Starting Strong: Developing Foundational Life Skills in Kindergarten

April 2, 2024



Panelists



Elena Bodrova, Ph.D. Co-Founder and Tools Knowledge Advisor Tools of the Mind



Kim Paddison
Dockery
Director
KPD Education



Erin Helgren
Early Works Site
Liaison, Yoncalla
(Oregon)
Children's Institute

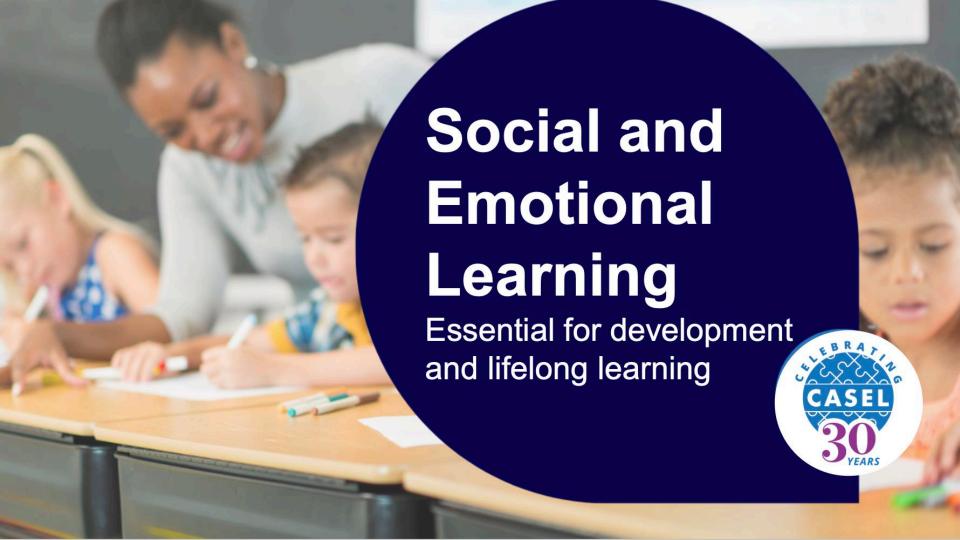


Dr. Aaliyah Samuel President and CEO CASEL

Moderator

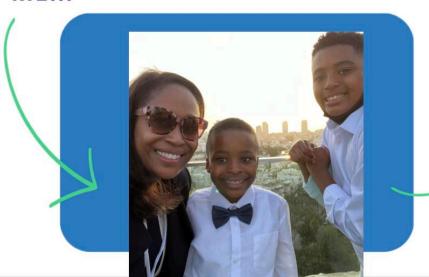


Carly Roberts
Associate Director for Out-of-School
Learning
Overdeck Family Foundation



Social & Emotional Learning

TO ME...







SOCIAL AND EMOTIONAL LEARNING

Essential for children's learning and development



All learning is social and emotional (>)











Adults with strong social and emotional competence:

- More effectively teach and model social emotional competence for their students (Brackett et al., 2008).
- Build and maintain stronger relationships with their students (Jennings & Greenberg, 2009).
- Demonstrate higher levels of patience and empathy, encourage healthy communication, and create safe learning environments (Brackett et al., 2008).
- Less likely to report burnout and have higher levels of relational trust with peers (Brackett et al., 2010) (Bryk & Schneider, 2002).

SEL benefits adults, too



Mere DOES SEL HAPPEN?



Classrooms Schools Families Communities



HOW 7-YEAR-OLD CORDELIA EXPLAINS SEL.





Success in education today builds not just cognitive but character fortitude.

It is about **curiosity** – opening minds; it is about **compassion** – opening hearts; and it is about **courage** – mobilising our cognitive, social and emotional resources to take action.

These qualities, or social and emotional skills [...] are also weapons against the greatest threats of our time: ignorance – the closed mind; hate – the closed heart; and fear – the enemy of agency."

(3)



Campaign for Grade Level Reading April 2nd, 2024

Self-Regulation – A Cornerstone of School Success



Elena Bodrova



Why Are We Focusing on Self-Regulation?

In 2000, kindergarten teachers identified "difficulty following directions" as one of the top problems interfering with children's learning success.



