

Brain Dance
How Emotions, Self-Perception and
Cognition Drive Human Development and
Achievement andWhat
Educators Need to Do

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A Teacher Called to Greatness



Preschool Graduation Part I



Preschool Graduation Part II

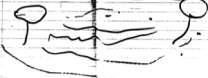


We must we change our mindsets
about the role and purpose of
education in our children's lives.

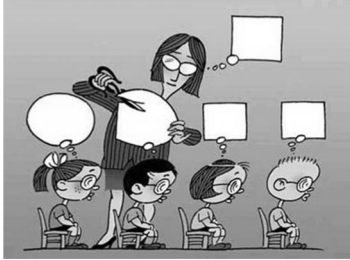


To Graydon

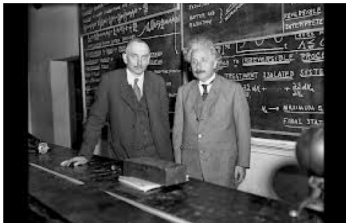
Graydon please do your
work so you can go
home with me.
I'll let you come
over to my house
and let you see Jared
bird and see his
ladder you can hold
my lizard! Please Gray-
don and you can go
outside please pretty
please. From Adam!



Is Education doomed to forever be a soft science?



Can Educators be Scientist Practitioners?



Do Educators make a positive difference in student's development?

If so, how?



Teacher behaviors towards students creates classroom conditions in which negative beliefs are minimized and students demonstrate higher math and science achievement.

Griggs et al, SPQ, 2013

Self-regulation in the classroom is enhanced when:

- Cognitive and affective teacher behaviors are present in the classroom.
- Higher ratio of approving to disapproving teacher comments towards students.
- Teachers utilize a positive emotional tone.
- Proportion of time teachers are teaching versus managing students.

Fuhs, et al SPQ, 2013.

High quality classroom environments characterized by:

1. organization,
2. emotional support,
3. instructional support,

can reduce the academic risks associated with difficult temperament (e.g. impulsivity, inattention, worry, etc.)

Curby et al. SPQ, 2011

What is our job as
Educators?



The purpose of life is to prepare
the next generation for their
future.



Survival of the Species

- Salmon and snakes are born with sufficient instincts to survive.
- Bear cubs require at least one or two years with their mother to insure survival.
- Higher primates require three or four years.
- Humans require at least ten years.

There is an inflation of stress
and risk facing our children.
Not surprisingly there is also an
inflation of students with
classroom challenges, some we
may not understand.

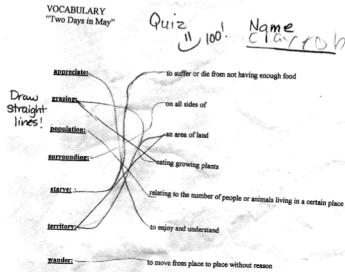
Clayton
Cares

Date _____
Dear mom and dad
I missed the stamp party today because I had too
many punches on my card. I got punches on my card
for... having lots of things
times I'm really sad
I am going to do better in class from now on by:
listen up to teacher
and not going to think
times
Love, Clayton
Parent Signature: [Signature]
Parents: Please read, see attached stamp card, sign
and return.
Please put any questions or comments on back.

mom and dad
I love you more
than you know

to: mom and dad
from: your son, clayton

Clayton Can't Get a Break



A sustainable school environment must be capable of meeting the present social, emotional and academic needs of all students, while. . . .

. . . simultaneously setting goals for academic, citizenship and life skills for the future.

To begin we must appreciate that children are genetically endowed with certain patterns of behavior and thought. These patterns drive development and must be harnessed in school.

What Are These Traits?

The drive to help.
The drive to mastery.
Altruism.
Problem solving.
Social connection.
The drive to acquire knowledge and develop intelligence.
Instinctual optimism.
Intrinsic motivation.

Caregivers are the architects of the way in which experience influences genetically preprogrammed but experience dependent brain development.

Daniel Siegel
The Developing Mind

Or to put it in simple
terms:

Caregivers create an
environment in which
instinctual optimism,
resilience and self-
discipline can flourish.

