

A man with glasses and a white t-shirt is holding a striped blanket. A woman in a red hoodie is also holding the blanket. They are in a room with wooden floors, a white side table, and several balloons (pink, blue, yellow, white, purple) on the floor. A large white shaggy rug is in the bottom left corner.

Laying the Foundation First

Body, Sensory Systems, and Safety in
Neurodiversity-Affirming Care

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Financial: Farwa is the founder and owner of One-on-One Speech Therapy and First Phrases. She is receiving an honorarium for this presentation.

Non-financial: Farwa serves as president of MCSHA and is a member of ASHA and NBASLH.



You Already Know About Neurodiversity. So Why Does It Feel Hard?

92% Aware
54% Not
Confident

A 2026 survey of 150 school-based SLPs — the clearest current picture of this exact gap.

- Almost 92% of 150 surveyed school-based SLPs reported awareness of the neurodiversity movement.
- Yet 54% reported a lack of confidence writing goals and providing therapy in an ND-affirming way.
- When asked to apply that knowledge, only 2% of goal-area responses and just under 3% of therapy-approach responses fully aligned with ND-affirming practice.
- The gap this session is built to close is not awareness — it's implementation. Every section today answers one version of "okay, but what does this look like tomorrow at school?"

The Premise of Today

- A student's sensory, emotional, physiological, and relational state can significantly influence their access to attention, participation, learning, and communication.
- A neurodiversity-affirming framework treats sensory systems, co-regulation, and felt safety as part of the foundation of practice, not an add-on to it.
- Today translates current research into strategies you can use this week in a therapy room, a classroom, or a hallway.

BY THE END OF THIS SESSION, YOU WILL BE ABLE TO

Learning Objectives



Identify at least three ways nervous system regulation and sensory processing impact communication, engagement, and learning in neurodivergent individuals.



Describe key principles of neurodiversity-affirming care, including the roles of co-regulation, safety, and embodied learning in supporting communication.



Define the primary sensory systems (vestibular, proprioceptive, tactile, interoceptive) and the body's role in regulation, engagement, and communication.



Implement at least three body-based, sensory-informed strategies to support regulation and facilitate meaningful communication in clinical or educational settings.

Reframing the Foundation

What do we mean by neurodiversity-affirming care — and why does it change where we start?

Deficit, Difference, or Both?

- The neurodiversity paradigm frames autism and related neurotypes as natural variation in how brains work, alongside, not instead of, real, disabling challenges.
- Survey research finds strong endorsement of both "difference" and "deficit" framings, especially among autistic adults themselves.
- Practical implication: goals shift from making a student look "less autistic" toward building skills the student and family actually want.
- Affirming practice does not mean ignoring difficulty. It means naming difference and disability without pathologizing the person.

Words We Reach For and Words We Retire



More Affirming

- Identity-first language when the community prefers it (e.g., "autistic student")
- "Communicates differently" / "uses a different communication style"
- Describing support needs concretely and respectfully
- Centering the student and family's own goals and preferences



Worth Reconsidering

- "Suffers from," "afflicted with," "at risk for autism"
- "High-functioning" / "low-functioning" labels
- Framing echolalia or stimming only as "behaviors to reduce"
- One-size-fits-all mandates (e.g., always person-first)

Core Principles of Neurodiversity-Affirming Services

- Shift from compliance and normalization goals toward supporting authentic, functional communication.
- Recognize AAC use, echolalia, and self-regulatory behaviors (e.g., stimming) as valid forms of communication and regulation.
- Build goals collaboratively with autistic clients and families rather than imposing predetermined milestones.
- Presume competence, and design supports around access rather than around "fixing" the student.

Nervous System States & Communication

How does the autonomic nervous system shape engagement, learning, and language — and what helps it settle?

Three Arousal States: A Plain-Language Primer

This ladder, drawn from Polyvagal Theory, is a widely used clinical model for describing arousal states. Its specific physiological mechanisms remain actively debated among researchers.

Ventral Vagal

Safe & Social

- Calm, curious, connected
- Flexible thinking is available
- Communication is easiest here

Sympathetic

Mobilize

- Fight-or-flight activation
- Fidgety, anxious, reactive
- Language narrows or speeds up

Dorsal Vagal

Shutdown

- Freeze, withdrawal, collapse
- Can look like "not trying"
- Language may disappear entirely

Neuroception: A Useful Model for "Before We Know It"

- Neuroception, a term from Polyvagal Theory, describes a proposed unconscious process of scanning for cues of safety or danger. The exact mechanism is debated, but the clinical pattern it names is widely observed.
- Students consistently respond to tone of voice, facial expression, pace, proximity, and predictability, often before they can say what they noticed.
- A student who seems "defiant" or "shut down" may be reacting to something in the environment, not making a conscious choice.
- Practice implication: our own regulated tone, pace, and face are information the student is taking in constantly, whatever the precise underlying mechanism.

