



Teaching Self-Regulation and Interoception

Developing self-regulation is a process involving different elements. In this process, we implement whole-brain approaches, allowing us to match brain and body states and develop certain skills to support building capacities for students so they can ultimately self-regulate independently.

Elements in the process

- **Element 1:** Implementing Whole-Brain Approaches
- **Element 2:** Developing Specific Skills
- **Element 3:** Developing Student Capacities

Implementing Whole-Brain Approaches	
Top-Down AND Bottom-Up	
TOP-DOWN approaches to teach specific skills	BOTTOM-UP co-regulatory experiences to build student capacities
Developing specific skills: <ul style="list-style-type: none"> ○ Shifting and Stabilizing energy and attention ○ Monitoring energy and attention ○ Modifying energy and attention 	Developing student capacities: <ul style="list-style-type: none"> ○ Scaffolding a foundation of interoceptive awareness. ○ Facilitating an exploration of self-awareness. ○ Promoting the individual discovery of effective self-regulatory strategies.
Adapted from Dan Siegel, 2018	

What is interoception?

Interoception is our eighth sensory system. It provides information about the condition of our body, and allows us the ability to notice what is happening within it.

“Interoceptive awareness is the neurobiological foundation of SEL” (Mahler, 2019).

Self-regulation and the brain:

The explicit teaching of skills is a top-down approach. Top-down approaches can be effective when the upper region of the brain, the cortex, is in charge. In this case, the cortex can have a regulatory impact on the lower regions of the brain. Adults providing co-regulatory experiences to students is a bottom-up approach. While vital, this is different from a student becoming aware of the need to regulate and being able to choose an effective and appropriate form of regulation. The latter happens after repeated co-regulatory experiences, coupled with the ability to recognize what is happening in their bodies (interoception) the opportunity to explore their own regulatory needs, and determining effective strategies that match the current situation.

Key points to consider:

- Top-down skills AND bottom-up co-regulatory experiences are both necessary.
- Students need to be able to identify their own regulatory needs, which includes being able to notice their own bodies.
- Noticing what our body naturally wants to do, can help us figure out what works for us.
- Regulation can occur in small doses throughout the day.

TOP-DOWN APPROACHES TO TEACH SPECIFIC SKILLS: Most of these force moments of self-reflection.

Supporting Shifting and Stabilizing Energy and Attention

Everyone Shift Activities:

- “Everyone shift your attention to the window. Everyone shift your attention to the floor around you. Everyone shift your attention to me.”
- “Everyone shift your attention to the door. Everyone shift your attention to the clock. Everyone shift your attention to me. What do you see? (make a funny face, put on a hat, etc). How many fingers am I holding up?”
- “Everyone shift your attention to....and count to five. Everyone shift your attention to... and count backward from five.”

Where's My Attention Activity:

- You say, "Where's my attention?" Then answer, "My attention is on the (insert item)"
Ask the class "Where is your attention?"
Have them answer, "My attention is on (students give their own answers)"
There are no right or wrong answers, it's about becoming aware.

Supporting Shifting and Stabilizing and Monitoring Energy and Attention**Collectively Shifting Attention Activities:**

- Throw up a ball and have everyone clap when it reaches its highest point.
- Lightly tap your hands on the table until everyone has joined. Create a rhythmic pattern. You can choose others to change the pattern.
- Push down a pop-up on your desk and say pop when it pops up. Or, blow a bubble and say pop when it pops or when it leaves the wand.
- Have two different colored balls that you toss up. Everyone calls out the color of the one that goes highest or lowest.
- Butterfly hug tapping on your shoulders bilaterally. When you pause everyone claps. Then you start again.
- Have everyone follow your movements, begin by rubbing your hands together for a few seconds, then move to your lower arms, keep moving up to your face, and then push down on your head. Then, reverse the order.
- When you hold up your hand, everyone taps on the table. When you hold up both hands, everyone claps. When you cross your arms everyone claps twice. When you lift up your knee, everyone stomps a foot. Change up your actions and change the speed.