Instinctual optimism can be
understood as a vital component
guiding human development,
self-discipline, a sense of
ownership and responsibility for
one's behavior.

Instinctual optimism serves
as the fuel for a resilient
mindset.

What else drives continued effort towards social and developmental challenges?

Intrinsic Motivation
and
Resilience

Resilience is a pattern of positive adaptation in the context of past or present adversity.

Good Coping =
Resilience

Intrinsic motivation driven by
instinctual optimism explains the
drive and resilience of young
children.



Off to School!

Learning is greatest when prompted by intrinsic motivation rather than external controls.

Intrinsic not external motivation is at the center of creativity, responsibility, healthy behavior and lasting change.

Motivation isn't something that gets done to children but rather something that children must do for themselves.

As educators, the question we must ask ourselves is how we can create environments within which children will motivate themselves towards successful social engagement?

Children's innate characteristics not only affect their behavior and development but also have an impact on their environment which then changes their parents and teachers and further impacts their development.

We must adopt a learning to ride a bike mindset.

Slow May Be Fast Enough!



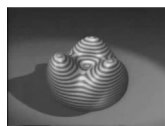
We must design
schools to fit the
needs of our
society today . . .



. . .with an eye
towards the future.

I call this educational future:

INSIDE OUT SCHOOLS!



Inside Out Schools:

- Are student focused.
- Create educational climates to foster resilient mindsets.
- Are designed in concert with the forces that drive human development.
- Provide opportunities for students to assimilate and accommodate knowledge in diverse ways (e.g. TALK, MOVE, QUESTION).
- Foster and enhance executive functioning.
- View educators as engagement coaches.



Educators as classroom engagement coaches.

As Engagement Coaches They Must:

- PREPARE – know the subject, know the student, know the strategy
- PLAN – strategize, design options
- PRACTICE – develop competence, comfort and resilience

As Engagement Coaches They Must Understand and Appreciate How to Facilitate the Four Basic Neuropsychological Abilities

- Enhance planning ability by helping students become strategic problem solvers.
- Develop attentional ability to enhance student focus on what can be controlled.
- Strengthen simultaneous ability to build student comprehension and capacity to “see the big picture”.
- Build sequential ability to foster student acquisition of basic academic knowledge.

As Engagement Coaches They Must Design Classrooms to Nurture and Grow Developing Minds

- Reinforce instinctual optimism.
- Provide opportunities for empathy and altruism.
- Provide competition in the absence of winning.
- Provide extrinsic reinforcement for effort not control.

As Engagement Coaches They Must Design Classrooms to Nurture and Grow Developing Minds

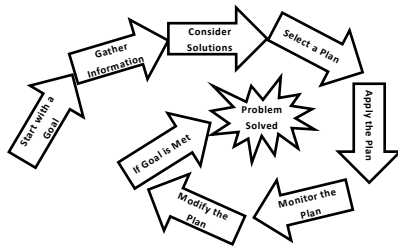
- Foster opportunities for intrinsic control.
- Minimize external consequences to control.
- Enhance self-discipline.
- Set limits in autonomous ways.
- Provide opportunities for students to develop and strengthen basic cognitive processes.
- They must understand how children learn.

As Engagement Coaches They Must Understand and Appreciate How to Facilitate the Development of Effective Executive Functioning



Naglieri & Goldstein, 2012

Executive Function is how efficiently you do what you decide to do.



One EMPIRICAL Factor (a governor) with MULTIPLE Processes such as:

- Attention,
- Emotion Regulation,
- Flexibility,
- Inhibitory Control,
- Initiation,
- Organization,
- Planning,
- Self-Monitoring,
- Working Memory.

EF as a Mediator of Ability and Knowledge

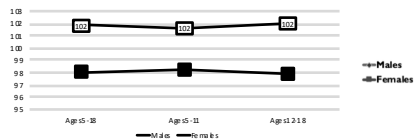
- **Ability:** The skills we use to acquire and manipulate knowledge to solve problems. Also referred to as intelligence.
- **Knowledge:** Everything we learn in life. Also referred to as achievement.
- **Executive Function:** How efficiently or skillfully you do what you decide to do.

