In the first years, trillions of neural connections are made—forming the foundation for future learning.

The architecture of the brain is being built from the ground up, based not just on genes but our experiences and interactions.

But, as you will see, it is never too late.
Positive relationships with caring adults are essential for brain development

“When we talk about how the environment affects young children, we're really talking about most importantly the human environment and we're talking about relationships. There is no healthy social, emotional and cognitive progression in the absence of relationships. There is no development without relationships!”

—Jack P. Shonkoff, Harvard University
PROMOTING SERVE AND RETURN.

AN ESSENTIAL strategy in improving children’s LEARNING
The brain is built for action.
PROMOTING EXECUTIVE FUNCTIONS.

AN ESSENTIAL strategy in improving children’s LEARNING
Executive function refers to the top-down neurocognitive processes involved in the flexible, goal-directed problem solving.

(Zelazo, et al., 2008)

Executive function involves managing thought, action and emotion to achieve goals.

(Miyake et al., 2000)
Executive Function Life Skills are important to school readiness and school success.
Children need to learn content (the **what** of learning) and executive function skills (the **how** of learning.)
Self control skills are predictive of academic achievement

(Blair and Razza, 2007; Schmitt et al., 2014)
Executive Function Life Skills are important in addressing high school success, college success and the graduation rate.
Self-control predicts college students’ grades, fewer impulse control problems, better adjustment and better relationships.

(Tangney et al., 2004)
One aspect of executive function skills in four-year-olds—“attention span persistence”—is strongly predictive of whether or not these same children graduated from college when they were 25 years old.

(McClelland et al., 2012)
Executive Function Life Skills are important in workforce readiness and workforce success.
Executive functions are predictive of physical health, substance dependence, criminal convictions, and personal finances achieved at age 32, after controlling for socioeconomic status of origin and IQ. (Moffitt et al., 2011)
Families and Work Institute has studied these issues for several decades.
Employers are concerned that new entrants to the workforce have a fill in the bubble mentality, aren’t used to working in teams, and don’t have experience in challenging themselves.
If we are going to make a difference in school readiness, school success, workforce readiness and workforce success, Executive Function Life Skills are a strong place to intervene...
Interventions shown to Aid Executive Function Development in Children 4–12 Years Old

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Abstract

To be successful takes creativity, flexibility, self-control, and discipline. Central to all these are “executive functions,” including mentally playing with ideas, giving a considered rather than an impulsive response, and staying focused. Diverse activities have been shown to improve children’s executive functions—concentrated training, non-conceptualized games, aerobics, martial arts, yoga, mindfulness, and school curricula. Central to all these is repeated practice and constantly challenging executive functions. Children with worse executive functions initially benefit most; thus early executive-function training may even widen achievement gaps later. To improve executive functions, focusing narrowly on them may not be as effective as also addressing emotional and social development (e.g., curricula that improve executive functions) and physical development (shown by positive effects of aerobics, martial arts, and yoga).

What will children need to be successful? What programs are successfully helping children develop those skills in the earliest school years? What do those programs have in common?

Four qualities will probably be key to success—creativity, flexibility, self-control, and discipline. Children will need to think creatively to devise solutions never considered before. They’ll need working memory to mentally work with masses of data, seeing new connections among elements. They’ll need flexibility to appreciate different perspectives and take advantage of serendipity. They’ll need self-control to resist temptations, and yet doing something they do enjoy. Tomorrow’s leaders will need to have the discipline to stay focused, seeing tasks through to completion.

All of these qualities are “executive functions” (EFs), the cognitive control functions needed when you have to concentrate and think, when acting on your initial impulse would be ill-advised. EFs depend on a neural circuit in which prefrontal cortex is central. Core EFs are cognitive flexibility, inhibition (self-control), self-regulation, and working memory (1). More complex EFs include problem-solving, reasoning, and planning. EFs are more important for school readiness than IQ (2). They continue to predict math and reading competence throughout all school years (2, 3). Clearly, to improve school readiness and academic success, targeting EFs is crucial. EFs remain critical for success throughout life (3, 4) and marriage (5) and for mental and physical health (6, 7).

(Diamond and Lee, 2011)
Seven Evidence-Based Executive Function Life Skills that can help children and adults thrive now and in the future.

