Our central mission is to keep the fire in children’s eyes for learning burning brightly and to keep their engagement in learning strong.
MIND IN THE MAKING
RESEARCH
MIND IN THE MAKING

is an unprecedented effort to share the science of children’s learning with the general public, families and professionals who work with children and their families and to create action projects based on the science.

THE PROBLEM

Children are born learning—with a fire in their eyes for learning—and with tremendous potential.

But gaps—the achievement gap and the opportunity gap—emerge as early as infancy and continue to widen as children grow.

The fire for learning dims for too many children.

In addition to a drop-out-of-school problem, the U.S. has a drop-out-of-learning problem.

THE APPROACH

The question we have pursued is: how can we keep the fire for learning burning in children’s eyes and keep their engagement in learning strong?

Beginning in 2000, Families and Work Institute staff reviewed more than 1,000 studies and conducted in-depth interviews with close to 100 leading researchers who study children’s learning from many different academic disciplines—neuroscience, cognitive science, developmental research, the development of literacy, math, and STEM sciences—filming these researchers “in action,” as they conduct their actual experiments.
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 on experiences. Although the early years are the best time to begin, it is never too late to promote children's brain development and learning.

When we talk about how the environment affects young children, we're really talking about relationships. **There is no development without relationships!**
—Jack P. Shonkoff, Harvard University

Serve and Return forms the platform for early learning. Children learn by reaching out and then having someone respond. Like a game of ball, the child serves and a responsive adult returns the serve.
—Megan Gunnar, University of Minnesota

If you look at what predicts how well children will do later, more and more evidence is showing that executive functions actually predict success better than IQ tests.
—Adele Diamond, University of British Columbia
Executive function refers to the top-down neurocognitive processes involved in flexible, goal-directed problem solving.”

(Zelazo et al., 2008)

Executive function involves managing thoughts, actions and emotions to achieve goals.

(Miyake et al., 2000)
WHAT ARE EXECUTIVE FUNCTION LIFE SKILLS?

- **Focus**—being able to pay attention;

- **Working memory**—being able to keep information in mind in order to use it;

- **Cognitive flexibility**—being able to adjust to shifting needs and demands; and

- **Inhibitory control**—being able to resist the temptation to go on automatic and do what we need to do to achieve our goals.

As children grow older, these skills include reflecting, analyzing, planning and evaluating.
“Executive function skills are crucial building blocks for the early development of both cognitive and social capacities.”

(Center on the Developing Child, 2011)
Self control skills are predictive of early math and reading ability, independent of intelligence. (Blair and Razza, 2007)
The ability to delay gratification in preschool is a developmental precursor for this ability years later.  
(Eigsti et al., 2006)
Executive function skills are increasingly assessed in tests like the PISA that is not just examining what students know but how they can USE knowledge in new settings, inside and outside of school.
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 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)
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—there is a skills gap leaving millions of jobs unfilled.
Executive function life skills are a strong place to intervene because research shows that they can be improved.

(Diamond and Lee, 2011)
FOCUS AND SELF CONTROL

PERSPECTIVE TAKING

COMMUNICATING

MAKING CONNECTIONS

CRITICAL THINKING

TAKING ON CHALLENGES

SELF-DIRECTED, ENGAGED LEARNING

Seven Evidence-based Executive Function Life Skills That Can Help Children and Adults Thrive Now and in the Future.
David A. Hamburg, MD, Weill Cornell Medical College and President Emeritus of the Carnegie Corporation of New York

Mind in the Making is the central component of a creative, multi-faceted initiative that clarifies paths to lifelong learning—related to discoveries about brain development and how learning builds on the structure and function of the brain. It is a valuable contribution based on solid research that yields practical benefits."

Philip David Zelazo, Professor, Institute of Child Development, University of Minnesota

The future of our society depends on how we treat our children and this remarkable book, richly illustrated with examples from the latest scientific research, provides an engaging and well-informed characterization of the developmental challenges children face. It will be of enormous value to parents, educators and policy makers, and serious students of child development."