In 2018, kindergarten teachers reported that half or more of their classes had difficulty working independently, following directions, and working as part of a group.

The number of teachers who said that half or more of the class had difficulty nearly doubled relative to the Rimm-Kaufman et al. (2000) study.

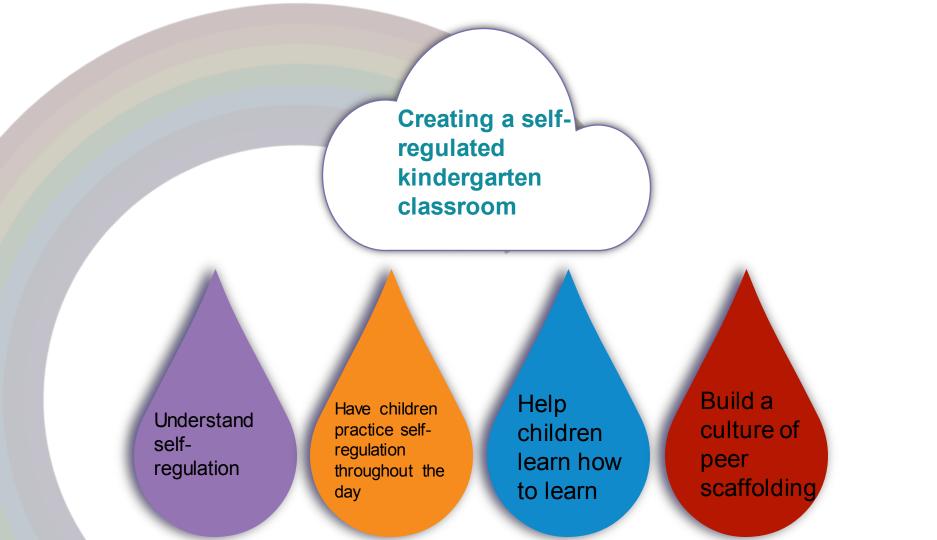
Why Are We Focusing on Self-Regulation?

A teacher's ability to improve noncognitive skills has more effect on graduation rates than does their ability to raise test scores

Noncognitive skill development interventions improve student achievement and reduce behavior-related problems

Early self-control can predict health, wealth, and crime







Tools of the Mind is based

upon research on how young children learn best and reach their potential.

- Develops Executive Functions that lead to self-regulation and academic skills
- Scaffolds based on individual child development
- Integrates Make-Believe Play and Playful Learning as leading activities
- Teaches children how to learn

EDUCATION FORUM

THE EARLY YEARS

Preschool Program Improves Cognitive Control

Adele Diamond, in W. Stoven Barnett, Jessica Thomas, Sarah Musro

secutive functions (EFs), also called agreed to randomly assign teachers and chiltions, or distractions), (ii) working memory (mentally holding and using information), and (iii) cognitive flexibility (adjusting to change) (7, 7).

Significance

EEs are more strongly associated gence quotient (IQ) or entry-level reading or moth skills (3, 4) Kindergarten teachers rank skills like self-discipline and attentional control as more critical for school ness than content knowledge (5). EFs are important for academic achievement throughout the school years. Working memory and inhibition independently product math and drawing held by one guides her attention L2). reading scores in preschool through high school (e.g., 63, 6, 7)].

Many children begin school lacking in EF confounds due to teacher characteristics. removed from class for poor self-control at insights into EF and its development. Its numeribering a rule ("press on the side oppoalarming rates (8, 9). Previous attempts to core is 40 EF-promoting activities, includ-site the flower") plus it required inhibition of and of limited success (10-12). Poor EFs are do ("self-regulatory private speech") (17), stimulus appeared. In Dots-Mixed, incongru associated with such problems as ADHD. dramatic play (18), and side to facilitate certain concrete trials were intermined to and crime (2). Young lower-income children spent ~80% of each day promoting EF lat of time to respond Jover five times as long have dispreportionately poor EFs (13, 14). skills. Tools has been refined to They fall progressively farther behind in years of research in preschools a

The opportunity to evaluate Tools of the Mind (Tools) and another curriculum arms - consiculous (481): The curriculus when a low-income, urban school district by the school district was based of

Notice for correspondence. E-mail: adele-diament/grebc.co. preschoolers (62 in dBL and 85)