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Focus and Self Control
Perspective Taking
Communicating
Making Connections
Critical Thinking
Taking on Challenges
Self-Directed, Engaged Learning

EXECUTIVE FUNCTION LIFE SKILLS

It all begins with you.
Focus and Self Control
Factors That Matter: Helping Children Develop Their Own Strategies

THE MARSHMALLOWS TEST
WALTER MISCHEL
RESOLVING CONFLICTS IN THE SCHOOL-AGE YEARS

LAWRENCE ABER

Factors That Matter: Helping Children Understand The Perspectives Of Others

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Children learn to communicate with conversation duets—with and without words!
Factors That Matter: Playing Math and Science Games With Children
Critical Thinking
Factors That Matter: Promoting Curiosity
Factors That Matter: Promoting Reflection

Time for reflection—building that skill and the skills of Problem Solving and Critical Thinking
Taking on Challenges
Self-Directed, Engaged Learning
Surround Strategy

EXECUTIVE FUNCTION LIFE SKILLS

All focused on relationships
COMMUNITY LEADERS
PARENTS
EDUCATORS BIRTH – EIGHT
HEALTH CARE
MUSEUMS AND LIBRARIES
MEDIA
MIND IN THE MAKING
EXPERIMENTS IN CHILDREN’S LEARNING DVD
Seven Essential Life Skills Modules for Families And Professionals provide new approach to learning and teaching.

The Eight Modules:

- Promote Executive Function Life Skills for children by promoting them first for adults.
- Provide adults with first-hand experience with child development research.
- Use the language of science
- Tie action to research.

Funded by the W. K Kellogg Foundation and the Marks Family Foundation.
The Eight Modules (continued):

- Reframe adults’ approach to children’s behavior away from managing children’s behavior to providing opportunities to teach life skills.

- Foster goal setting among adults.

- Use an evidence-based theory of teaching and learning.

- Create linkages and alignments among systems in the 0-8 systems.

- Redefine family engagement.

Funded by the W. K Kellogg Foundation and the Marks Family Foundation.
SEVEN ESSENTIAL LIFE SKILLS MODULES
- Albuquerque and other communities in New Mexico
- Arlington, Virginia
- Austin, Texas
- Baltimore, Maryland
- Detroit, Michigan
- Evansville, Indiana
- Fairfax County, Virginia
- Hartford, Connecticut
- Houston, Texas
- New York City, New York—Children’s Aid Society
- Multnomah County, Oregon
- Providence, Rhode Island
- Tucson and other communities in Arizona
- Tulsa and other communities in Oklahoma
- Charleston and other communities in West Virginia

LEARNING MODULES FOR EDUCATORS
- Florida
- New Jersey
- New Mexico
- Ohio
- Pennsylvania
- Rhode Island
- West Virginia
MIND IN THE MAKING
LIBRARY OF CHILDREN’S BOOKS, GAMES, AND FREE TIP SHEETS

- Selected library of 98 books for infant-toddlers, preschoolers and school-age children that promote

- First Book makes these books available at greatly reduced prices for programs serving low-income children.

- Mind in the Making created free tips sheets showing how to promote Executive Functions—256,231 downloads since September 2013—164,955 in English and 91,276 in Spanish: http://mindinthemaking.org/firstbook/.

Collaboration between First Book and Mind in the Making funded by the Popplestone Foundation.
Tips sheets take frequently asked questions by parents, and offer strategies that work in moving from managing children’s behavior to promoting Life Skills.

http://www.mindinthemaking.org/prescriptions-for-learning/

Funded by the Popplestone Foundation.
We have been working with the Bezos Family Foundation to create materials for an initiative called Vroom. Vroom was born out of a need for creative tools and materials that inspire families to turn everyday moments into brain building moments. It was developed with thoughtful input from parents, early childhood experts, neuroscientists, and community leaders in order to share the science of early brain development in new ways so that all children have the chance to become thriving adults. The Bezos Family Foundation provided funding, and a lot of passion, because they believe that all parents have the potential to create a bright future for their children.

http://www.joinvroom.org
EVERYONE CAN PROMOTE THESE SKILLS AND EVERYONE CAN LEARN THESE SKILLS.

IT DOES NOT TAKE EXPENSIVE TOYS OR MATERIALS.

DOING EVERYDAY THINGS IN NEW WAYS.
MIND in the Making
FROM RESEARCH TO ACTION

Find resources at MindInTheMaking.org and FamiliesAndWork.org

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