiness).[1,2]

Citations

1. U.S. Department of Health and Human Services Office of the Administration for Children and Families Early Learning & Knowledge Center. (2015). *What is school readiness?* Retrieved February 2, 2015, from https://eclkc.ohs.acf.hhs.gov/hslc/hs/sr

2. High, P. C.; American Academy of Pediatrics Committee on Early Childhood, Adoption, and Dependent Care and Council on School Health. (2008). School readiness. *Pediatrics, 121*(4), e1008–e1015.

Early Learning Resources

Links to websites of groups that study or provide information about early learning.

Resources for Patients

- Safe Return to School For All (https://sites.wustl.edu/safereturn/) (/external-disclaimer) summarizes current evidence and best practices to help administrators, educators, and families and students—including students with disabilities—return to school safely in the context of COVID-19. The information provided is based on collaborative research from the NICHD-funded Washington University Intellectual and Developmental Disabilities Research Center, the University of Missouri-Kansas City Institute of Human Development, and the Kennedy Krieger Institute (Maryland), in collaboration with the Special School District of St. Louis County, Missouri.
- A Child Becomes a Reader series
  This series of booklets resulted from a collaborative effort by the former National Institute for Literacy, the U.S. Department of Education, and NICHD —called the *Partnership for Reading*—tobring the findings of evidence-based reading research to those with an interest in helping all people learn to read well. The booklets describe activities that parents can do with their children to improve reading skills at specific ages.
  - A Child Becomes a Reader: Birth to Preschool (/publications/product/154?from=&pubs_id=261)
  - A Child Becomes a Reader: Kindergarten Through Grade Three (/publications/product/314?from=&pubs_id=5698)
- Shining Stars series
  Like the Child Becomes a Reader series, these publications were created as part of the *Partnership for Reading*. They describe ways for parents to help their children prepare and learn to read at specific ages.
  - Shining Stars: Toddlers Get Ready to Read (/publications/product/351?from=&pubs_id=5740)
  - Shining Stars: Preschoolers Get Ready to Read (/publications/product/352?from=&pubs_id=5741)
  - Shining Stars: Kindergartners Learn to Read (/publications/product/353?from=&pubs_id=5742)
  - Shining Stars: First Graders Learn to Read (/publications/product/354?from=&pubs_id=5743)

    - Shining Stars: Second and Third Graders Learn to Read (/publications/product/355?from=&pubs_id=5744)
- Put Reading First: Helping Your Child Learn to Read (/publications/product/240?from=&pubs_id=227)
  This brochure, which is based on the findings of the National Reading Panel, describes activities that parents can do with their children to improve reading skills. It is also available in Spanish as La Lectura Es Lo Primero: Como Ayudar A Su Hijo A Aprender (/publications/product/62?from=&pubs_id=307).
- Early Childhood Learning & Knowledge Center, Resources for Families (https://eclkc.ohs.acf.hhs.gov/ncecdtl)
  Parenting resources, learning games and activities, a guide for promoting safety and health at home, and information about Head Start are available on this page, maintained by the Administration for Children and Families. The office also maintains a section on school readiness (https://eclkc.ohs.acf.hhs.gov/school-readiness).
- Early Literacy Toolkit for Families (https://www.aap.org/en-us/Pages/Default.aspx) (/external-disclaimer)
  The American Academy of Pediatrics maintains a list of online resources in English and Spanish, including reading games and tips for building language skills.
- U.S. Department of Education, Helping Your Child series
  This series of booklets and brochures, available in Spanish and in English, can be used to help children develop specific knowledge and skills.
    - Helping Your Child Learn Science (https://www2.ed.gov/parents/academic/help/science/index.html)
    - Helping Your Child Learn Mathematics (https://www2.ed.gov/parents/academic/help/math/index.html)
    - Helping Your Child Become a Reader (https://www2.ed.gov/parents/academic/help/reader/index.html)
    - Helping Your Preschool Child (https://www2.ed.gov/parents/earlychild/ready/preschool/part.html)
    - Helping Your Child Succeed in School (https://www2.ed.gov/parents/academic/help/succeed/index.html)
    - Helping Your Child Learn History (https://www2.ed.gov/parents/academic/help/history/index.html)
- Learning Disabilities Association of America (LDA): Early Childhood Resources (https://ldaamerica.org/category/early-childhood/?

audience=Parents) (/external-disclaimer)
LDA offers parents information about specific learning disabilities—such as auditory processing disorder, dyslexia, and ADHD—and resources about interventions, special education, and technology.

- Department of Education Directory by State (https://www2.ed.gov/about/contacts/state/index.html)
  The U.S. Departments of Education maintains a directory of contact information for various education offices in each state.

Please note: Links to organizations and information included on this page do not indicate endorsement from NICHD, NIH, or HHS.

Resources for Researchers and Healthcare Providers

NICHD Resources

- Child Development and Behavior Branch (CDBB) (/about/org/der/branches/cdbb)
  The CDBB, within NICHD's Division of Extramural Research (DER) (/about/org/der), develops scientific initiatives and supports research and research training relevant to the psychological, psychobiological, language, behavioral, and educational development and health of children. CDBB supports the following specific research programs:
  - Early Learning and School Readiness (/about/org/der/branches/cdbb/programs#early-learning)
  - Social and Emotional Development/Child and Family Processes (/about/org/der/branches/cdbb/programs#social)
  - Cognitive Development, Behavioral Neuroscience, and Psychobiology (/about/org/der/branches/cdbb/programs#cognitive)
  - Language, Bilingualism, and Biliteracy (/about/org/der/branches/cdbb/programs#language)
  - Mathematics and Science Cognition, Reasoning, and Learning: Development and Disorders (/about/org/der/branches/cdbb/programs#mathematics)
  - Reading, Writing, and Related Learning Disabilities (/about/org/der/branches/cdbb/programs#reading)
- Intellectual and Developmental Disabilities Branch (IDDB) (/about/org/der/branches/iddb)
  IDDB sponsors research and research training aimed at understanding

differences in early learning in children with intellectual and developmental disabilities, and at interventions to promote early learning.

