

BRAIN-BUILDING POWERHOUSES:

How Museums And Libraries
Can Strengthen
Executive Function Life Skills

Families and Work Institute
in partnership with
The Institute of Museum and Library Services
and
School Readiness Consulting

MIND in the Making



Families and **Work** Institute



INSTITUTE of
Museum and **Library**
SERVICES

BRAIN-BUILDING POWERHOUSES



Brain Building Powerhouses: How Museums and Libraries Can Strengthen Executive Function Life Skills

Mind in the Making | Families and Work Institute
Institute of Museum and Library Services
September 22, 2015



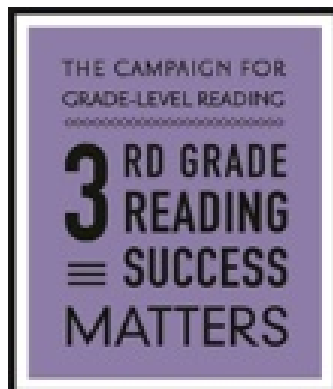
IMLS Commitment to Early Learning

- **Grants**

IMLS has invested over \$8.5 million in projects supporting early learning since 2012.

- **Partnerships | Initiatives**

Head Start



Growing Young Minds



Growing Young Minds calls upon policy makers and practitioners to **fully use the capacity of libraries and museums** to close knowledge and opportunity gaps and give all children a strong start in learning.

3

Supporting development of executive function and “deeper learning” skills through literacy and STEM-based experiences Museums and libraries help lay the foundations for later learning and academic and career success, including basic literacy, reading, and STEM. They are adept “brain builders,” offering learning environments that address the important social, emotional, and cognitive aspects of learning and foster persistence, self-direction, critical thinking, and problem solving.

ANDREA CAMP

Libraries and Museums:
Shaping A Child's Learning
The Conversation Deepens



2003**The Twenty-First Century Learner: The Continuum Begins with Early Learning.**

- FWI and IMLS collaborate on symposium that is a first look at role of museums and libraries in early learning.

2013**IMLS releases Growing Young Minds.**

- Report highlights development of Executive Function Skills around 10 Ways Museums and Libraries Support Young Learners.

2015**FWI and MITM release Brain Building Powerhouses.**

- Report highlights examples of museums and libraries at the forefront of supporting Executive Function skills.

EXECUTIVE FUNCTION LIFE SKILLS

Ellen Galinsky
Families and Work Institute



WHY ARE EXECUTIVE FUNCTION SKILLS IMPORTANT?

Research over the past couple of decades has revealed that executive function life skills are an important predictor of long-term development outcomes —

they are an excellent predictor of school achievement, for example, but also predict the likelihood of graduating from college, SAT scores, educational and economic achievement in adulthood, physical health and the like.

Educators have become interested in [executive function life skills], recognizing that [they] often provide a better predictor of children's likelihood of success than does IQ, which is the traditional way of assessing individual differences in their relevance for school achievement.

PHILIP DAVID ZELAZO, PHD, UNIVERSITY OF MINNESOTA

What Are Executive Function Skills?

At their core, executive function life skills include brain processes that are essential for goal-directed problem solving. They are:

- **being able to think flexibly** — being able to think about something from multiple points of view, for example, being able to take somebody's perspective on a situation;
- **working memory** — keeping information in mind, keeping it available in consciousness so that it can be used to guide behavior in the course of problem solving; and
- **inhibitory control**, which refers to an effortful ability to suppress attention to distracting information and stay focused.

– Philip David Zelazo, PhD, University of Minnesota



Why Are Executive Function Skills Important?

To watch the video, go to:

<http://youtu.be/eZl4NhVfstk>

Executive Function Life Skills

Focus and Self Control

Perspective Taking

Communicating

Making Connections

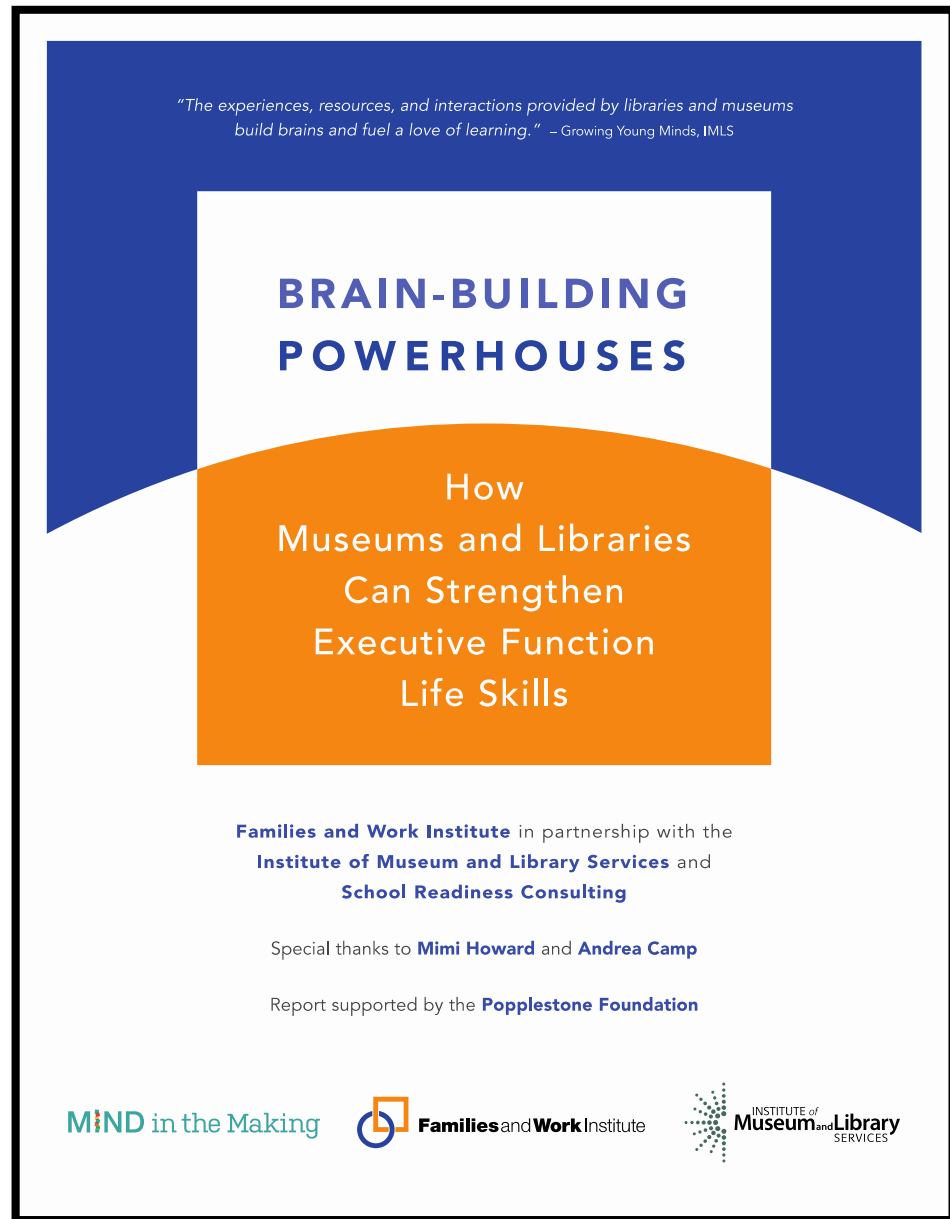
Critical Thinking

Taking on Challenges

Self-Directed, Engaged
Learning



Why This Report?



Everywhere, All-the-Time Learning: The Importance of Museums and Libraries!



SCIENCE MUSEUM OF MINNESOTA

Laurie Kleinbaum Fink, Ph.D.
Director of Science Programs
Science Museum of Minnesota



