Brain Dance

How Emotions, Instincts, Self-Perception and Cognition Drive Human Development and Achievement and What Educators Need to Do



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Sam obtained his Ph.D. in School Psychology from the University of Utah and is ilcensed as a in the State of Utah. He is also board certified as a Pediatric Neuropsychologist and listed in the Cauncil for the National Register of Health Pediatric Neuropsychologist and listed in the Council for the National Register of Health Service Providers in Psychology. He is a Fellow of the American Psychological Association. Sam is an Adjunct Assistant Professor in the Department of Psychiatry at the University of Utah School of Medicine. He has authored, coedited, or co-authored over 50 clinical and tradiction of the Council Council

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Relevant Disclosure

- Author of the Disruptive Mood Questionnaire (Guinti, 2024)
- Editor of Handbook of DMDD (Springer,2024)
- Editor in Chief, JAD
- Coauthor: CEFI, ASRS, RSI, CAS 2 and RISI
- Coauthor: Handbook of DSM 5 in Children



Preschool Graduation Part I



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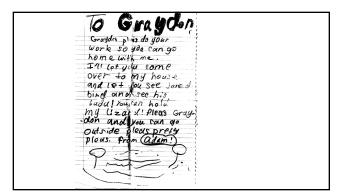
Preschool Graduation Part II



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

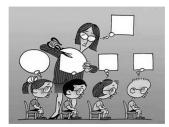


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Is Education doomed to forever be a soft science?



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

If so, how?



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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 t	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.

13

- organization,
 emotional support,
 instructional support, can reduce the academic risks associated with difficult temperament (e.g. impulsivity, inattention, worry, etc.)

Curby et al. SPQ, 2011

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What is our job as Educators?



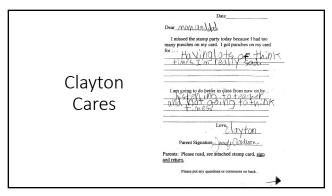
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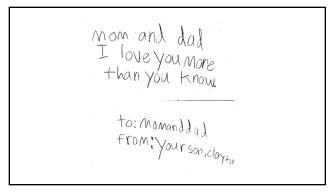
Survival of the Species

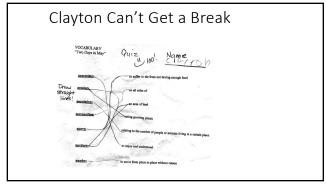
- Salmon and snakes are born with sufficient instincts to survive.
- Bear cubs require at least one or two years with their mother to insure survival.
- Higher primates require three or four years.
- Humans require at least ten years.

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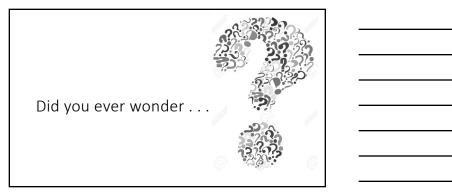
There is an inflation of stress and risk facing our children. Not surprisingly there is also an inflation of students with classroom challenges, some we may not understand.







	٦
A sustainable school environment must	
be capable of meeting the present	-
social, emotional and academic needs	
of all students, while	
22	
	7
simultaneously setting goals for	
academic, citizenship and life skills	
for the future.	
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	_
To begin we must appreciate that	
children are genetically endowed with	
certain patterns of behavior and thought. These patterns drive development and	
These patterns drive development and must be harnessed in school.	
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How children learn to mange their emotions?



How children acquire knowledge?

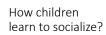


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How children master challenging activities?

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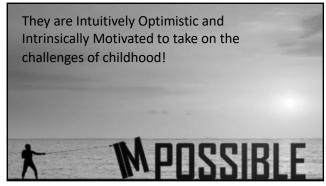




They are guided by the nexus of genes and experience.



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

Daniel Siegel The Developing Mind



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Me and My Dad!

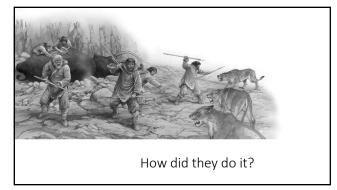


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When children transition into adult life their past mistakes, misbehavior or problems are of little interest to others.