Supporting Monitoring Energy and Attention**Sustained Attention Activities:**

- "As we move from this activity to the next one, we're only going to pay attention with our ears." At the end of the transition ask them to share what they noticed with their ears.
- "As we walk down the hall, we're only going to pay attention with our eyes. Let's see if we can notice something we've never seen before."
- For 5 seconds we're only going to notice (what's on the floor right around us, how our pinky feels, the temperature of our face, etc).

BOTTOM-UP CO-REGULATORY EXPERIENCES TO BUILD STUDENT CAPACITIES: Most of these use the mirror neuron system to support building capacities. There are no right or wrong ways to do these, make them your own.

Scaffolding interoceptive awareness, self-awareness, and/or effective self-regulatory strategies**Scaffolding Construct:** (Adapted from Kelly Mahler, 2019)

Developmental approach to nurturing curiosity about inner experiences and responding to physical sensations and experiences.

- **Pre-beginner:** Name your own physical sensations or experiences. (My experience)
- **Beginner:** Make observations about what you see or wonder about to prompt attention. (What I notice to support becoming aware)
- **Intermediate:** Call attention to physical sensations or experiences to support noticing and/or addressing them. (What is happening and/or what can we do about it?)
- **Advanced:** Call attention to specific area of the body or part of an experience.
- **Proficient:** Call attention to the entire body or experience.

Alternatives and/or for older students:

Use a sound to prompt "Where is my attention?"

When I heard the sound, was my attention where I wanted it to be, or not? If not, what was I paying attention to instead? What was I thinking about? What makes it difficult for me to keep my attention on something? What makes me shift my attention without realizing I'm doing it? What distracts me? What helps me keep my attention on something?

Check-in Activities: These activities can focus on interoceptive awareness, self-awareness and effective self-regulatory strategies.

- **Everyone check-in Activity:** You say, **“Shift your attention to your (hands, or any body part).”**

	Pre-Beginner	Beginner	Intermediate
IN THEORY	My Experience: Put your hand on the part of the body you are talking about and name out loud what you notice in yourself.	What I notice to support becoming aware: After prompting attention notice what they are doing and continue prompting.	What is happening and/or what can we do about it? Bring attention to the body part while offering options of experiences and/or addressing it.
DO/SAY	As I put one hand on my other hand, “My hand feels sore,” as I stretch out my fingers or rub my hand.	“I see some hands moving, some stretching, and some wiggling. Do you see what your hands are doing, or notice how your hands are feeling?”	“What are your hands doing? Are they moving, stretching, wiggling, or something else? Or, how do your hands feel? Are they hot, cold, sore, or something else?”

- “Everyone check-in. You say, **“Pay attention with only your (ears, or any sense).”**

	Pre-Beginner	Beginner	Intermediate
IN THEORY	Put your hand on the sense you are asking them to pay attention with and name out loud what you notice.	After prompting attention notice what they are doing and continue prompting.	Ask what they hear, smell, see, etc. with choices.
DO/SAY	As I put my hand on my ear, “I hear voices. It sounds like they are coming from this direction.”	“I see some of you looking around, can you hear the voices? Where do you think they are coming from?”	“When you pay attention with your ears, do you hear voices, the clock, or something else?”

Building Transition Capacity Activities: These activities focus on growing windows of tolerance for transitions by supporting interoceptive awareness, self-awareness and effective self-regulatory strategies.

- When getting ready to transition, you can say **“We will be shifting our attention to (insert activity) in (insert number) minutes.”**

	Pre-Beginner	Beginner	Intermediate
IN THEORY	Put your hand on the body part you are noticing and say out loud what you notice.	Notice and name their reactions.	When possible, make the motions with your body of their reactions and model regulation
DO/SAY	As I put my hand on my chest, “I have to take a deep breathe to get my body ready to stop what I’m doing.”	“I noticed some of you looked at the clock, some of you slumped back in your chairs, some of you put your heads down on your desk.” Did you do any of those things, or did you do something else?	As I name the observations I also regulate through them. I look at the clock, and then shift my attention back to them. I slump my body over, as I roll my shoulders and come back to a standing position. I act like I’m putting my head on a desk, as I stretch my back and shoulders and come back to a standing, alert position.