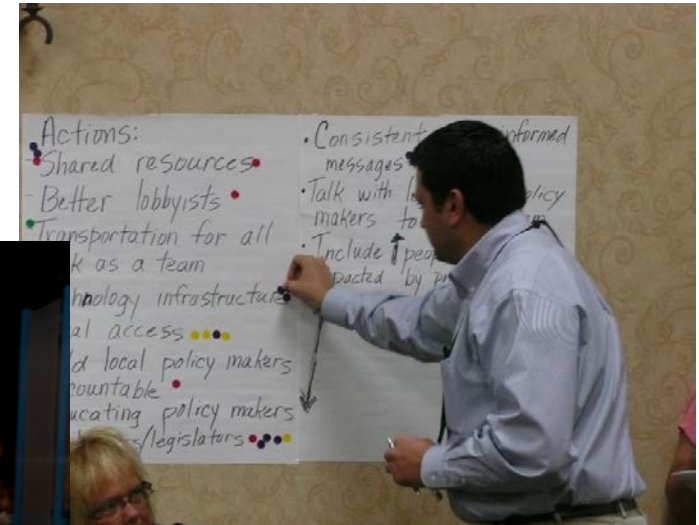
Family Engagement



Play and Inquiry Based Programs



Community Partnerships



SHARED LANGUAGE

Stephanie Terry, Executive Director
Children's Museum of Evansville
Evansville, Indiana
sterry@cmoekids.org



More than just an exhibit...

Quack Factory



Ready, Set, Go!



Educational Handouts

- Explained how the Seven Essential Life Skills are highlighted in that specific gallery.
- Provided insight into how children's interactions with the exhibit are influenced by the Seven Essential Life Skills.
- Provided tips to educators and parents tips to help them create new and innovative ways to promote the skills in their classrooms and home.

MIND in the Making

Ready, Set, Go!

The Ready Set Go exhibit is a great example of the Seven Essential Skills. From choosing which parts to add and actually adding the pieces; 7ES play a major role while children explore this exhibit. You will see children focus on which pieces to add, communicate with other children around them, make connections with what others are doing based on prior experience and lessons, think critically about what to do next, and take on the challenge of creating the car of their dreams. Please take time to observe the exhibit and imagine how children use the seven skills while exploring.

The Ready Set Go exhibit is a great example of the Seven Essential Skills. From choosing which parts to add and actually adding the pieces; 7ES

Seven Essential Skills in Action:

- Children focus on what they want to build
- Children gain an understanding of perspectives of others also exploring the exhibit
- Children communicate with other children
- Children think critically on what pieces to use and where to put them
- Children make connections based on experiences to help them decide how to use pieces and parts
- Children take on the challenge of creating the car of their dreams
- By combining all seven skills, children become self - directed learners

Extensions for Home and School:

- Allow children uninterrupted time to explore materials
- Listen and observe how children are communicating with others
- Encourage children to persevere
- Engage in a conversation about their work and steps they are taking
- Help guide children to make connections to careers and real life experiences
- Observe how children overcome challenges
- Promote the use of everyday materials found at home (i.e.: sticks, towel rolls, etc.)

PORTLAND CHILDREN'S MUSEUM

KERRY SALAZAR

Teacher-Researcher
Opal Charter School
of the Portland
Children's Museum



A *Museum* WHERE PLAY TEACHES SKILLS FOR LIFE

<http://bit.ly/pcmmitm>





SMITHSONIAN EARLY ENRICHMENT CENTER

Kimberlee Kiehl, Ph.D.
Executive Director



- 135 children ages 2 months-Kindergarten in two locations—NMNH and NMAH.
- The 19 museums and research facilities of the Smithsonian and the surrounding DC community are a key piece of our curriculum.
- Early childhood educators, museum educators, artists and scientists work collaboratively.

Making Connections at SEEC

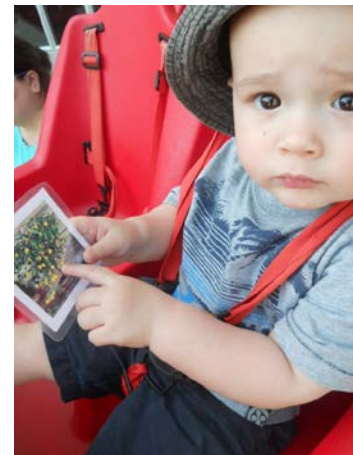
- Sorting, categorizing
- Matching
- Flexible thinking
- Ability to ask thoughtful questions and to search for the answers/knowledge

Asking questions across time and space

The real object....



Books and prints....



Building connections....

Providing the children with multiple exposures to a variety of different materials over time helps them build connections between things known and things unknown, between their daily world and the worlds of others, and builds the capacity for flexible thinking.