- Maternal and Pediatric Infectious Diseases Branch (MPIDB) (/about/org/der/branches/mpidb)
  The DER's MPIDB examines cognitive effects of childhood HIV infection/treatment and early exposure to HIV or HIV drugs.
- Pediatric Growth and Nutrition Branch (PGNB) (/about/org/der/branches/pgnb/)
  PGNB, also part of the DER, sponsors research on the role of nutrition in learning and development.
- Child and Family Research Section
  Investigators in this lab, part of NICHD's Division of Intramural Research (/about/org/dir), investigate dispositional, experiential, and environmental factors that contribute to physical, mental, emotional, and social development in infants, children, and adolescents.
- Databrary (https://nyu.databrary.org/) (/external-disclaimer)
  The CDBB supports this open data library, housing video and audio materials and free tools for coding and analysis, for use by the developmental research community.
- Datasets from the NICHD Study of Early Childcare and Youth Development (SECCYD) (http://www.icpsr.umich.edu/icpsrweb/ICPSR/series/233) (/external-disclaimer)
  The University of Michigan maintains a shared database available to researchers by application. The study spans four phases, from 1991 to 2008.

Other Resources

- Developing Early Literacy: Report of the National Early Literacy Panel (/publications/product/346?pubs_id=5750)
  Published in 2010, this report assesses instructional practices used with children from birth to age 5; the aim is to aid parents and educators in supporting emerging literacy skills. In addition to the full report, an executive summary (/publications/product/345?pubs_id=5749) and a guide for childhood administrators and professional development providers (/publications/product/347?pubs_id=5751) are available.
- Head Start Approach to School Readiness (https://eclkc.ohs.acf.hhs.gov/school-readiness)
  The information in this site, maintained by the Administration for Children and Families, encompasses three major frameworks that promote an

understanding of school readiness for parents and families, infants/toddlers, and preschoolers.

- National Science Foundation—Directorate for Education and Human Resources (EHR) (http://www.nsf.gov/dir/index.jsp?org=EHR)
  EHR supports science, technology, engineering, and mathematics (STEM) education at all levels by offering funding opportunities (http://www.nsf.gov/funding/pgm_list.jsp?org=EHR), resources for K-12 (http://www.nsfresources.org/home.html) (/external-disclaimer) educators, special reports (http://www.nsf.gov/news/special_reports/), and other information.
- Neurodevelopmental MRI Database (https://jerlab.sc.edu/projects/neurodevelopmental-mri-database/) (/external-disclaimer)
  This is a database of MRI average templates for infants, children, adolescents, and adults. Researchers can request access using the contact information on the site.
- NIH MRI Study of Normal Brain Development (https://nda.nih.gov/edit_collection.html?id=1151)
  Qualified researchers can access data from the Pediatric MRI Data Repository developed as part of this study, including anatomical MRI, diffusion tensor imaging, and MR spectroscopy data.
- Institute of Education Sciences (IES) (https://ies.ed.gov/)
  The research arm of the Department of Education, the IES issues funding opportunities (https://ies.ed.gov/funding/) for research and training grants.
  - Early Childhood Longitudinal Study (ECLS) (https://nces.ed.gov/ecls/)
    The National Center for Education Statistics, part of the IES, also provides researchers access to data from the ECLS, which gathers national data on childhood development from birth through 8th grade.
- Report of the National Reading Panel: Teaching Children to Read (/publications/product/64?pubs_id=89)
  NICHD led an independent panel established by Congress to evaluate research about reading instruction, the National Reading Panel, that issued its findings in 2000.
  - Put Reading First: The Research Building Blocks for Teaching Children to Read (/publications/product/239?pubs_id=226)
    This publication, based on the work of the National Reading Panel, discusses the implications of its findings for the classroom.
- Using Research and Reason in Education: How Teachers Can Use Scientifically Based Research to Make Curricular and Instructional Decisions

This paper, published in 2003, offers educators guidance on developing skills to independently evaluate educational research. The content is also summarized in a brochure, What Is Scientifically Based Research? A Guide for Teachers (/publications/product/344?pubs_id=5748).

- Science Education Conversations
  NIH has archived a series of eight videos on the topic of science education from 2012 and 2013.
- National Association for the Education of Young Children (NAEYC) (https://www.naeyc.org/) (/external-disclaimer)
  NAEYC, a membership organization for professionals in the early childhood field (birth through age 8), has an accreditation program for early childhood education programs and for educator degree programs. The organization has an official position on school readiness, outlined in the publication NAEYC: Where We Stand on School Readiness (https://www.naeyc.org/sites/default/files/globally-shared/downloads/PDFs/resources/position-statements/Readiness.pdf) (/external-disclaimer) (PDF 129KB).

Please note: Links to organizations and information included on this page do not indicate endorsement from NICHD, NIH, or HHS.

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