52

EF Gender Differences: Parent Raters

Girls are Smarter than Boys

Parents		Mn	SD	N	Mn	SD	ES
Ages 5-18	700	98.1	14.9	699	101.8	15.0	-0.25
Ages 5-11	350	98.2	14.3	349	101.6	15.6	-0.22
Ages 12-18	350	97.9	15.4	350	102.0	14.4	-0.28

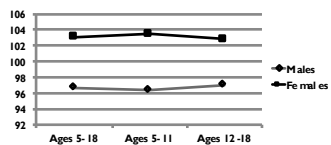


53

EF Gender Differences: Teacher Raters

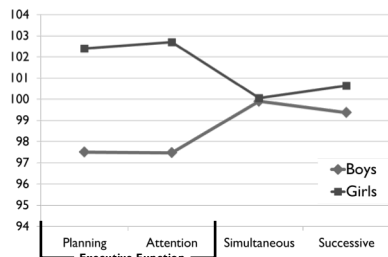
Girls are Smarter than Boys

Teachers	N	Mn	SD	N	Mn	SD	ES
Ages 5-18	700	96.7	14.4	700	103.2	15.0	-0.44
Ages 5-11	350	96.4	14.5	350	103.5	14.9	-0.49
Ages 12-18	350	97.0	14.4	350	102.9	15.0	-0.40



54

Gender Differences: Abilities Associated With EF



How Does Executive Function Contribute to:

- Classroom performance?
- Test performance?
- Achievement?
- Intelligence?
- Neuropsychological abilities?

Strength of EF Impacts Intelligence, Achievement and Ability Test Performance

- Data from the Neurology, Learning and Behavior Center in Salt Lake City, UT
- Children given the CEFI, WISC-IV (N = 43), CAS (N = 62), and the WJIII achievement (N = 58) as part of a typical test battery.

CEFI and Intelligence

	WISC-IV					CEFI	
	FS	VC	PR	WM	PS	Mn	SD
CEFI							
Full Scale	.39	.44	.27	.30	.34	93.0	11.9
Attention	.39	.33	.32	.40	.35	91.8	11.2
Emotion Regulation	.14	.25	.08	-.06	.11	97.2	14.7
Flexibility	.57	.68	.45	.46	.37	93.8	11.0
Inhibitory Control	.21	.20	.13	.08	.27	97.7	13.5
Initiation	.25	.31	.14	.21	.25	91.2	15.1
Organization	.15	.17	.06	.14	.17	92.2	13.6
Planning	.46	.54	.31	.38	.39	93.6	11.1
Self-Monitoring	.39	.45	.31	.33	.27	92.0	11.3
Working Memory	.38	.43	.31	.36	.23	92.5	13.6
WISC-IV M	95.5	96.8	101.5	92.6	90.7	92.6	
WISC-IV SD	18.1	14.7	17.5	17.5	19.4	17.5	

Note: All correlations were corrected for range instability.

16%!!!

CEFI and Ability

	CAS					CEFI	
	FS	Plan	Sim	Att	Suc	Mn	SD
CEFI							
Full Scale	.45	.49	.43	.37	.32	91.4	13.2
Attention	.40	.42	.39	.30	.35	90.3	12.8
Emotion Regulation	.26	.22	.23	.24	.13	96.9	14.7
Flexibility	.52	.54	.51	.40	.42	92.2	13.0
Inhibitory Control	.27	.29	.22	.18	.21	96.0	13.9
Initiation	.40	.37	.31	.30	.20	89.0	16.3
Organization	.29	.36	.21	.20	.23	90.5	14.3
Planning	.47	.54	.46	.37	.38	92.5	12.4
Self-Monitoring	.48	.50	.49	.43	.35	91.2	12.4
Working Memory	.48	.46	.45	.38	.30	91.0	14.0
CAS Mn	95.8	92.4	101.6	96.5	98.0		
CAS SD	17.1	14.5	17.0	15.1	14.6		

Note: All correlations were corrected for range instability.