Success in childhood and adult life comes from harnessing assets and	
strengths.	
40	
parents, relatives, and others raised	
and prepared children to become	
successful adults, to acquire knowledge and skills that were	
needed to meet the challenges of	
their time.	
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Until relatively recent times in human history there were no schools or	
organized institutions nor were there	
self-help or parent	





Our ancestors raised the next generation by drawing upon seven important instincts that evolved over tens of thousands of years in many species.

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However these instincts evolved furthest in our species likely because we developed spoken language. Language is the window into the mind.

Biology is not destiny	
probability.	

importance of heredity and the environment in shaping human behavior. The evidence that Bouchard and his colleagues provided through their study supported the argument that genetic factors and inheritance play a large role in the development of individuals and the interests and characteristics they show.

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Instincts

- In complex species instincts serve a critical role in shaping the developmental course through childhood into adulthood.
- \bullet Thousands of generations of children allowed for many genetic mutations, some of which were adaptive.
- Some of these increased the likelihood that babies would survive, even thrive throughout their childhood, and transition successfully into adult life.

Instinct	

- Bob Brooks and I posit that *TENACITY* is composed of seven instincts that I will briefly introduce and discuss.
- We consider one of the most important to be intuitive optimism. This is the unspoken belief that if you just keep at a task your chances of success are greater.
- We would argue that when it comes to reaching developmental milestones continued effort nearly always leads to success as long as the task is within the capacities of the child to achieve.
- This instinct is clearly a vital component of self-discipline and a resilient mindset.

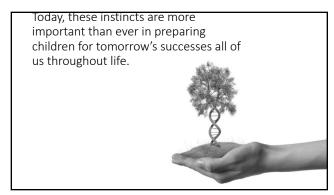
Instincts

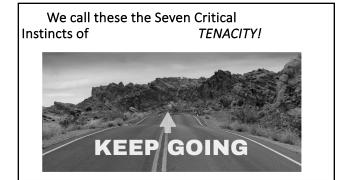
- Our children are in fact hard wired to learn if we are sufficiently knowledgeable to understand how their wiring interacts with the world around them and create environments in which they can grow and thrive.
- Every society places expectations upon its youth to acquire a certain level of knowledge and behavior in order to functionally transition into adulthood.
- No matter how simple the society, children must harness their instincts to acquire knowledge, develop self-discipline, cope well with adversity and persist even in the face of failure.
- These instincts provide the critical foundation for children in any culture or society to acquire necessary knowledge to move successfully into adult life.

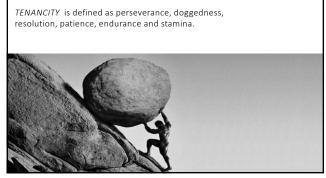
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Instincts

- In some species instincts are fixed patterns of behavior leading to a certain outcome such as a bird building a nest for the first time or a salmon returning upriver to its birthplace to spawn.
- We believe that in our species instincts represent an intuitive way of thinking and/or acting that increase the chances of survival and success.
- In viewing instincts in this way we appreciate that knowing what to do and doing what you know are not synonymous.
- Ultimately success very much dependent on experience.



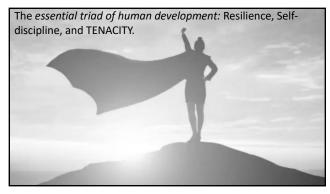




Tenacity provides the mental and emotional fuel driving resilience and self-discipline.

KEEP CALM AND NEVER YIELD

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TENACITY may be comprised of seven instincts, but for these instincts to develop and flourish in children they require the nurturing and support of

caring ad



These instincts are:

- intrinsic motivation
- intuitive optimism
- simultaneous intelligence
- compassionate empathy
- virtuous responsibility
- genuine altruism
- measured fairness



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Instinctual Optimism

- A belief driven by genes.
- A belief that a way will always be found.
- A belief that success will be obtained.
- The glass is half full!



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Intrinsic Motivation

- Driven by internal reason and inspiration.
- Rewarded by the payoff to the mind.
- Guided by belief not environmental consequences.



Practical	Intel	ligence
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- The ability to see all the parts of a problem simultaneously.
- A mental activity by which the child integrates stimuli into groups.
- Stimuli are seen as a whole.
- Each part is related to the others.



Compassionate Empathy

Insight combined with:

- Sensitivity
- Tolerance
- Kindness



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Through the Eyes of Others

- Do you practice what you have learned and lived?
- It is difficult to be empathic when you are disappointed or angry.
- Do you make assumptions about the motives of others?
- Do you hold the erroneous belief that if you are too empathic people will take advantage of you?