Community as “classroom”



ARIZONA STATE LIBRARY

Holly Henley

Deputy Director,
Library Services

Arizona State Library,
Archives and Public Records

A Division of Arizona
Secretary of State Michele Reagan



Brain Boxes®

Created by Jill Stamm, Ph.D., co-founder of New Directions Institute for Infant Brain Development, a member of Arizona's Children Association

- 12 boxes with activities for parents and caregivers to use with children from birth to 5½ years old.
- Feature bilingual activity cards to guide use that links to brain development and school readiness.
- Used by Arizona libraries in programs to model adult-child interaction with books, puppets, toys, and music.

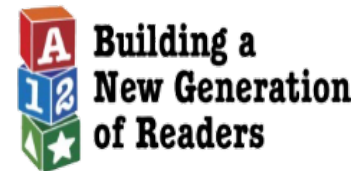


Staff Training



Connections to Executive Function Life Skills

- Use of a placemat for the activity encourages **focus and self-control**.
- Tips on the activity cards provide ideas for parents/caregivers to help children build **communication skills**.
- Specific activities require children to do sorting, comparing and matching activities that require **making connections**.
- Adult-child interaction fosters use of **critical thinking** as the adult poses questions that involve formulating theories and testing them to respond.



PROVIDENCE PUBLIC LIBRARY

Anne Kilkeny, M. Ed.
Early Childhood Services
Coordinator
Children's Librarian



Chace Children's Discovery Library

- Designed in collaboration with Providence Children's Museum.
- Opened in January 2012.
- Interactive early literacy learning space.
- Develop skills through play and exploration.



at
Providence Public Library

Self-Directed, Engaged Learning

- Children need time and space to explore and experiment with different materials and experiences.
- Responsive, caring adults can support these learning opportunities.



Making the Connection

- Reading together creates a strong, positive bond between children and their caregiver.
- Books provide new ideas about ourselves and how the world works.



- Children engage in opportunities to connect their knowledge in a variety of ways.
- Caring adults provide stimulating interactions and experiences.

COLUMBUS METROPOLITAN LIBRARY

Kathy Shahbodaghi
Public Services Director
Columbus Metropolitan Library
Columbus, Ohio

kshahbodaghi@columbuslibrary.org



Supporting Kindergarten Readiness

Programmatic Focus:

1. SPARK
2. Home Visits
3. Ready for K and Family Classes
4. Ready for K Storytimes
5. Kindergarten Bootcamps



Executive Function Skills

Self Regulation: movement in storytime

Perspective Taking: using dialogic reading

Persistence: coaching parents of toddlers

Engaged Learning: allowing time for response




Critical Thinking: connections to book sharing

WHAT LIBRARIES AND MUSEUMS CAN DO.....

Mimi Howard,
School Readiness Consulting



A photograph showing a person's legs from the knees down, wearing green plaid pants. The person is standing on a series of large, white, spherical objects that resemble stepping stones or large balls. The person's feet are bare. The background is a light-colored, textured surface, possibly concrete or stone, with some green leaves scattered around.

Six assets Museums and Libraries can use to promote Executive Function Life Skills...

Six Assets:

1. Family Engagement
2. Literacy and School Readiness
3. Play
4. STEM/STEAM
5. Digital Technology
6. Community Partnerships



GOING FORWARD

MIND IN THE MAKING LIBRARY OF CHILDREN'S BOOKS, GAMES, AND FREE TIP SHEETS

Collaboration between First Book and Mind in the Making
Popplestone Foundation.

MIND in the Making

The Seven Essential Life Skills Every Child Needs

Harold and the Purple Crayon

Executive Function Life Skill: Making Connections
 Making Connections is at the heart of learning—figuring out what's the same and what's different, and sorting these things into categories. Making unusual connections is at the core of creativity. In a world where people can Google for information, it is the people who can see connections who are able to go beyond knowing information to using this information well.

Suggestions for Promoting Making Connections

TIP:
 At every decision point—the long straight path, leading nowhere; the apple tree that needed guarding; and Harold being over his head in an ocean—Harold draws the solution.

Ask your child:

- “What would you draw if you were in Harold’s situation?”

There are no right answers here—what you want to do is promote your child’s imagination. You can offer your child a crayon and paper to create his or her own journey.