Behavior, or Communication?

- Before you respond to the behavior, ask what the behavior may be communicating.
- Movement, scripting, crying, withdrawal, or fixation on sensory input are rarely "refusal." are often the nervous system's best available strategy in that moment. They
- Swap the automatic labels: noncompliance, avoidance, attention-seeking, inattention

ASK: what is this student's body telling me right now?

- This single shift in framing changes everything that follows: the goal, the tone, and the strategy you reach for next.

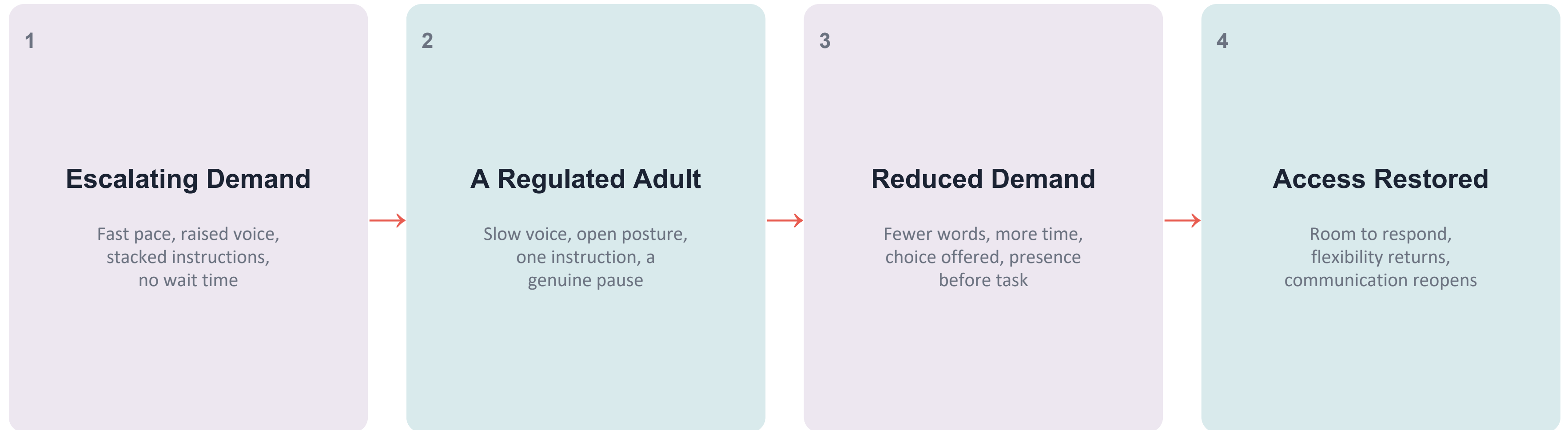
Toxic Stress and the Developing Brain

- The American Academy of Pediatrics' foundational report describes "toxic stress" as strong, frequent, or prolonged adversity without a buffering adult relationship.
- Toxic stress is linked to disruptions in executive function, learning, and long-term health, not just short-term behavior.
- The antidote identified across this literature is consistent: safe, stable, nurturing relationships.
- For school-based SLPs, this reframes co-regulation as a clinical necessity, not a "soft skill."

MAKE IT OBSERVABLE — NOT JUST "BE CALM"

Co-Regulation in Action

The same request, two very different nervous-system experiences for the student.



The Body Is Where Thought and Connection Begin

- Grounded (embodied) cognition proposes that concepts, memory, and language are built from simulations of bodily, perceptual, and motor experience, not abstract symbols alone.
- Movement, sensory experience, and gesture are not "extras" alongside language learning. They are part of how meaning is built.
- Infants show an innate capacity for embodied, emotional attunement through gaze, timing, and prosody, well before words; this attunement is the foundation joint attention and later language are built on.
- For neurodivergent learners, this attunement may look different:
different eye contact, different timing, different shared-attention cues, without being absent.



LEARNING OBJECTIVE 1 — CHECKPOINT

Identify at least three ways nervous system regulation and sensory processing impact communication, engagement, and learning.

1

A dysregulated nervous system can narrow access to flexible, spontaneous language and shift a student toward more reactive or shut-down patterns.

2

A student's read of their environment strongly influences whether they can engage, attend, or connect, long, before any lesson content matters.

3

Body-based, sensory input can change physiological state in real time, which can change what communication and learning look like next.



LEARNING OBJECTIVE 2 — CHECKPOINT

Describe key principles of neurodiversity-affirming care, including the roles of co-regulation, safety, and embodied learning.

1

Safety and security strongly influence engagement. This is not a reward for compliance, and it is not fully within the clinician's control either.

2

Co-regulation from a steady adult nervous system can support a student's own developing self-regulation over time.

3

Bodily and relational experience shape cognition and language. Embodied, attuned practice is not an add-on to "real" therapy.

