

# Developing Executive Function in Young Children



How understanding neuroscience helps educators nurture executive function.

## WHAT IS EXECUTIVE FUNCTION, AND WHY DOES IT MATTER?

Executive function is often compared to an air traffic control system. Just as air traffic controllers manage the safe and orderly flow of airplanes, the executive function system in the brain manages impulses, attention, emotions, and decision-making. A strong executive function system allows children to take turns, resist distractions, remember rules, solve problems, and recover from setbacks.

### NEUROGENESIS: BUILDING THE BRAIN'S FOUNDATION

Each new experience, from hearing a story to climbing on a jungle gym, helps determine whether these new neurons survive and integrate into the brain's networks. Positive, stimulating environments provide the rich input needed for healthy neurogenesis.

### NEUROPLASTICITY:

Plasticity is greatest in early childhood, making this the optimal time for developing strong mental habits and skills. But neuroplasticity is a double-edged sword: while positive experiences build strong, healthy pathways, repeated negative experiences (like trauma or unpredictable care) can strengthen stress-driven brain patterns.

### YOU ARE A BRAIN CHANGER!

Neuroscience tells us that early childhood educators are not just caretakers or curriculum deliverers. You are brain changers. Every word of encouragement, every practice of patience, every game that stretches memory or focus, every nurturing moment—it all counts.

## WHAT EDUCATORS CAN DO:

### RELATIONSHIPS MATTER

- Foster curiosity through play-based, child-led learning experiences.
- Offer diverse sensory experiences such as music, movement, tactile play, and outdoor exploration.
- Encourage language development through talking, singing, and reading aloud.
- Build secure relationships where children feel safe, seen, and supported.

### BEHAVIOR IS COMMUNICATION

- Model calm behavior and self-regulation strategies.
- Celebrate effort and persistence to promote a growth mindset.
- Provide frequent practice of executive function skills through games and routines.
- Co-regulate emotions, helping children navigate stress until they can do so independently.