20%!!

CEFI and Achievement

	WJ-III Achievement Tests				
	Total	Broad Reading	Broad Math	Broad Written Language	Median
CEFI Scales					
Full Scale	.51	.48	.49	.47	.49
Attention	.59	.52	.46	.55	.54
Emotion Regulation	.18	.27	.15	.17	.18
Flexibility	.61	.50	.55	.54	.55
Inhibitory Control	.23	.32	.15	.26	.25
Initiation	.32	.26	.38	.28	.30
Organization	.32	.31	.33	.33	.33
Planning	.58	.54	.57	.50	.56
Self-Monitoring	.53	.51	.51	.49	.51
Working Memory	.57	.48	.60	.47	.53

p < .05 p < .01

25% !!

My Granddaughter Hones Her EF Skills



61

Practice Pays Off!



62

Cognitive Strategy = EF Instruction

- A strategy is a procedure that the learner uses to perform academic tasks
- Using a strategy means the child thinks about 'how you do what you do'
- Successful learners use many strategies.
- Some of these strategies include visualization, verbalization, making associations, chunking, questioning, scanning, using mnemonics, sounding out words, and self-checking and monitoring.

63

Steps to Strategic Instruction:

- **Describe the strategy.** Students obtain an understanding of the strategy and its purpose-why it is important, when it can be used, and how to use it.
- **Model its use.** The teacher models the strategy, explaining to the students how to perform it.
- **Provide ample assisted practice time.** The teacher monitors, provides cues, and gives feedback. Practice results in automaticity so the student doesn't have to "think" about using the strategy.
- **Promote student self-monitoring and evaluation of personal strategy use.** Students will likely use the strategy if they see how it works for them; it will become part of their learning schema.
- **Encourage continued use and generalization of the strategy.** Students are encouraged to try the strategy in other learning situations.

64

Is real world, content based
EF instruction effective?



Can strategic, direct instructional
interventions provide remedial and
compensatory support for children
with EF deficits?



A modest group of studies has demonstrated that setting and work modifications as well as strategy development and mastery improves quality of work in near and far term activities related to the work for which strategies were practiced.

Jang, Schunn, & Nokes, 2011; Alloway, 2011;
Gathercole & Alloway, ; de Jong, 2010;
McNamara & Scott, 2001

67

Harnessing the Power of EF

Is broad or global EF training effectively transferred to the natural setting?

68

Four current reviews converge concluding that the efficacy of global EF training (e.g. training of attention, working memory, behavioral inhibition, etc.) has not been established.

Cortese et. al., 2015; Melby-Lervag et. al., 2013;
Rapport et. al., 2015; Shipstead et. al., 2012.

69

These studies suggest that while training in game like activities improves performance on those tasks as well as related ones (near transfer) any transfer from these tasks to global functioning in natural settings (far transfer) remains unproven.

70

Most treatment studies have focused on a single type of EF behavior (e.g. working memory).

A recent study attempted to train multiple types of EF behaviors simultaneously. Their findings are similar to previous research. Near transfer effects do occur but transfer to the natural setting is limited.

Dovis, et. al., 2015

71

EF Instruction



Promoting Executive Function in the Classroom (What Works for Special-Needs Learners) (Paperback)

Linda Ward Beech (Author)
ISBN-10: 1418032000 | ISBN-13: 978-1418032001

List Price: \$35.00

Price: \$30.45 & this item ships for **FREE with Super Saver Shipping**. [Details](#)

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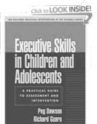
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Executive Skills in Children and Adolescents: A Practical Guide to Assessment and Intervention (The Guilford Practical Intervention in Schools Series) (Paperback)

Peg Dawson PhD (Author), Richard Guzzetta PhD (Author)

ISBN-10: 1604261000 | ISBN-13: 978-1604261000

Available from [these sellers](#):

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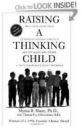
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People

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10/10/19 4/5 (4)

