



Executive Function and Social Emotional Development: Understanding the Relationship

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Objectives

- Participants will have an understanding of EF and how it impacts a child's social and emotional developmental trajectory based on research.
- Participants will examine, practice and select strategies to strengthen EF skills (self-regulation, working memory, inhibit/emotional control, shifting, planning and organizing) that impact child's social and emotional development.

Executive Function

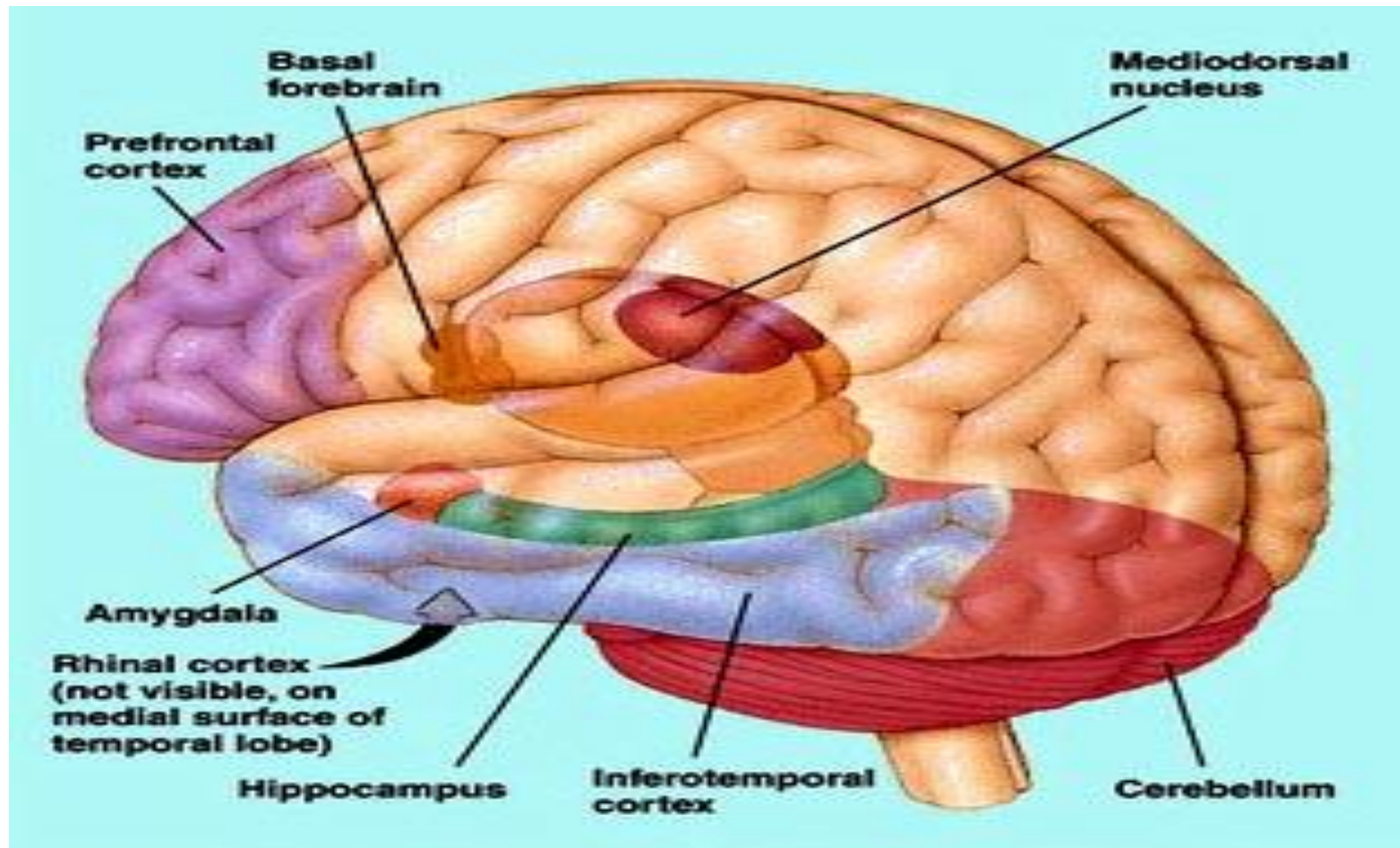


Refers to a group of neurocognitive processes in the brain that direct, connect, and organize information that is manifested in planned behavior.