Through	the	Eves	of	Others

Steps to becoming an empathic person:

- Take the time to complete empathy exercise. Consider how you would like other people to describe you versus how they might actually describe you. Act on the discrepancy.
- Use your experiences as a guide.
- Make an effort to put empathy into practice every day.

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Virtuous Responsibility

Responsible behavior guided by:

Dignity

Morality

Respect for self and others

Integrity



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Genuine Altruism

Giving of yourself (time and effort) guided by:

Sincerity

Honesty

Truth

Sensitivity

Honesty



airness

- A concept developed in Game Theory.
- Being fair to yourself first than to others.
- Knowing when you must put yourself first.



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

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Off to School!

Learning is greatest when prompted by intrinsic motivation rather than external controls.	
70	
70	
Intrinsic not external motivation is at the center of creativity, responsibility, healthy behavior and lasting change.	
71	
Motivation isn't something that gets done to children but rather something that children must do for themselves.	
72	

As educators, the question we must ask ourselves is how we can create environments within which children will motivate	
themselves towards successful social engagement?	
Social engagement.	
73	
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	
which then changes their parents and teachers and further impacts their development.	
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	<u> </u>
We must adopt a	
learning to ride a bike mindset.	
Slow May Be Fast Enough!	
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We must design schools to fit the needs of our society today . .

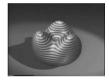
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. . .with an eye towards the future.

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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.

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Educators as classroom engagement coaches.

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

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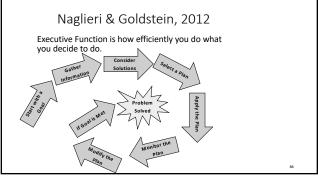
As Engagement Coaches They Must Design Classrooms to Nurture and Grow Developing Minds

- 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



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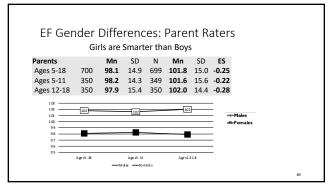
One EMPIRICAL Factor (a governor) with MULTIPLE Processes such as:

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

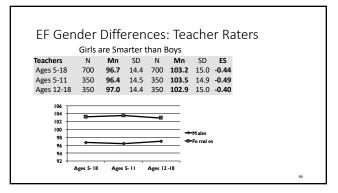
EF as a Mediator of Ability and Knowledge

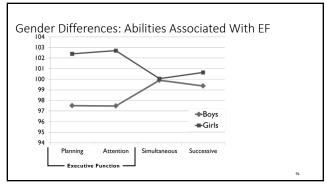
- Ability: The skills we use to acquire and manipulate knowledge to solve problems. Also referred to as intelligence.
- Knowledge: Everything we learn in life. Also referred to as achievement.
- Executive Function: How efficiently or skillfully you do what you decide to do.

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How Does Executive Function Contribute to:

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

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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.

			Inte					
	FS	VC	PR	WM	PS	CE	FI	
16%!!!						Mn	SD	
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	
NISC-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		

	FS	Plan	Sim	^-	Suc	CI	FI
20%!!	FS	Plan	Sim	Att	Suc		
CEFI						Mn	SD
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		

CLI	land		-			
WJ-III Achievement Tests						
25% !!	Total	Broad Reading	Broad Math	Broad Written Language	Median	
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	C
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				

My Granddaughter	Hones	Her	EF	Skills



Practice Pays Off!



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- · Congritive Strategy = EFF Instruction demic tasks
- \bullet 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.

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 scheme.

 Encourage continued use and generalization of the strategy. Students are encouraged to try the strategy in other learning situations.

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Is real world, content based EF instruction effective?



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



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	
10:	
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	-
Harnessing the Power of EF	
Is broad or global EF training	
	-
effectively transferred to the	
natural setting?	
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rour current reviews converge	<u></u>
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.	
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rnese 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.

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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.

