

Taming the Dragon: Self-Regulation Strategies Being Used in Educational Settings



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Outcomes

- Define self-regulation
- Identify self-regulation challenges in students with ASD
- Examine several examples of strategies used in various settings



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What is Self-Regulation?



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What is Self-Regulation?

The ability to:

- attain, maintain, and change arousal appropriately for a task or situation
- monitor, evaluate and modify ones' emotions
- sustain and shift one's attention when necessary
- understand the meaning of, and how to engage in, a variety of social situations
- connect with/care about what others are thinking and feeling

(Baumeister and Voh, 2011)



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Domains of Self-Regulation

1. Biological	attain, maintain, and change one's level of energy to match the demands of a situation/sensory input
2. Emotional	monitor, evaluate, and modify one's emotions
3. Cognitive	sustain and shift one's attention when necessary and ignore distractions, use memory and problem solving skills
4. Social & Prosocial	understand the meaning of social interactions and how to engage in them in a sustained, empathetic way

(Baumeister & Vohs, 2011; Shanker, 2013)



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Critical Elements to Self-Regulation

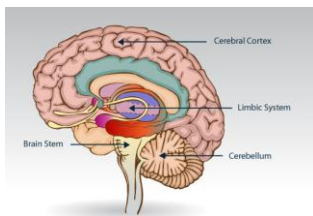
- when feeling calm/focused/alert, the ability to know one is calm/focused/alert
- when stressed, the ability to know what is causing stress
- ability to recognize stressors in and outside of the classroom
- desire to deal with those stressors
- ability to develop strategies for dealing with the stressors
- ability to recover efficiently/effectively from dealing with the stressors

(Shankar, 2013)



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Development of Self-Regulation



Brain Image Retrieved from: http://www.withthebraininmind.org/buildingbrains/unit_6/unit_6_05.php on July 31, 2013



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Self-Regulation and Students with ASD

Within the domains of self-regulation, students with ASD have specific challenges in the areas of:

- sensory processing/biological factors
- executive functioning
- emotional regulation
- social interaction



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Setting #1: Secondary school gym class

- Population: MID class, all boys, all have ASD
- When: During transition time (class to locker to change room to gym)
- Problem:
 - students were forgetting their agendas, gym clothes,
 - not following routines/instructions in the gym class.
 - not writing in their agenda books



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Strategies used:

To reduce the prompting of directions:

- Visuals posted as reminders of rules

To increase ability/cooperation with writing in agenda:

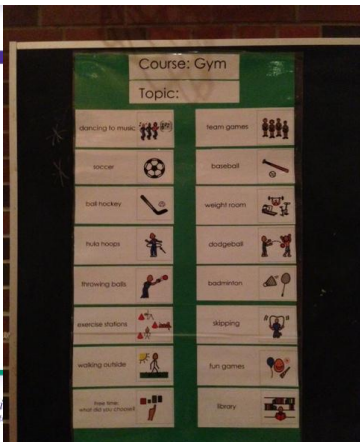
- Large list with text posted of all gym activities
- Recap of events (check marked)
- Students copy from text list

To increase motivation to remember items and follow instructions:

- Class wide token board (tokens for 5 behaviours)
- First, EAs put on tokens, then students self-monitored



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Outcomes:

- Teacher loved the system – less need to nag ('prompt')
- Less need to help with writing in agendas
- Improvement in students bringing necessary materials to class
- Students were more on task in the gym, more cooperative with staff, showed fewer behaviour problems
- Students became competitive about earning tokens
- Teacher felt she could teach physical education skills instead of spending all her time prompting and directing students to comply

Future directions:

- Similar visuals needed across the school for other subjects
- Need consistency to maintain students ability to self-monitor



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Setting #2: ME class, grade 3 level, TCDSB

- Profile: Male student, transitioning from IBI, using a communication system (Ipad), some verbal utterances/poor articulation
- Problem:
 - When frustrated with peers during play/frustrated with pen and paper tasks student would scream and cry
 - Escalation continued to hitting, kicking, flipping desks
 - When in IBI, if screaming started, work task would end, instructor would say student was not ready, wait until he showed "hands ready" and then resume task



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Strategies used:

Social story about using the 5 point scale

- story was used to introduce the 5 point scale and breathing box
- read to the student throughout the day during 'calm' periods

Visual breathing box

- breathing box technique taught and practiced during 'calm' periods
- at first sign of frustration, visual breathing card was shown and teacher would model the breathing box sequence

5 Point Scale

- Initially introduced with the social story during 'calm' periods
- Once the student was calm after breathing, he was shown the scale, asked what level he was at and what can be done next time




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
Staying Calm

Sometimes I feel very frustrated 

When I start to feel frustrated I can look at my box breathing picture 

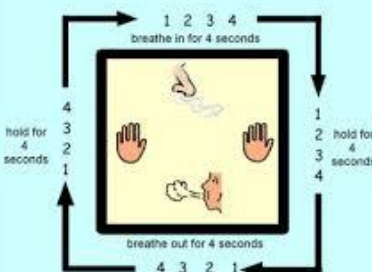
I can do box breathing by myself or with my teacher's help 