Cognitive control skills important for success in school and life are amenable to improvement in at-risk preschoolers without costly interventions

— cognitive control, are critical for success dren to these two curricula. Our study 5.1 years in both) who received dBL or Tools in school and life. Although EF skills included 18 classrooms initially and added 3 for 1 or 2 years. Those who entered in year 2 are rarely taught, they can be. The Tools of the more per condition the next year. Quality had attended other preschools for a year. All Mind (Tools) curriculum improves EFs in standards were set by the state. All class-came from the same neighborhood and were preschoolers in regular classrooms with regular rooms received exactly the same resources randomly assigned to Tools or dBL with teachers at minimal expense. Core EF skills are and the same amounts of seacher training no self-selection into either carriculum. (i) inhibitory control (resisting lubits, tempts— and support (2). Stratified random assign— All came from low-income families; 78%

with yearly income <\$25,000 (2). were educators in one school that fools children were doing subdren that they halted the experiment in their school, reducing our Measures of EF. Outcome

rasures (the Dots task and a inker task) were quite differnt from what any child had one before. Those measures are ppropriate for ages 4 through dults, assess all three EF com ponents, and require prefrontal stered in May and June of year 2. In all conditions of the Dots

task (20), a red heart or flower appeared on the right or left. In the congruent condition, skills (5). Eachers receive little instruction in EF-maining corrections: Tools. The Tools one rule applied ("press on the same side in how to improve EF and have preschoolers curriculum (16) is based on Vygotsky's the heart's. Dots-incongruent also required improve children's EF have often been costly ing telling oneself out load what one should the tendency to respond on the side where the teacher barnout, student dropout, drug use, memory and attention (19). Tools teachers ing all three core EFs). Children were given a

Closing the Achievement Gap through Modification of Neurocognitive and Neuroendocrine Function: Results from a Cluster Randomized Controlled Trial of an Innovative Approach to the Education of Children in Kindergarten

Clancy Blair , C. Cybele Raver

Published: November 12, 2014 · https://doi.org/10.1371/journal.pone.0112393

Abstract

Article	Authors	Metrics	Comments	Media Coverage
*				

Abstract

Introduction Effective early education is essential for academic achievement and positive life outcomes, particularly for children in poverty. Advances in neuroscience suggest that a focus on self-Methods regulation in education can enhance children's engagement in learning and establish beneficial Results academic trajectories in the early elementary grades. Here, we experimentally evaluate an innovative approach to the education of children in kindergarten that embeds support for self-Discussion regulation, particularly executive functions, into literacy, mathematics, and science learning Acknowledgments activities. Results from a cluster randomized controlled trial involving 29 schools, 79 classrooms, and 759 children indicated positive effects on executive functions, reasoning Author Contributions ability, the control of attention, and levels of salivary cortisol and alpha amylase. Results also



Theorems of Market Description of Product Office Of Randomized control trial of Tools of the Mind: Marked

Adele Diamond , Chris Lee, Peter Senften, Andrea Lam, David Abbott

Published: September 17, 2019 • https://doi.org/10.1371/journal.pone.0222447

Abstract

"Buddy reading." Two prophopiors engaged in Tools activity. The ear line-

District's version of Balance

The kindergarten program, Tools of the Mind (Tools), has been shown to improve executive functions (as assessed by laboratory measures) and academic performance. The objective here was to see if Tools can improve executive functions in the real world (in the classroom), academic outcomes not previously investigated, reduce bullying and peer ostracism, and increase teachers' and students' joy in being in the classroom. This first randomized controlled trial of Tools in Canada included 351 kindergarten children (mean age 5.2 years at entry; 51% female) in 18 public schools. Stratified randomization resulted in teachers and students in both groups being closely matched. Teachers in both groups received the same number of training hours and same funds for new materials. Outcome measures were pre and post standardized academic skill assessments and teacher online survey responses. This study replicated that Tools improves reading and shows for the first time that it improves writing (far exceeding levels the school districts had seen before), self-control and attention-regulation in the real world (e.g., time on task without supervision), reduces teacher burnout and children being ostracized or excluded, and increases the joy students and teachers experience in school. By Spring, Tools teachers were still enthusiastic about teaching; control teachers were exhausted. These results were not only better than the control group but also better than Tools teachers experienced the year before Tools. Thus, children in a kindergarten curriculum that emphasized play, improving self-regulation, working together and helping one another, and hands-on learning performed better academically, showed less bullying and peer ostracism and more kindness and helping behavior than students in more traditional classes, and teacher enthusiasm for teaching soared. Tools reduced initial disparities separating children, schools, and teachers,