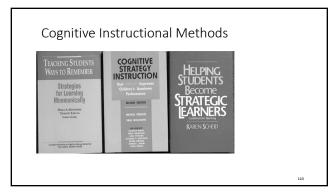
Dovis, et. al., 2015

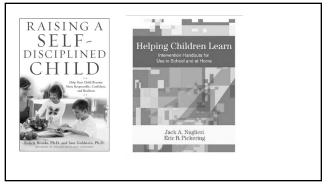
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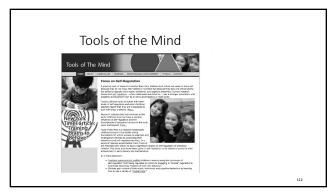
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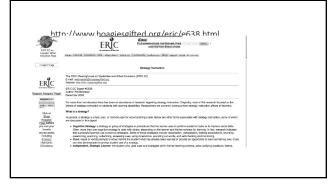
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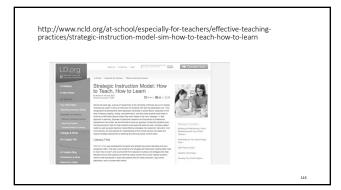


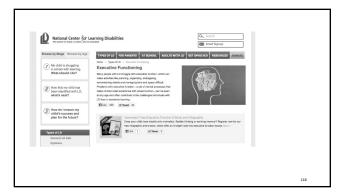


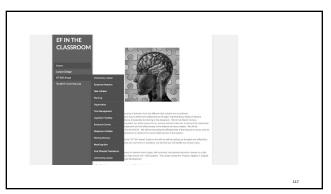












Benefits of Strategy Instruction

- 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"

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The Mindset of Effective **Educators**



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Effective Educators

- Effective educators focus on the self-esteem and the social-emotional lives of children.
- $\bullet\,$ 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 mislead by the overt behaviors of children.

Coping	Be	haviors	of (Child	dren
0					

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

Effective Educators

- 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.

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Effective Educators

- 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.
- 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.

Effective Educators	
Use time efficiently.	
 Intervene in misbehavior at a low rate. Maintain a low ratio of punitive to positive interactions. 	
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.	
124	
To be a <i>charismatic educator</i> and nurture	
hope and resilience, we must understand and reinforce the components of a <i>resilient</i>	
mindset in children and teens.	
125	
Resilient Children:	
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.	
	-

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- Resilient children possess islands of competence or strengths that define their identity.
- Resilient children can deal effectively with mistakes and
- \bullet Resilient children believe they can contribute to and make a positive difference in the world.

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-
- Offer encouragement and positive feedback.
- Help children deal with mistakes.

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Teach Empathy By Practicing Empathy

- Are we saying or acting in a way that our children will be responsive to hearing us?
- \bullet 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?

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To a de Constante de Des Donasticios e	-
Teach Empathy By Practicing	
Empathy • Listen	
• Validate	
Avoid preaching and lecturing Avoid independent and accounting	
Avoid judgments and accusationsPut yourself in their shoes	
Change your negative scripts	-
130	
	7
Teach Responsibility By Encouraging	
Contributions	
Provide ample opportunity	
Focus on existing success	
Build islands of competence Allow the consectivity to witness converte examples of	
 Allow the opportunity to witness concrete examples of success 	
131	
Tooch Desirion Making and Drahlam	1
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	
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133	
]
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	
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	1
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.
- $\bullet\,$ Feel special and appreciated in the eyes of others.
- $\bullet\,$ 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.

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Adopt a learning to swim mindset!



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respecting the student"

Ralph Waldo Emerson



The Road to *TENACITY*: Building Islands of Competence

- Examine your assumptions about children's choices and successes.
- $\bullet \ \ \hbox{Challenge their self-defeating attributions}.$
- Help them find passionate interests and islands of competence and pursue them.
- Listen and learn first before advising. Sometimes they just want to be heard.
- Let them learn from their experiences.
- Be proactive in the face of true problems.
- Take a long term view.

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The Lessons of Resilience: Maintaining a Resilient Lifestyle

Exercising resilience on a daily basis:

- Have I truly listened during the past day and attempted to understand the viewpoints of others?
- How have I related to others? Have I practiced empathy and respect?
- How have I responded to stress, mistakes and setbacks? What will I do differently the next time?
- In what areas did I do well? How do I maintain and/or reproduce these positive behaviors tomorrow?
- Do not wait for other people to change first for you to achieve your goals and happiness.

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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)



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.



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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.



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

The Disappearance of Childhood



DEAR GOD, I wish I could be better in School. Can you help me.

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