SKILL:
Harold and the Purple Crayon is a great illustration of creativity, which is making unusual connections, which calls on Executive Function skills.

TIP:
 At the end of the book, Harold is lost and, despite his ability to draw solutions, he can’t find his way to his room. Harold is finally able to make a connection that helped him find his way.

You can ask:

- “Why do you think Harold remembered his window with the moon?”
- “What would you remember about your room?”

SKILL:
 Making Connections between your own experiences and others’ experiences can provide a powerful learning opportunity.

By Crockett Johnson

This heartwarming classic has enchanted generations of readers. With his magical purple crayon, Harold is able to draw anything he’d like and watch it come to life. The book is a wonderful celebration of art and the imagination!

High-quality books and educational resources from First Book supporting research-based Life Skills from *Mind in the Making* by Ellen Galinsky

Find more books and materials on the First Book Marketplace, a resource available exclusively to educators and programs serving children in need. www.fbmarketplace.org.

You will notice that these tips promote two child development principles: **Serve and Return** and **Executive Function** skills.

Serve and Return, like game of ball, involves a back and forth conversation between you and your child where you listen, then build on and extend what your child says or does to promote learning.

Executive Function skills are skills you use to manage your attention, your feelings, your thoughts and your behavior to reach your goals. They include being able to pay attention, remember information, think flexibly and exercise self control. Find more about Families and Work Institute’s *Mind in the Making* at www.mindinthemaking.org.

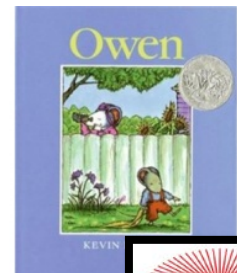
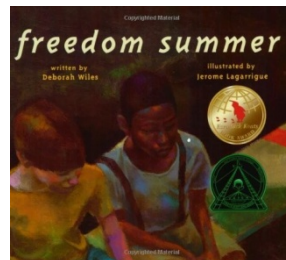
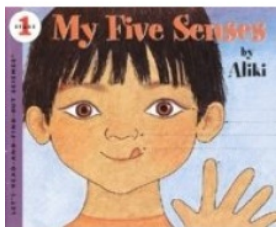
BRAIN-BUILDING POWERHOUSES

First Book—Mind in the Making Partnership

The First Book Network has become the *largest and fastest growing network* of educators and service providers serving kids in need, providing them direct access to books and resources they have not had before.

Register with First Book today . Once registered you will be eligible to apply for Mind in the Making mini-grants and receive matching funds to purchase books associated with the Mind in the Making collection at deeply discounted prices.

www.firstbook.org/imls



MIND IN THE MAKING

FREE PRESCRIPTIONS FOR LEARNING

Funded by the Popplestone Foundation.

MIND in the Making
The Seven Essential Life Skills Every Child Needs

PRESCRIPTIONS FOR LEARNING

School Readiness
Promoting the Life Skill of Focus and Self Control in Preschoolers: Five Strategies that Work in Moving from Managing Children's Behavior to Promoting Life Skills

Question: I have decided not to send my three year old to preschool. What activities can I do at home to help prepare him for school later so that he's not behind children who went to formal preschool programs?

Adele Diamond of the University of British Columbia is a pioneer in studying the executive functions of the brain. These are the functions that we use to manage our attention, our emotions and our behavior in pursuit of our goals. Diamond says,

If you look at what predicts how well children will do later in school, more and more evidence is showing that executive functions—working memory and inhibition—actually predict success better than IQ tests.

There are many things you can do at home with your child that will help him get ready to enter school while also promoting the Life Skill of Focus and Self Control. Here are a few suggestions:

- 1. Play games with your child.** Children learn best when they are engaged socially, emotionally, intellectually and physically. Playing games that require your son to pay attention, remember the rules, respond to changing circumstances and resist the temptation to go on automatic, but instead use self control. These skills help him thrive now and in the future. Some of these brain-building games include:
 - **Simon Says, Do the Opposite.** In this game, your child must pay attention and not go on autopilot. The aim is to do the opposite of what the leader says. For example, if you say, "Simon Says, "be noisy," then your child would stay quiet. If you say, "Simon says, "move fast," then your child would move slowly.
 - **Red Light/Green Light, Freeze Dance, Musical Chairs.** These games all require children to use self control to Stop and Go. You can challenge your child and change the rules to these games. For example, in Red Light/Green Light, change the colors to purple and yellow lights. Have the purple mean Stop, then change it so it means Go.
 - **Guessing games.** Listening games encourage children to focus, remember and practice self control. For example, you could say, "I am thinking of an animal with a name that sounds like a rat."
 - **Sorting games.** When you ask your child to sort objects or pictures into different groups according to a set of rules, your child must use his working memory and ability to make connections. When asked to sort according to new rules, your child engages his cognitive flexibility and self control. You can make sorting games at home using printed pictures or drawings on cards.
 - **"I Spy."** Encourage your son to pay close attention and tell him what you spy. ("I spy something in this room that is green.") Ask your child to guess what it is. Then let your child take a turn to spy and ask you to guess.
 - **Puzzles.** Puzzles help your child develop attention and attentional skills. You can use store bought puzzles or make them at home by tearing or cutting magazine photos into different shapes. Encourage your child to "find the picture" by putting the pieces back together.
- 2. Be creative and promote pretend play.** When your son plays pretend or invents stories, he is developing what researchers call "cognitive flexibility." This requires being able to readily adapt to changed circumstances and to flexibly switch perspectives or focus of attention.
 - **Pretend play.** When children play "baby," "house," "school," "restaurant," and other pretend scenarios, they are using themselves to represent other people and using objects to represent something else. For example, you might pretend to be the baby and your child would act as the parent, perhaps using a block or other item as a baby bottle. Expand on the play scenario by introducing a new idea like, "I'm feeling tired. Let's get ready for bed."

vroom

Brain building moments

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>



Brainy Background
powered by Mind in the Making

Vroom Tips
When you imitate the face that your child is making, you're helping them express what they are thinking and feeling even though they can't speak yet. These "conversations without words" begin to help your child learn to express their thoughts and emotions.

For more tips, visit joinvroom.org


Brain Building Basics



vroom
Brain Building Basics
5 things to remember for building your child's brain

find out more at joinvroom.org

- 1. Look**
Make eye contact so you and your child are looking at each other.
- 2. Chat**
Talk about the things you see, hear and do together, and explain what's happening around you.
- 3. Follow**
Take your child's lead by responding to their sounds and actions, even before they are old enough to talk. When they do start talking, ask follow up questions like "What do you think?" or "Why did you like that?"
- 4. Stretch**
Make each moment longer by building upon what your child does and says.
- 5. Take Turns**
With sounds, words, faces and actions, go back and forth to create a conversation or a game.



Copy Cat
Like you, children experience many different emotions every day. Make faces that mirror how your child seems to be feeling. Talk to him/her about why you're making those faces. "You are smiling and seem happy and I am smiling and happy too."

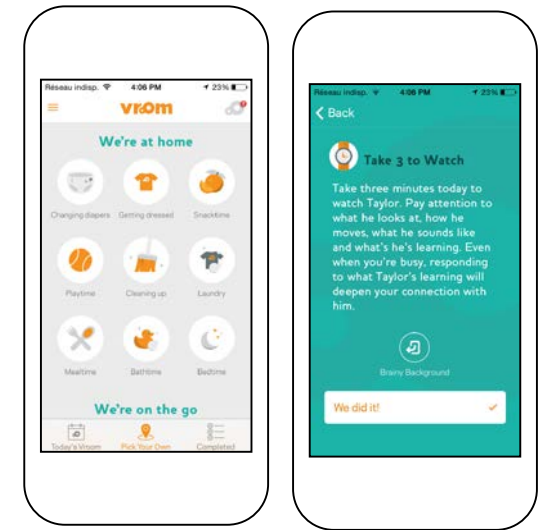
Ages 0-1

joinvroom.org

Vroom Videos



Daily Vroom app



find out more at joinvroom.org

MIND IN THE MAKING

Professional
Development for
Museum and
Library Educators

A young child's face is visible through a red fabric opening, looking directly at the camera. The child's eyes are dark and focused. The red fabric is textured and appears to be part of a garment or a screen.

Mind in the Making

QUESTIONS

Erin Ramsey
Mind in the Making, Director

ERamsey@familiesandwork.org