Alison Gopnik, Professor of Psychology, University of California at Berkeley

Ellen Galinsky has been one of our most thoughtful as well as passionate advocates for children. In this book she assembles the latest fascinating research from the very best scientists in the field and presents it clearly and accurately, in a way that parents and others will find most valuable."

Kathy Hirsh-Pasek, Professor of Psychology, Temple University

Mind in the Making is a tour de force. In Galinsky’s hands, the latest scientific discoveries about how children learn are carefully molded into seven seemingly simple but profound skills that predict success in the 21st Century."
Roberta Michnick Golinkoff, Professor of Education, Psychology and Linguistics and Cognitive Science, University of Delaware

A book of incomparable quality about what is best for children and why in today’s world. Mind in the Making helps you assemble the ingredients in your own kitchen for rearing children who are intelligent, emotionally secure, and equipped to succeed."

Lisa Belkin, New York Times

"[Mind in the Making] may well be the next iconic parenting manual, up there with Spock and Leach and Brazelton."

Michele Borba, Ed.D., author of The Big Book of Parenting Solutions

"[Ellen Galinsky’s] latest book, Mind in the Making just put her in the ‘Child Development Expert Hall of Fame.’ Mind in the Making is one of those rare and glorious books that will make a difference on our children’s lives and future."

Judy Woodruff, Co-Anchor and Managing Editor of PBS NewsHour with Gwen Ifill and Judy Woodruff

Ellen Galinsky—already the go-to person on interaction between families and the workplace—draws on fresh research to explain what we OUGHT to be teaching our children. This is must-reading for everyone who cares about America’s fate in the 21st century."

- Sold over 100,000 copies;
- Has remained among top 100 early childhood parenting books on Amazon for four years;
- Selected as one of the top ten non-fiction books by the Washington Post (May 2014);
- Received 2 billion media impressions; and,
- also comes in a video book (Vook) and an audio book format.
2 DVDs with videos of 42 experiments conducted by top child development scientists including the hypotheses, the methodology, the key findings, the implications and references

Funded by the Popplestone Foundation.
This is a selected library of 42 books for infant-toddlers, preschoolers and school-age children that promote Executive Function Life Skills.

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—downloaded 103,000 times between September 2013 and June 2014: http://mindinthemaking.org/firstbook/.

Collaboration between First Book and Mind in the Making funded by the Popplestone Foundation.
A selection of 12 books and tips sheets are available from Raising a Reader.

42 new books, games and tip sheets in a partnership with First Book will be available in 2014.
MIND IN THE MAKING
PRESCRIPTIONS FOR LEARNING

Learning Math
Promoting Making Connections in Preschoolers
Six Strategies That Work in Moving from Managing Behavior to Promoting Life Skills

Question: My son just turned four years old, and he does not want to learn how to count past 5. I’ve tried flashcards, videos and books. How can I help my son learn math?

Children have what researchers call a number sense from early infancy on: they can tell the difference between large and small numbers of things. We can build on this early ability in positive or negative ways. Susan Levine from the University of Chicago says:

What we’re finding in our studies is that early input plays a role in whether children are good at math. Whether people consider themselves a math person or not a math person may be related to the teaching they receive.

1. Use “math talk” often. One of the best ways to help your son become a “math person” is by helping him make connections between his experiences and math ideas—numbers, quantities and shapes—in everyday ways.

For example, you could say:
- “How many people will be here for dinner? Let’s count the people, so we put out enough forks.”
- “Do you think this old shirt still fits you? Let’s measure it against the shirt you wore yesterday to see if it is the same size, bigger or smaller.”

2. Reinforce words with objects or gestures. Susan Levine found that when you point or use objects, it will make a difference in how your child learns math.

For example, you can say:
- “We need to push the number three on the elevator.” Hold up three fingers and then count the floors as you pass them in the elevator.
- “We have five people eating with us, let’s count five spoons.” Point to each spoon as you count to five.