Citation: Diamond A, Lee C, Senften P, Lam A, Abbott D (2019) Randomized control trial of Tools of the Mind: Marked benefits to kindergarten children and their teachers. PLoS ONE 14(9): e0222447. https://doi.org/10.1371/journal.pone.0222447

abulary, and mathematics at the end of te. A number of effects were specific to highexecutive functions and associated aspects of selfds promise for closing the achievement gap.



Effects on Reading Growth

Closing the Achievement Gap through Modification of Neurocognitive and Neuroendocrine Function: Results from a Cluster Randomized Controlled Trial of an Innovative Approach to the Education of Children in Kindergarten

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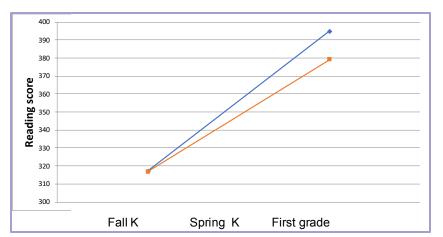
Media Coverage

Abstract

Introduction

Methods

Effective early education is essential for academic achievement and positive life outcomes, particularly for children in poverty. Advances in neuroscience suggest that a focus on self-





Understand self-regulation

Have children practice self-regulation throughout the day

Help children learn how to learn

Build a culture of peer scaffolding

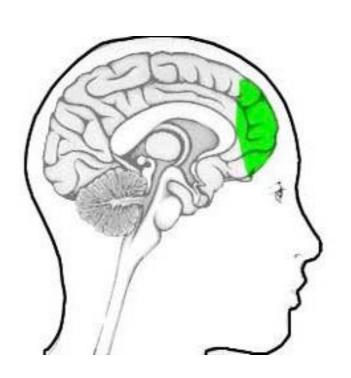
Self-Regulation

- Cognitive self-regulation allows children
 - plan, monitor, and evaluate their behaviors;
 - adjust their behaviors when necessary

- Social-emotional selfregulation allows children
 - inhibit negative responses;
 - delay gratification

When working on a challenging problem in the face of repeated errors children need to engage both: cognitive self-regulation AND social-emotional self-regulation.

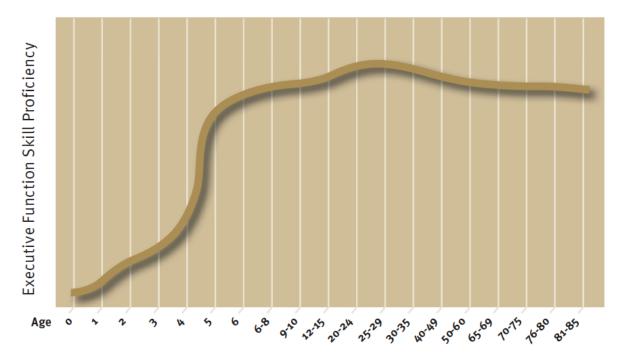
Self –Regulation is Built on Executive Functions



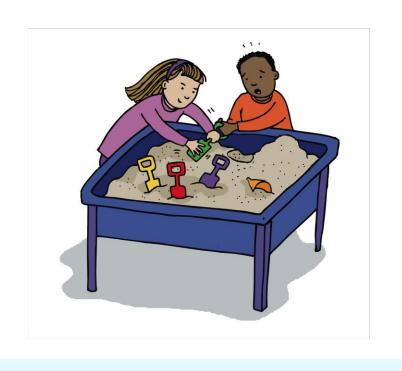
- Executive Functions are a set of higher-level cognitive skills needed to regulate our thoughts, emotions, and actions.
- Executive Functions originate in the brain's prefrontal cortex

The Development of Executive Functions

https://developingchild.harvard.edu



- Executive functions and academic achievement are strongly related
- Executive functions are malleable through early childhood and adolescence
- Environments can hinder or support the development of executive functions





How does self-regulation impact behavior and learning?