72




Raising a Thinking Child: Help Your Young Child to Resolve Everyday Conflicts and Get Along with Others (Paperback)
 Patricia Galloway, Thomas F. Galloway, John M. Galloway (Author)
 ISBN-10: 0142040000 | ISBN-13: 978-0142040000

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I Can Problem Solve: An Interpersonal Cognitive Problem-Solving Program : Intermediate Elementary Grades (Paperback)
 Barbara B. Boser (Author)
 ISBN-10: 0142040000 | ISBN-13: 978-0142040000

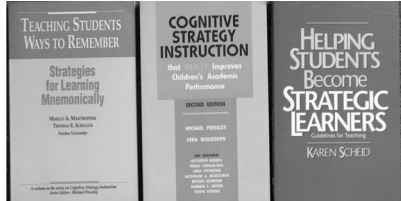
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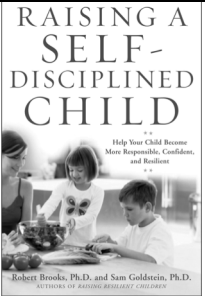
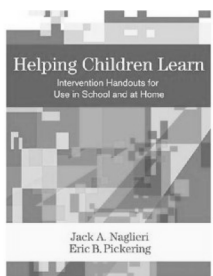
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Cognitive Instructional Methods



Tools of the Mind



76

<http://www.hoagiesgifted.org/eric/e638.html>



<http://nichcy.org/research/ee/learning-strategies>

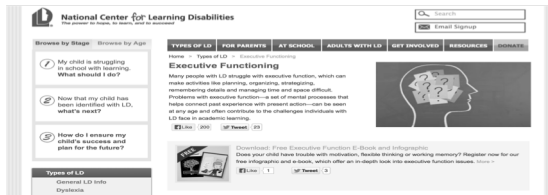


76

<http://www.ncl.org/at-school/especially-for-teachers/effective-teaching-practices/strategic-instruction-model-sim-how-to-teach-how-to-learn>



79



80



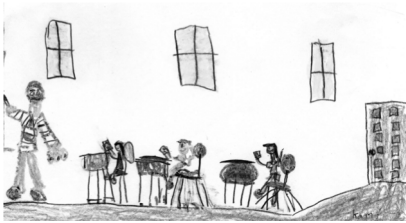
81

Benefits of Strategy Instruction

- Students trust their minds
- Students know there is more than one right way to do things
- They acknowledge their mistakes and try to rectify them
- They evaluate their products and behavior
- Memories are enhanced
- Learning increases
- Self-esteem increases
- Students feel a sense of power
- Students become more responsible
- Work completion and accuracy improve
- Students develop and use a personal study process
- They know how to "try"
- On-task time increases: students are more "engaged"

82

The Mindset of Effective Educators



Effective educators focus on the self-esteem and the social-emotional lives of children.

Effective educators recognize that they have a lifelong impact upon student's capacity to be resilient.

Effective educators understand the mindset of resilient children.

Effective educators are not misled by the overt behaviors of children.

Coping Behaviors of Children

- Quitting and avoiding
- Cheating
- Rationalizing
- Clowning and regression
- Controlling
- Aggressiveness and bullying
- Passive/aggressive behavior
- Complaining of boredom
- Rushing

Effective educators are knowledgeable about frameworks for understanding the components of self-esteem, motivation, and resilience.

Effective educators appreciate the importance of identifying, reinforcing and displaying each child's island of competence.

Effective educators develop and implement strategies for reinforcing self-esteem, motivation, hope and resilience in children.

Effective teachers:

Provide positive feedback to students.

Offer sustained feedback to students.

Respond supportively to students in general.

Respond even more supportively to low-ability students.

Respond respectfully and supportively to students with behavioral problems.

Effective teachers:

Understand how children learn not just how to teach.

Ask questions that students are able to answer correctly.

Present learning tasks for which students have a high probability of success.

Use time efficiently.

Intervene in misbehavior at a low rate.

Maintain a low ratio of punitive to positive interactions.

Effective teachers:

Are rarely punitive.

Use criticism minimally.

Keep the need for disciplinary interventions low through positive classroom interventions.

Waste little time on student transitions.