When I am calm I can talk to my teacher about what made me frustrated 

Using box breathing and talking to my teacher will help me have a good day 

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SQUARE BREATHING



1 2 3 4
breathe in for 4 seconds

4 3 2 1
breathe out for 4 seconds

hold for 4 seconds

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Name: David My Special/Adapted/Teaching Scale

Rating	Looks/Sounds like	Feels like	Safe people can help/ I can try to
5	 KIDNAP, MAD, SCREAMING, AND RUDDY EYES	I am going to explode if I don't do something.	I will need an adult to help me leave here!
4	 THREATENING or DANGEROUS	People are talking about me. I feel PROTECTED, SAFE.	Close my mouth and use my hands or KICKS. Leave the room for a while.
3	YOU CAN'T SEE THE SIGN, AND I'M CONFUSED.	I AM NOT OKAY.	WRITE AN ATEN ABOUT IT. GOSE MY EYES.
2	I DON'T LOOK NORMAL.	MY ANSWER GETS A LITTLE WORSE.	HOW MY BREATHING. TELL SOMEONE. PAPA AND I CAN.
1	WORKS = 100 CENTS OR LOOKING AT ME.	I DON'T HAVE FEELS.	BLIP IS



Outcomes:

- Within a month, behaviours had decreased dramatically
- Within 2 months, student was starting to use the breathing technique independently
- As student became calmer, more able to verbally articulate to both peers and teachers – did not need to use his Ipad
- Teacher reported "a different child" at the end of 6 months
- Family reported an improvement in ability to manage frustrations at home

Challenges:

- Required a lot of time initially to teach and practice the skills



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Setting #3: Junior Autism Class, (gr 4-6), TDSB

- Profile: class of 6 boys, 2 girls, all with ASD (no ID)
- Problem:
 - High levels of frustration, often when interacting with peers and when directed to do non-preferred work tasks
 - Some students would arrive in the morning already anxious, angry and non-compliant with simple routines
 - Behaviour included defiance, verbal aggression, tantrums and some physical aggression



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Strategies used:

CYW was trained in the 'Zones of Regulation'

The classroom was set up with:

- a board with the 'Zones', the Zone strategies
- a self check in with strategies (how is my engine running)
- concentric circles taped on the floor for another way to demonstrate what zone students were in
- a calming centre with sensory materials

Physical fitness, relaxation breaks, yoga were all incorporated into the day

A reinforcement system was used to encourage self-identification and use of appropriate strategies



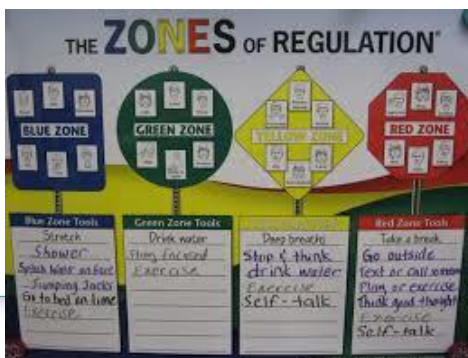
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The ZONES of Regulation®

BLUE ZONE Sad Sick Tired Bored Moving Slowly	GREEN ZONE Happy Calm Feeling Okay Focused Ready to Learn	YELLOW ZONE Frustrated Worried Silly/Wiggly Excited Loss of Some Control	RED ZONE Mad/Angry Mean Terrified Yelling/Hitting Out of Control

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Zones with strategies



Zones of Regulation



Outcomes

- Initially staff were reluctant to incorporate the activities into day to day programming
- CYW persisted and when behaviour change occurred – staff were much more motivated
- Students quickly learned to use the 'Zone' language
- Within several months there was a dramatic change in how students coped with their frustration
- Students began to use the strategies independently, 6 out 8 reduced to near zero outbursts
- Allowed staff more time to prompt the other 2 to use strategies
- General sense of calm in the class – reduced anxiety in all students and staff



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Setting #4: Primary Autism Class, (gr. 1-3) TDSB

- Profile: 7 yr old boy with autism (no ID) transitioning from IBI into full time school
- Problem:
 - Student would become 'disregulated' – breath heavier, fidget, invade other's space, touch others, sometimes hit peers
 - At TPAS he had been prompted early to 'smell the strawberry – blow out the candle' and ask for a break early in the escalation
 - At school staff only attended when he was touching/hitting others, then would use 'time out'



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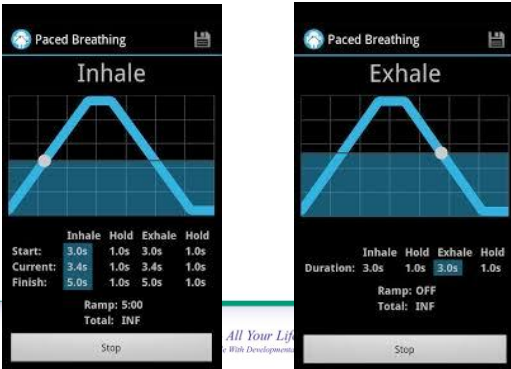
Strategies used:

- School staff were trained to attend to pre-cursor behaviour
- Teacher began using square breathing visuals with entire class and individual one at his desk
- Prompted at first sign of pre-cursor behaviour to use square breathing
- Entire class did square breathing twice a day using a 'Paced Breathing' app
- Entire class used yoga everyday using You Tube 'Cosmic Kids Yoga Series'



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Paced Breathing App



Cosmic Kids Yoga



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Outcomes

- The use of square breathing and yoga became routine and benefited all- decrease in all student's arousal/frustration levels
- The student didn't feel singled out
- After 6 months student had NO hitting incidents
- Parents downloaded the app on their home iPad and used it
- Staff became more aware of looking at pre-cursors/arousal levels of all their students – became much better at prevention, less focus on reactive behaviour strategies

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Setting #5: Day Care Classroom

- Profile: 6 yr old boy in full time child care for the summer months. No formal diagnosis.
- Problem:
 - When any demand that the child found challenging was delivered the student would become quickly upset and run from the childcare room 10-20 times an hour. Concerns about elopement from the building.
 - During play the student would become quickly upset and exhibit escalating tantrum behaviour, at points hitting and kicking peers and ECE staff.
 - Childcare staff responded by chasing the student or allowing him to run into the Supervisors office when he was upset. They used time outs and attempted to reason with him when very upset.

Strategies used:

- Zones of Regulation chart**
 - children's names and a teacher's helper target board.
- Body Zone Detective Book**
 - Outline and provide more detail about the Zones of Regulation chart.
 - Staff were instructed to read the book to the children and introduce the chart as a way to be their own Body Zones Detectives.
 - Children were informed that only those who were in the Green Zone during 5 'Zones check-in' times would be considered for teachers helper.
 - Children were encouraged to change their name across the Zones depending on how they felt throughout the day.

Visuals used



Visuals used

WE ARE ALL OUR OWN BODY ZONES DETECTIVES!



Outcomes

- The student began showing almost immediate improvements in identifying his body energy with the aid of the book and the motivation to remain in the green zone.
- He began using the chart to move his name around depending on his mood both with the help of the teachers and independently.
- Though he still became upset in social situations, the duration of the tantrums decreased when he was given reminders such as square breathing and using his animal brain.
- The student was praised when he was able to get back to the green zone right before 'check-in' times.
- 4 months later, teachers reported that he only left the classroom twice a month for the past 2 months.



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What does the literature tell us?

- Self-Regulated Learning (SRL) is a state that increases student's confidence that they are able to navigate their learning environment effectively (self-efficacy) .
- In turn, self-efficacy increases the likelihood of students using self-regulation strategies.
- Teachers are most effective in facilitating and promoting SRL in their classrooms when they approach SRL with the following components:
 - Goal Setting
 - Planning
 - Self-Motivation
 - Attention Control
 - Self Monitoring
 - Appropriate help-seeking
 - Flexible use of learning strategies
 - Evaluation

Zumbrun, Tadlock & Roberts (2011)



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Implementation of SR strategies best practice

- Direct Instruction and Modeling
 - Break down the steps to strategies and use real life examples.
- Guided and Independent Practice
 - Teacher/student collaboration.
 - Teacher guidance is faded, and reinforce autonomy.
- Students must be given frequent opportunities to practice SRL in order to maintain skills over time
 - Initial teacher identification of specific and effective SR strategies.
- Frequent reflection – co-regulation paves the way to self-regulation
- Give children the necessary tools to be life long learners

Zumbrun, Tadlock & Roberts (2011)



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Conclusions and further directions

- All strategies used led to significant behavioural improvements
- Some 'up front' work was needed, sometimes hard to get buy in from all staff
- Tools such as the Zones of Regulation chart required teachers to implement the strategy consistently – students lost motivation when when the 'check-in' times were too variable.
- Motivation and engagement were imperative components to all Self Regulation strategies.
- Quantitative data on the effects of SR tools is in the collection phase in the York Region and Durham School Boards.



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For further information

- Canadian Self-Regulation Initiative website, <http://www.self-regulation.ca/>
- The Milton and Ethel Harris Research Initiative at York University – Dr. Stuart Shanker, <http://www.mehritcentre.com>
- Shanker, S. (2012). **Calm, alert, and learning: Classroom strategies for self-regulation.** Toronto: Pearson Education Canada.
- <http://www.zonesofregulation.com/>
- CBC News Documentary – Self-regulation technique helps students focus in class, <http://www.cbc.ca/news/canada/self-regulation-technique-helps-students-focus-in-class-1.2440688>
- The Tools of the Mind Curriculum, <http://www.toolsofthemind.org/>



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Questions?