Children have a hard time waiting and sharing materials and toys. They may know the 'rules' but can't yet inhibit behaviors like grabbing or pushing.

Children act first and think later.



Children can take turns, share materials, and wait for their turn. They can use strategies like asking for something they want, or playing with something else while they wait. They can use social problem solving skills and work as a "study buddy" independently.

Children think first and then act



Children have a difficult time with transitions like clean up or bedtime — ending something they want to do and doing something they don't want to do! They may 'melt down' and find it difficult to stop and transition.



Children can manage a transition like bedtime or clean up time, even when they are disappointed that a fun time is coming to an end. Young children may still need support—but self-regulation is what's needed to be successful at this.



Children without self-regulation may not be able to stay seated and listen to a story or sit through dinner or a game. They blurt out the answer even though they raise their hands



Children can control their attention enough to listen to a story, play a game, and sit through a meal. Their attention may wander, but they can bring it back to the task at hand. They can listen to others and remember their own answer at the same time. They don't blurt out the answer



When facing a difficult learning challenge, children without self-regulation can get easily discouraged and give up. Their minds and attention wander to other things.



With self-regulation, a child can persist at challenging learning tasks, focusing his attention and intentionally using strategies to be an independent self-regulated learner.



Children cannot work without constant teacher supervision. Teachers are unable to teach in small groups or scaffold individuals because they are being constantly interrupted



With self-regulation, children practice and work independently so the teacher can hold small groups or scaffold individual children while other children are working. Children keep each other on task.

Helping Kindergartners to Become Self-Regulated Learners: Lessons from Tools of the Mind

Rethinking how we think about self-regulation

- Reframing "problem children" into "self-regulation novices"
- Distinguishing "teacher-regulation" from "selfregulation"
- From other-regulation to self-regulation
- Play = "school for self-regulation"
- Self-regulation tipping point

Adult-Regulation vs. Self-Regulation

Adult Regulation	Self-Regulation
Regulation constantly prompted by adult	Regulates self whether or not adult is present
Follows the rules when an adult is present	Follows the rules whether or not an adult is present
Does not pass the "substitute teacher" test	Follows the rules when a different adult is present
Once the context is changed, does not follow the rules	Follows the rules even when in a different context (on a field trip, during an assembly, at different lunch times, etc.)
Requires an adult to resolve disputes over sharing and who goes first	Can solve disputes about sharing and who goes first on their own based on a "fair" system of rules

The Path of Self-Regulation

Outside to Inside

Begins with Regulation by Others

(teacher regulation – setting the boundaries/rules)



Progresses to Other-Regulation

("I can state the rules for others")



Develops into Self-Regulation

("I follow the rules")



Dramatization Provides Practice in Otherand Self-Regulation AND Literacy Skills



The Power of Dramatization in Kindergarten

Wilder-Smith, Leong, & Bodrova

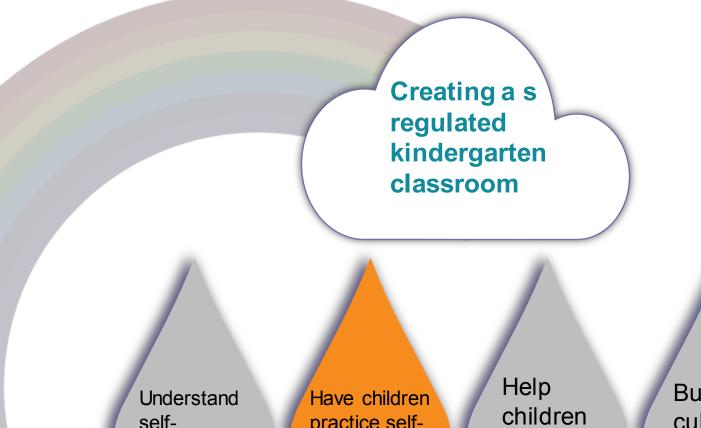
In Summer 2024 issue of NAEYC *Young* Children

Self-Regulation Tipping Point

Although not EVERY CHILD will be self-<u>regulated</u> all the time, the classroom begins to feel self-regulated when

- Unregulated behavior doesn't spread
- Children scaffold unregulated peers to re-engage
- The teacher can quickly bring the group back to a regulated state