Keep off task time to a minimum.

To be a *charismatic adult* and nurture hope and resilience, we must understand and reinforce the components of a *resilient mindset* in children and teens.

Resilient children are comfortable and appreciate that others truly care about them and can be of support and help.

Resilient children recognize the boundaries of their control and focus their energy on these areas of control, acting proactively.

Resilient children develop competence in effective problem solving and decision making. They are flexible in reaching goals through multiple means.

Resilient children possess and develop self-control and self-discipline.

Resilient children believe they can contribute to and make a positive difference in the world.

Resilient children possess islands of competence or strengths that define their identity.

Resilient children can deal effectively with mistakes and failure.

Five Strategies To Foster a Resilient Mindset

- Teach empathy by practicing empathy.
- Teach responsibility by encouraging contributions.
- Teach decision making and problem solving skills that foster self-discipline.
- Offer encouragement and positive feedback.
- Help children deal with mistakes.

Teach Empathy By Practicing Empathy

- Are we saying or acting in a way that our children will be responsive to hearing us?
- Would we want anyone to speak to us the way we speak to our children?
- How would our children describe us at various times?
- How would we want our children to describe us?

Teach Empathy By Practicing Empathy

- Listen
- Validate
- Avoid preaching and lecturing
- Avoid judgments and accusations
- Put yourself in their shoes
- Change your negative scripts

Teach Responsibility By Encouraging Contributions

- Provide ample opportunity
- Focus on existing success
- Build islands of competence
- Allow the opportunity to witness concrete examples of success

Teach Decision Making and Problem Solving Skills That Reinforce Self-Discipline

- What's my problem?
- What solutions are available?
- Which solution is the best?
- How can I implement each step of the solution?
- How did I do?

Offer Encouragement and Positive Feedback

- Become a charismatic adult
- Provide realistic appreciation
- Focus on building rather than tearing down
- Be available

Help Children Deal With Mistakes

- The fear of mistakes is a strong roadblock to developing a resilient mindset
- Mistakes are opportunities to learn
- Model the benefits of mistakes

Stress Hardiness

- Committed to finding a meaningful purpose in life.
- A belief that you can influence your surroundings and outcome of events,
- A belief that you can learn and grow from both positive and negative life experiences.

Focus on Well Being!

- COMPETENCE in academic, social and vocational areas
- CONFIDENCE or a positive identity
- CONNECTIONS or healthy relations
- CHARACTER or positive values, integrity, and values
- CARING and compassion

(Lerner et al, 2000)

Teachers high in efficacy tend to de-emphasize home variables in students' success and failure, pointing instead to the instructional program and the teachers' role.

Most Powerful Predictors of a Resilient Child

- Easy temperament
- Consistent family relationships
- Competent caregivers and educators
- Development of self-esteem
- A sense of emotional security

Effective Teachers Shape the Mindset of a Resilient Students

- Optimistic and hopeful.
- Feel special and appreciated in the eyes of others.
- Set realistic goals and expectations.
- View mistakes, hardships and obstacles as challenges.
- Solve problems and make decisions.
- Internal locus of control.
- Believe and set out to solve problems.
- Possess empathy.

Focus on Well Being!

- COMPETENCE in academic, social and vocational areas
- CONFIDENCE or a positive identity
- CONNECTIONS or healthy relations
- CHARACTER or positive values, integrity, and values
- CARING and compassion

(Lerner et al, 2000)

Adopt a learning to swim mindset!



“The secret of education lies in respecting the student”

Ralph Waldo Emerson



Goldstein's Axiom

Through intelligent and ethical educational practices develop self-discipline and build educational proficiency in all children without stealing away their dignity and hope.





Children are living messages we send to a time and place we will never see.

Neil Postman
The Disappearance of Childhood

May our philosophies keep pace with our technologies. May our compassion keep pace with our powers. And may love, not fear, be the engine of change.

Dan Brown





Questions?

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 [@doctorsamgoldstein](https://www.facebook.com/doctorsamgoldstein)

TEDx: <https://www.youtube.com/watch?v=isfw8JJ-eWM>