3. Think of math as a language that you want your child to become fluent in. You can think of math as a “language” that helps your son make sense of his everyday experience instead of thinking of math as memorizing how to count to 5 and other facts and figures (typically taught through math exercises, flashcards, videos, etc.). It is useful to imagine learning a new language other than the one you typically speak—a language that has unfamiliar symbols for letters. If you were presented with a list of these symbols to memorize, it would probably be harder than if you were around others who use this language and symbols in their everyday life. The same is true for helping your son with math. If you use math ideas as a part of everyday experiences, your son is less likely to resist learning math and more likely to become fluent.

Tips sheets take frequently asked questions by parents, showing how to turn behavioral issues into opportunities to promote Life Skills.

Funded by the Popplestone Foundation.
MIND IN THE MAKING LEARNING MODULES FOR EDUCATORS

11-part, facilitated learning process designed to bridge the gap between research and teaching practice.

A new approach to professional education. The Modules:

- Engage educators in an experiential process of self-reflection and self-discovery that encourages them to think about various aspects of learning in their own lives.
- Connect the adults’ experiences to the research on that type of learning in children’s lives.
- Use videos of the most respected and compelling child development research on that topic.
- Provide evidence-based activities that participants use to promote learning in children.
- Provide participants with an Individual Development Plan process that they use throughout the Modules.


www.mindinthemaking.org
Evaluation of the Learning Modules for Educators

These Modules have been evaluated by several independent studies.

Pennsylvania

The findings showed that this training was a very positive experience for educators, increased their knowledge, and improved classroom practice significantly toward the excellent range.

“Teachers who participated in MITM Modules increased their overall classroom quality through better communication with the children that enriches language, better learning opportunities for the children through the use of play and materials, and more activities to increase the social development of children in the classroom.”


Massachusetts

The findings showed that participants:

• Had very positive experiences with the Learning Modules;
• Gained knowledge from participating in MITM, which they could apply to their work children and families;
• Increased their knowledge of how children learn and develop;
• Increased their perceived confidence in their skills and abilities in supporting children’s learning and development;
• Improved their reported comfort with their relationships with children and families; and,
• Enhanced their perceived knowledge of how to support children’s learning and development.

A new approach to learning and teaching. The Modules:

- **Are community focused:** We begin our work in communities by convening community leaders whose work affects children and families—leaders from the public schools, early childhood programs, health care, social services, parent education, libraries and museums, etc.—to learn the Modules together in an Institute. This creates a shared understanding of the research. These leaders then become the “teachers” who take the Modules out to their community constituencies.

- **Are multi-generational:** Each of the eight Modules begins by engaging adults—families and professionals—in an experiential process of self-reflection and self-discovery where they experience their own competence in the skill, probe why this skill is important in their own lives and take responsibility for proposing strategies to improve this skill in themselves. The Module then connects adults’ experiences to the research on the skill in children’s lives—how it develops, why it is important and how it can be promoted.

- **Tie action to evidence-based research.** In the Modules, participants make specific plans to promote the skills in themselves and in children, which they report on in subsequent Modules. In addition, each Module has stated Learning Goals and Learning Outcomes.

- **Use an articulated theory of teaching and learning.** Drawing on our research review, we have developed a list of ten effective teaching and learning principles. The Modules are taught using these stated principles, trainers are evaluated using these principles and participants are expected to use these principles in their work with children.
8 Modules that share research on promoting Executive Function Life Skills in adults and children.

• **Are compellingly presented.** The Modules use videos of child development research and provide first-hand experiences that promote self-reflection and are designed to involve participants socially, emotionally and cognitively.

• **Use the language of science.** In sharing the science, the Modules introduce some new terms, which are intended to move away from old educational debates and create a shared language based on an assets approach.

• **Create linkages among early childhood systems.** The diverse community leaders who learn the Modules then teach the Modules to their constituencies, using an unusual process of co-facilitation with leaders from other sectors. Thus, we engage an ever-widening group of community members in a learning journey with people across sectors.