Understand self-regulation & executive functions

Have children practice self-regulation throughout the day

Help children learn how to learn Build a culture of peer scaffolding

Practicing Self-Regulation During Academic Activities

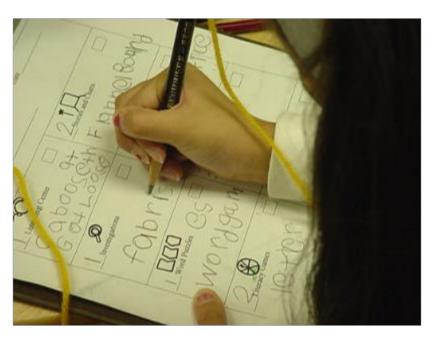






Practicing Self-Regulation During Academic Activities





Practicing Self-Regulation in Dramatization







Practicing Self-Regulation During Recess











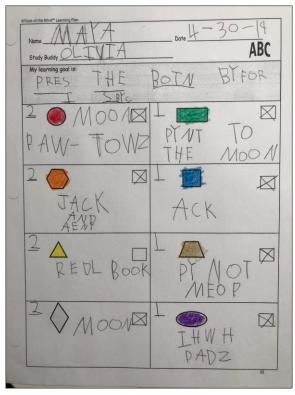
Understand self-regulation & executive functions

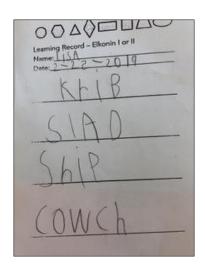
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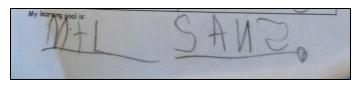
Have Children Plan and Document Own Learning





Learning How to Learn: Learning Goals & Conferences

- Teacher & student meet weekly to reflect on work together
- Teacher & student together identify the next goal
 - To increase challenge
 - Build "learning how to learn" skills
- Child writes down the goal for the next week



Middle sounds



To slow down at penmanship



Understand self-regulation & executive functions

Have children practice self-regulation throughout the day

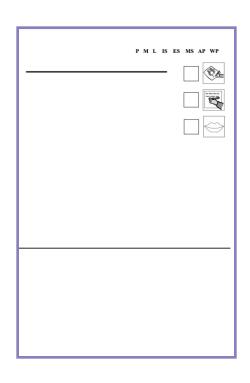
Help children learn how to learn Build a culture of peer scaffolding

Promoting Peer Scaffolding

- Set up the activity so that peers can support each other with specific parts of the learning task
 - Remembering directions
 - Strategies for learning or steps in a skill
 - o A child's learning goals
 - Checking the answer to see if it's correct
- Set up the activity so peers with different levels of ability can support each other as equal partners (heterogeneous pairing)
- Pair children so that over several weeks they work with every other child in the classroom—no exceptions



Promoting Peer Scaffolding



- Practice how to be a good study buddy
 - The teacher should model how to make errors on purpose and what that means
 - Provide practice on how to be a good
 Study Buddy (How to correct an error in a nice way. How much help to give)
 - Make being a good Study Buddy a Learning Goal.
 - The teacher should scaffold children who don't get along to work together
- In everyday classroom activities, encourage spontaneous scaffolding (asking or giving support is not "cheating")

What a Regulated Kindergarten Classroom May Look Like



Randomized control trial of *Tools of the Mind*: Marked benefits to kindergarten children and their teachers