Chief Executive Officer

She's the CEO of her brain



Early Childhood and EF



- Components follow their own developmental trajectory
- Growth spurts in the last half of the first year and then from 3 to 6 years of age
(Diamond, 2006)

Why are these so important in Early Childhood?

- Inability to plan and organize actions, maintain attention to tasks, and recall past experience to apply to new learning experiences lead to
 - Learning disabilities (LD) as well as problems with Attention-deficit/hyperactivity disorder (ADHD) (Lyon & Fletcher, 2001).

Center on the Developing Child Harvard University

- https://www.youtube.com/watch?v=efCq_vHUMqs

Neurocognitive Processes

- Self Regulation
- Inhibition
- Working Memory
- Cognitive Flexibility
- Goal Selection
- Planning and Organization

Inhibit



Ability to control behavior and impulses

Redirect Activity

Stop, Think & Action

Challenging Behavior

Working Memory



- Ability to hold and process “stored” information !
- A not B tasks

A not B Task

- <https://www.youtube.com/watch?v=IhHkJ3InQOE>

First Year of Life



- By 12 months, infants should be able to:
 - Engage in a simple problem-solving task requiring working memory of an item (find a hidden toy under a cloth when it is changed)
 - Regulate behaviors (inhibit actions, waking, sleeping, eating, etc.)

Self-Regulation



Self-regulation functions are developing from the first years of life on throughout a person's entire lifetime.

Marshmallow Test

- https://www.youtube.com/watch?v=QX_oy9614HQ

Toddler (24 months)

- Spatial Reversal

Concealed behind screen, reward under one of two cups, side of hiding reversed

- Multilocation Search (A not B)

Object hidden at one of three or more locations

Toddlers and Three

- Cognitive Flexibility – shift between changing attributes/requests
- Dimensional Card Category Sort (DCCCS)
 - Cards depicting colored shapes
 - Child sorts cards by 1 dimension then another
- Knock tap
 - Child knocks when examiner taps

Three years and up

- Dimensional Card Category Sort (DCCCS)

Cards depicting colored shapes

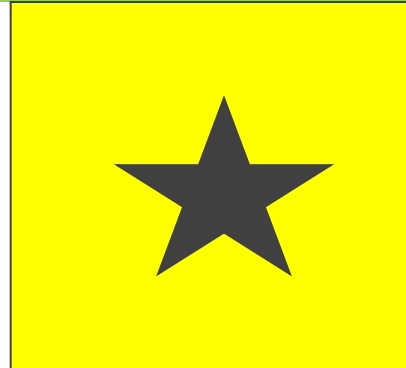
Child sorts cards by 1 dimension then another

- Knock tap

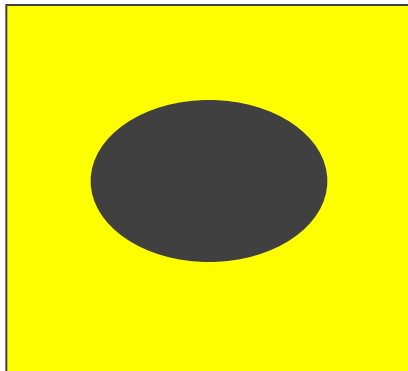
Child knocks when Examiner taps

Dimensional Change Card Sort- Separated Task

Rule: Sort by
Color



Rule: Sort by
Shape



Card Sort

- Activity

How can we help?