• **Redefine family engagement.** Families and professionals learn the Modules together, thus shifting family engagement from a top-down, professionals-as-the-conveyers-of-knowledge approach, to a mutual learning approach.


Funded by the W. K Kellogg Foundation and the Marks Family Foundation.
MIND IN THE MAKING

DISSEMINATION
MIND IN THE MAKING
HAS TAKEN A SEQUENTIAL APPROACH TO DISSEMINATION

• **Community Schools:** The purpose of this collaborative project (W. K. Kellogg Foundation 2011-2015) with the Institute for Educational Leadership (IEL) and Children’s Aid Society (CAS) is to bring the Seven Essential Life Skills Modules to 15,000 people through community schools in six communities in a training of the trainer model. The results of this experiment will be externally evaluated.

  Funded by the W.K. Kellogg Foundation.

• **School Systems/ Early Childhood Systems:** We have conducted training institutes for the Seven Essential Life Skills Modules in numerous states and communities.

• **Organizations:** American Federation of Teachers (AFT) is offering an Introduction to the Seven Essential Life Skills Modules to its early childhood members.
SEVEN ESSENTIAL LIFE SKILLS MODULES

- Albuquerque and other communities in New Mexico
- Austin, Texas
- Baltimore, Maryland
- Detroit, Michigan
- Atlanta and other communities in Georgia
- Evansville, Indiana
- Fairfax County, Virginia
- Hartford, Connecticut
- 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
In order to reframe common behavioral issues that families bring to pediatricians as opportunities for families to promote Executive Function Skills, we have worked with Sherri L. Alderman, MD, MPH, IMH-E, FAAP, a Developmental Behavioral Pediatrician, to create a 1-hour Basic Mind in the Making Module for Pediatricians as well as tools for families and for medical practitioners.

Dr. Alderman will apply for Maintenance of Certification (MOC) credit for this Module—a certification that enables pediatricians to learn about up-to-date developments in medical practice.

Funded by the Popplestone Foundation.
A Report on Sharing Best Practices: In collaboration with the Institute for Museum and Library Services (IMLS), we are creating a report on best practices in presenting information about brain development and Executive Functions in children’s museums, science museums and libraries.

Community-Based Design Teams: With IMLS, we will use a Request for Proposal (RFP) process to forge new partnerships with national organizations, local science and children’s museums and libraries. We will select pilot community design teams to develop new visual displays, exhibits, outreach and education tools that can be replicated by other libraries and museums.

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.bezosfamilyfoundation.org/vroom
In the spring of 2014, we began working with some well-known children’s television producers to incorporate the life skills into their programming in children’s media.
We are proud to be working with these sites:

The Providence Public School Department (PPSD) and Ready to Learn Providence (a program of The Providence Plan) received a $3 million grant in February 2014 through the U.S. Department of Education’s Investing in Innovation Fund (i3). “Empowering Families” creates opportunities for families and school professionals to learn together. Overall, 2,580 families, 240 PPSD teachers and 160 other school personnel will participate in Mind in the Making over the next four years. In addition to the parents and caregivers recruited at kindergarten registration, the class will be offered to families and school personnel (K-Grade 3) at all 21 elementary schools in Providence.

The Community Service Council of Greater Tulsa received funding in April 2014 from the W.K Kellogg Foundation as a part of their competitive grants program to transform family engagement. “The Power of Families Project” will expand the capacity of Tulsa-area family, friend and neighborhood care environments to provide successful equitable early childhood experiences for children who are not able to access formal early childhood programs and/or whose first language is not English and includes Mind in the Making training.

The state of New Mexico is using Mind in the Making to bring together state standards, Mind in the Making skills, and Common Core State Standards requirements as a way of promoting leadership through the University of New Mexico Family Development Program and the New Mexico School Leadership Institute.

The state of Georgia is implementing Mind in the Making Seven Essential Life Skills and Educator Modules as part of their Race to the Top quality enhancement efforts. There is particular focus on Infant Toddler Specialists, Spanish speaking families and providers as well aligning systems throughout the state.
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