Adele Diamond , Chris Lee, Peter Senften, Andrea Lam, David Abbott

Published: September 17, 2019 . https://doi.org/10.1371/journal.pone.0222447

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The kindergarten program, Tools of the Mind (Tools), has been shown to improve executive functions (as assessed by laboratory measures) and academic performance. The objective here was to see if Tools can improve executive functions in the real world (in the classroom), academic outcomes not previously investigated, reduce bullying and peer ostracism, and increase teachers' and students' joy in being in the classroom. This first randomized controlled trial of Tools in Canada included 351 kindergarten children (mean age 5.2 years at entry; 51% female) in 18 public schools. Stratified randomization resulted in teachers and students in both groups being closely matched. Teachers in both groups received the same number of training hours and same funds for new materials. Outcome measures were pre and post standardized academic skill assessments and teacher online survey responses. This study replicated that Tools improves reading and shows for the first time that it improves writing (far exceeding levels the school districts had seen before), self-control and attention-regulation in the real world (e.g., time on task without supervision). reduces teacher burnout and children being ostracized or excluded, and increases the lov students and teachers experience in school. By Spring, Tools teachers were still enthusiastic about teaching; control teachers were exhausted. These results were not only better than the control group but also better than Tools teachers experienced the year before Tools. Thus, children in a kindergarten curriculum that emphasized play, improving self-regulation, working together and helping one another, and hands-on learning performed better academically, showed less bullying and peer ostracism and more kindness and helping behavior than students in more traditional classes, and teacher enthusiasm for teaching soared. Tools reduced initial disparities separating children, schools, and teachers.

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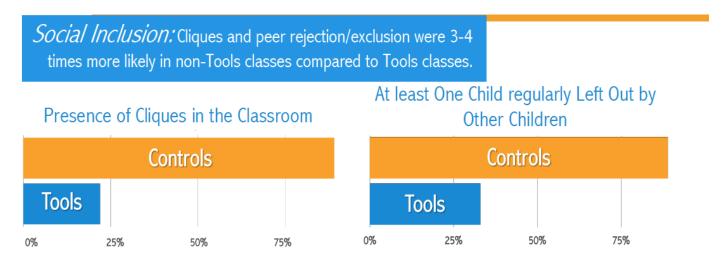








Can a Program that Embeds Self-regulation Development Improve Social Interactions?



"This year I have witnessed many students going to another student's aid. They offer help and assistance when needed without being asked and without belittling the struggling student. They look out for one another and ensure everyone has someone to play with or talk to."

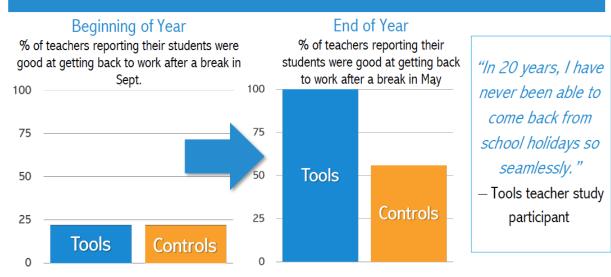
Tools teacher study participant



Can a Program that Embeds Self-regulation Development Improve Executive Functions?

Tools Improves Executive Function

Attention Regulation and Self-Control: By the Spring, Tools teachers were almost twice as likely as non-Tools teachers to think their children were good at getting back to work after a break.





Can a Program that Embeds Self-regulation Development Improve Executive Functions?

Ability to Work Independently. By May, Tools teachers felt their children could be left to work without supervision for far longer than did control teachers, although teachers' estimates of this had been comparable in the fall.

"The ability of my students to regulate their behavior and to help those who still require some assistance has allowed me to be able to work with small groups as well as individually with specific students who require additional assistance. I have never been able to effectively do this ever with kindergarten students before."

Tools teacher study participant

End of Year

of minutes teachers estimated their students could work independently without supervision in May.



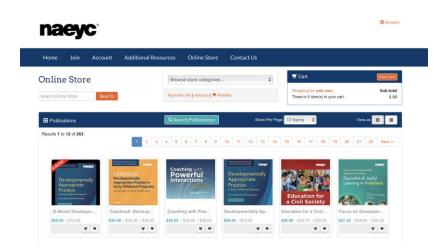
For More Information on Scaffolding Kindergarten Learners:

The Fine Art of Scaffolding Kindergarten Learners

Leong, Bodrova, & Wilder-Smith

In: Focus on Developmentally Appropriate Practice: Equitable and Joyful Learning in Kindergarten.

NAEYC



Check us out on **Social Media!**



https://www.facebook.com/ToolsoftheMind/





https://www.instagram.com/toolsofthemind





https://twitter.com/Tools_Min



"WE NEED TO GET THESE IMPORTANT MESSAGES OUT."