- This time we’re going to focus on naming struggling with transitions. When getting ready to transition, you can say **“We will be shifting our attention to (insert activity) in (insert number) minutes.”**

	Pre-Beginner	Beginner	Intermediate
IN THEORY	Name the struggle with transitioning. Notice your body, putting your hand on the body part you are noticing and say out loud what you notice.	Notice and name what they are doing.	When you name what they are doing, when possible, make the motions with your body of their reactions, model regulation, and give choices.
DO/SAY	“I think it’s going to be hard for me to stop what I am doing, who else feels	“I see some of you also took a deep breath,” as I take another deep	As I’m taking a deep breath, “Did you notice if your heart started beating faster or slower?” Act like I’m

DO/SAY	this way?" Give them a chance to raise their hands or respond. "So, I'm going to see if my body is giving me any clues about what I might need." With my hand on my chest, "I notice that my heart is beating fast, I'm going to take a deep breath."	breath. "Can you feel your breathing? Some of you got your materials and brought them closer to you, and some of you started drawing/writing faster. Did you notice how you reacted, or what you did? Or, how you felt?"	gathering things close to me, "or, did you notice if you felt like you needed to move things closer or wanted more space," as I shake out my arms and take a deep breath. Act like I'm moving my hands quickly, "or, did you notice if your hands speed up or slowed down," as I shake out my hands and take a deep breath. "Or, did you notice something else or how you felt?"
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Interoception: Teaching sensations in the Body

Developing language and experiences to support interoceptive awareness.

When doing any of these activities if a student is uncomfortable **DO NOT** force them to participate. These activities have two purposes: 1) to shift attention to the body and notice the physical sensations occurring to build interoceptive awareness, and 2) to build a vocabulary to talk about these sensations. If students give you a feeling word rather than an emotion (physical sensation) gently guide them to a physical sensation by asking, "how do you know you feel that way?"

- Stand with your feet firmly on the floor. Reach one arm up high. Make your arm as long as you can while keeping your feet firmly on the floor. Now, reach even higher and hold it in the air while I count to 10.
Now lower your arm.
Notice how your arm feels, does it feel differently than your other arm?
What words would you use to describe how it feels? **Heavy, tingling, floating**
- Pull your shoulders up towards your ears, get them as close to your ears as you can. Hold them and notice how your shoulders, your neck, and your face feel.
What words would you use to describe this? **Tight, tense, hurts**
Now put your shoulders way down, how would you describe them now? **Relaxed, loose, droopy**
- Try standing on one leg without holding onto anything, now try closing your eyes, how does that feel? **Wobbly, shaky, dizzy**
- Put the palms of your hands over your ears, press gently against your ears (you may hear low rumbling sounds) Everyone try it for a few seconds and then take your hands off of your ears.
This time we're going to do it again but I'm going to be talking to you while your hands are over your ears, don't take your hands off your ears until I raise my hand. While they have their hands over their ears for 20 seconds talk in a soft low voice.
Raise your hand to indicate they should take their hands off their ears.
What words would you use to describe this? **Floating, airy, spacey, disconnected**

Other things to try:

Jumping up and down (**energized, bubbly**)

Spinning (**dizzy, wobbly**)

Hold your breath for 10 seconds (**suffocated, constricted, blocked, tight, can't breathe**)

Put your head and upper body over on your desk (**heavy, numb**)

Think about ants crawling around (**itchy**)

Put your hands in fists (**clenched**)

Tap your cheekbones with your fingertips while I count to 10 (**tingly, airy, light**)

Put one of your hands palm down on a table and push on it with the palm of your other hand while I count to 10 (**pulsing, flowing, throbbing**)

Rub one of your earlobes between your thumb and first finger while I count to 10, then compare how your earlobes feel (**numb, heavy, tingling**)

Vigorously rub your hands together for 10 seconds then pull them apart (**tingling, hot, warm**)

Think about what it feels like when your foot falls asleep (**tingling, prickly, pins and needles**)