Inhibit

- Stop, redirect activity

Inability to inhibit

- does not notice when his/her behaviors cause negative reactions
- talks in places too loudly
- Engages in inappropriate behavior

Cognitive Flexibility (Shift)

- Moving from one idea/activity to another
- Difficulty:
 - becomes upset in new situations
 - has trouble changing activities
 - resist changes in routine, foods, places
 - acts overwhelmed or overstimulated in crowded and/or noisy environments

Knock Tap

- <https://www.youtube.com/watch?v=SGkbVxHCNms>

Emotional Control

Ability to control frustration, think before acting

- Difficulty with:
- overreacts to small problems
- after having a problem will stay disappointed for a long time
- has outbursts for little reason
- small events trigger big reactions

Working Memory

Holding information in mind and recalling it

Difficulty with:

- has trouble with activities or tasks that have more than one step
- cannot stay on the same topic when talking
- has a short attention span
- unable to finish describing an event, person, or story

Planning and Organizing

- Mastery Motivation
- Difficulty with:
 - does not complete tasks even after given directions
 - when instructed to clean up put things away in a disorganized/random fashion
 - trouble following established routines for sleeping, eating, and/or play activity

ACTIVITY BASED TASKS

A horizontal decorative bar consisting of two segments: a shorter, darker green segment on the left and a longer, lighter green segment on the right.

- Verbal Working Memory Tasks
- Questions “I eat bamboo?” “What am I?”
- Simon Says
- Red Light/ Green Light
- Dot to Dot pictures



Let's Try It

Name the Ink Color Outloud....

- Red
- Green
- Yellow
- Red
- Green
- Blue
- Yellow
- Red
- Green

- Blue
- Red
- Blue
- Yellow
- Red
- Blue
- Green

Name the Ink Color Outloud....

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- Yellow

- Red

- Blue

- Green

Inhibit Interventions

- Frequent Breaks
- Environmental Structure
 - Limit distractions
- Behavior programs
- Frequent Redirection and Limit Setting
- Smaller Student-Teacher Ratio

Shift Interventions



- Displaying a daily schedule
- Development of positive routines
- “Two minute warning”
- Working in small groups

Emotional Control Intervention



- Preview social situations
- Review rules
- Behavioral management techniques

Working Memory Interventions

- Establishing Eye Contact
- Frequent, brief, breaks
- Reduce distractions
- Increase Supervision/Aide
- Time of Day important
- Encourage verbalization, paraphrasing, repetition
- Memory, Number-Letter Sequencing, Songs

Planning and Organizing Interventions



- Increase external structure
- Parent/Teacher modeling
- Provide examples
- Present information in an organized fashion
- Book of common routines

“Get Ready for Outdoor Play”

What do we need?



Check the Weather
Make a list / visuals

- Coat
- Hat
- Water bottle
- Boots

Organizational Skills



- Plastic containers are a great way to organize different toys, especially the smaller ones that can fit in one drawer.

Organizational Skills

A decorative graphic consisting of two horizontal bars. The top bar is a solid, medium-width green bar. Below it is a longer, thinner green bar that spans the width of the slide.

- Picture/label the toys inside and have children return materials to the right drawer.
- Use a large picture calendar of daily routines or storyboard

Organizational Skills

- Teach the children how to place lunch plates or cups in a designated place after a meal
- Use a fun folder that the child picks out to pass notes back and forth with family

Organizational Skills



- Videotapes on cell phone to remind child of daily routines
- Talk about past and future events
- Use visual strips or book to help child with routines

Executive Function Intervention

- 12 months
- Use a shape sorter, show the child how to insert a simple shape circle, provide them the opportunity to place the same shape. Now ask them to place other shapes. Watch the child for signs of frustration or lack of interest. If the task is too challenging, reduce the number of shapes.

Executive Function Intervention

- 24 Months
- Find six pair of socks and place them singularly in a basket. Ask the child to find the matching sock and put them together. To add a challenge use small and large socks so the child has to match both color and size. To add a fine motor component, have the child clip the matching socks together with a large clipper for snacks.