—T. BERRY BRAZELTON, M.D., HARVARD MEDICAL SCHOOL
FOUNDER, BRAZELTON TOUCHPOINTS CENTER

MIND INTHE MAKING

THE SEVEN ESSENTIAL LIFE SKILLS
EVERY CHILD NEEDS

ELLEN GALINSKY

Executive function skills are "predictive of achievement, health, wealth, and quality of life throughout life, often more so than IQ or socioeconomic status; and are more critical for school readiness than IQ or entry-level reading or math."

There is abundant evidence that EFs are crucial for:

"success in getting and keeping a job, career advancement, making and keeping friends, marital harmony, weight control, staying out of jail, and resisting substance abuse."

"Adults with better executive function skills report that they are happier and have a better quality of life."

Why It Matters





Source: Adele Diamond and Daphne S. Ling, "Review of the Evidence on, and Fundamental Questions About, Efforts to Improve Executive Functions, Including Working Memory," in Cognitive and Working Memory Training. Perspectives from Psychology, Neuroscience, and Human Development, eds. Jared M. Novick et al., (Oxford University Press, 2020).

Source: Adele Diamond and Daphne S. Ling, "Conclusions about interventions, programs, and approaches for improving executive functions that appear justified and those that, despite much hype, do not," *Developmental Cognitive Neuroscience* 18 (April 2016): 34-84, https://doi.org/10.1016/j.dcn.2015.11.005.

What are the components of the foundational executive function skills?

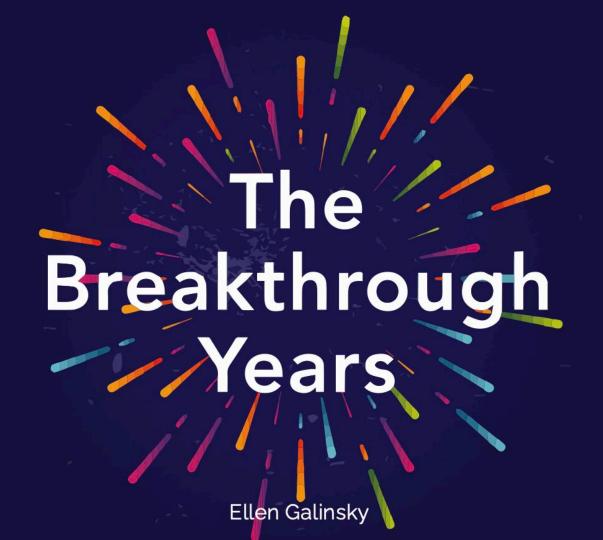
Foundational EF skills

- Use what you know: Keep information in mind so it can be used (working memory)
- **Think flexibly**: Consider alternative perspectives and think flexibly in response to changing circumstances (cognitive flexibility)
- Reflect: Notice challenges, pause, step back, consider options, and put things into context before responding (reflection)
- Use self-control: Resist automatic and impulsive behaviors (inhibitory control) so you can engage in goal-directed reasoning and problem-solving and persist in reaching goals

What are Life and Learning Skills?

Life and Learning Skills build on the foundational executive function skills and enable you to:

- Goal Setting,
- Perspective Taking,
- Communicating and Collaborating,
- Problem-Solving (meaning making, creative thinking, relational reasoning and critical thinking)
- Taking on challenges





Our Vision



A community of healthy, thriving kids who become successful adults.

Family Engagement and Leadership at the School

Activities & Interventions --> Research-Based Indicators --> Longer-Term Outcomes

- PreK & Kindergarten parent engagement events/activities focused on connection and wellness
- Parenting classes focused on building strong SEL Skillsaligning with Conscious Discipline
- Evidence based parenting education for 0-8- focused on duel generation learning
- Parent-led family and community events
- Systems
- School leadership & staff commitment to parents as partners
- Families collaborating on SEL Curricula adoption for upper elementary students

Support for Learning at Home

- 1. Increased % of parents read to young children daily
- Increased reports of developmental support at home
- 3. Increased % of parents report confidence in supporting children's SEL learning at home

Family Engagement in School

- Increased % of parents report school is welcoming
- 2. Increased % of parents report frequent communication with teachers and schools
- 3. Shifts in attendance

- Increased % of children meet school readiness & development benchmarks in preschool, kindergarten and beyond
- Fewer extreme behaviors reported in elementary school
- More students report school as a safe place to be with 3 or more caring adults

1

Where are we now?