Executive Function Intervention

- 36 months
 - Build a road with blocks and make an obstruction. Ask the child to rebuild the road without the obstruction. Let the child experiment with problem-solving as they try to rebuild the road.

Preschool Executive Functions

- Perform simple chores and self-help tasks with reminders (e.g., clear dishes from table, brush teeth, get dressed).
- Inhibit behaviors: knows not to touch a hot stove; knows not to run into the street; knows not to grab a toy from another child; hit, bite, or push, etc.

EF: Kindergarten – Grade 2

- Kindergarten
 - Complete errands (two to three step directions; more complex).
 - Organize bedroom or playroom toys (put in bin, etc.).
 - Perform simple chores, self-help tasks; may need reminders (e.g., throw tissue in trash).

EF: Kindergarten – Grade 2

- Bring backpack to and from program.
- Complete simple assignments (20-minute maximum).
- Decide how to spend money (allowance).
- Inhibit Behaviors: follow safety rules, raise hand before speaking, keep hands to self.

Organization of Materials for K – 2nd Grade

- Talk with child about goals, plan of approach, and provide appropriate guided approach
- Parents and teachers should help in reviewing materials needed
- Provide organization time at the end of the school day

Do you know me?

- Mary is 4 years old. She has a lot of stomach aches at school and has a difficult time leaving school.
- Tom is 4 years old. He hits and bites his peers at school.
- John is 5 years old. He won't interact with his peers and prefers to play alone.
- Jen is 3 years old. She has difficulty following classroom routines and often has tantrums that can last up to 15 minutes.

You may wonder:

A thick, solid green horizontal bar spans the width of the slide, positioned below the title and above the list of questions.

- How do children develop social skills?
- When children enter into a conflict, what can I do to help them resolve their dispute peacefully?
- What kinds of activities will help children gain social skills?
- How do I assess social-emotional development?

Social-Emotional Development

- Involves children's
 - feelings & satisfying interactions about themselves and their relationships with others
 - ability to self-regulate
- Development in this domain is influenced by
 - Child's temperament
 - Social and cultural expectations
 - Positive/negative early experiences
 - Caregiving styles

Social-Emotional Development

- Positive relationships are essential to a child's emotional development and later academic success



Children begin to:



- Express their own feelings **verbally and nonverbally**
- Demonstrate some degree of independence and follow basic rules and routines
- Show self-confidence as they develop abilities

Children begin to:



- Enjoy playing alone or near other children
- Develop skills for coping with change
- Use pretend play to express thoughts and feelings

Why Study Executive Function and Social Emotional Development?

- Links between early social emotional behaviors and subsequent outcomes.
- Program performance standards may mandate that social emotional development be addressed.

Why Screen Social-Emotional Development?

- American Academy of Pediatrics, U.S. Public Health Service have called for improvement in early identification of psychosocial disturbances or risks (American Academy of Pediatrics, 2001, 2006; Pelletier & Abrams, 2003; U.S. Public Health Service, 2000)
- Healthy early childhood social -emotional development is essential for educational readiness, social well-being, and preventive mental health (American Academy of Pediatrics, 2001; Lyman, Njoroge, Willis. Early Childhood Psychosocial Screening in Culturally Diverse Populations: A Survey of Clinical Experience with Ages and Stages Questionnaires: Social -Emotional (ASQ-SE). Zero to three, May 2007.

How do You Assess Social Emotional Development?

- Are you currently doing any social emotional screening and/or assessment?
- How are you doing it?
- What are the limitations/challenges?

SE Resources for Teachers

- *I Can Problem Solve*
(www.researchpress.com)
- *First Step to Success*
(www.firststeptosuccess.sri.com)
- *The Incredible Years*
(www.incredibleyears.com)
- Center on the Social and Emotional Foundations for Early Learning
(www.csefel.vanderbilt.edu)
- Technical Assistance Center on Social Emotional Intervention
(www.tacsei.org)

The End!
Thank You
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