Sensory Systems & the Body

What are the primary sensory systems, and how does each shape regulation, engagement, and communication?

Beyond Sight, Sound, Taste, Smell, and Touch

- Alongside the familiar five external senses, the body has internal sensory systems that shape regulation from the inside out.
- Three body-based systems: vestibular, proprioceptive, and tactile. This informs posture, movement, and physical safety.
- An eighth system, interoception, senses the body's own internal state from heartbeat, hunger, tension, and emotion.
- For many neurodivergent learners, these systems process input differently: not less, not more, but differently and that difference shapes regulation.

Regulation Doesn't Have One Look

- Participation and communication access are the goal. Regulation is one support that can help a student reach them, not the goal itself.
- Regulation is not sitting still, quiet hands, or eye contact. A regulated student might pace while communicating, rock while listening, hum while learning, or stand while participating.
- A neurodivergent body doesn't have to look neurotypical to be regulated. "Calm and alert" is not one specific posture.
- Working definition for today: having enough access to participate, communicate, learn, rest, advocate, or engage in a way that works for that student, right now.

Dysregulation Signs: Too Low vs. Too High



Too Low

- Low energy, difficulty getting started
- Fatigue that doesn't resolve, feeling "stuck"
- Difficulty engaging, foggy thinking
- Harder to process language



Too High

- Feeling overwhelmed or overstimulated
- Anxious, elevated, "on edge"
- Scattered attention, increased sensory sensitivity
- Difficulty with self-control

Alerting and Calming: Two Tools, One Goal

- Alerting (up-regulating) strategies raise arousal for a student who is under-aroused, sluggish, or shut down.
- Calming (down-regulating) strategies lower arousal for a student who is overwhelmed, anxious, or wound up.
- The goal of both is the same: enough access to participate, communicate, and engage, not a specific posture, and not "calm down" for its own sake.
- Sensory strategies work best woven throughout a session. This is not a "first regulate, then work" sequence, but ongoing support alongside instruction.

Winnie Dunn's Sensory Profile: Four Patterns



High Threshold

- Low Registration (passive): easy to miss cues; may seem unaware or "in their own world"
- Sensation Seeking (active): craves intense input; may seem "always on the move"
- "My body needs more input to notice it's there."



Low Threshold

- Sensory Sensitive (passive): notices everything, gets distracted or uncomfortable easily
- Sensation Avoiding (active): actively limits input; may seem rigid or resistant to change
- "My body notices everything, all at once."

Vestibular, Proprioceptive, and Tactile

Vestibular

Movement & Balance

- Senses head position, motion, gravity
- Under-responsive: seeks spinning, swinging
- Over-responsive: avoids swings, stairs, tilting

Proprioceptive

Body Awareness

- Senses force, pressure, joint position
- Often organizing and calming when input is added
- Seeks crashing, squeezing, heavy work

Tactile

Touch

- Senses light touch, pressure, texture, pain
- Under- or over-responsivity both common
- Shapes tolerance for clothing, materials, contact

START HERE — EVERY TIME

Environmental & Interactional Adjustments: Your First-Line Toolkit

Environmental

- Noise level ↓ and visual clutter ↓ in your own space
- Predictability ↑ — routines, visual schedules, advance notice of change
- Seating options ↑ — where and how a student sits
- Processing time ↑ — real silence after a question

Interactional

- Language load ↓ — fewer words, simpler syntax, slower pace
- Wait time ↑ — several seconds longer than feels natural
- Movement choice ↑ — standing, pacing, or a fidget stays available
- Communication access ↑ and choice/control ↑ — options offered, not just demands made

Beyond These Adjustments: Partner With OT

Yours to Adjust

- Seating, proximity, and where a student sits in the room
- Noise level, lighting, and visual clutter in your own space
- Pacing, wait time, and how many words you use
- Materials, transitions, predictability, and communication demands

Partner with OT On

- Formal sensory assessment and individualized sensory diets
- Deep-pressure or vestibular equipment, and any stronger, administered sensory input
- Ayres Sensory Integration protocol-based intervention
- Any strategy you are unsure falls inside your scope — ask

Vestibular: Strategies to Calm and Alert



Down-Regulating (Calming)

- Slow, linear swinging or rocking
- Gentle, rhythmic, predictable movement
- Keeping eyes level with the horizon, minimal head tilting
- Familiar, repeated movement patterns



Up-Regulating (Alerting)

- Spinning, jumping, or bouncing
- Fast movement or sudden changes in direction
- Side-to-side movement or inversion (upside-down play)
- Novel or unpredictable movement patterns

Proprioceptive: Strategies to Calm and Alert



Down-Regulating (Calming)

- Heavy work: carrying books, pushing or pulling a loaded cart
- Deep-pressure hugs or a weighted lap pad
- Wall or chair push-ups, slow squeezing
- Kneading putty or thera-dough slowly



Up-Regulating (Alerting)

- Jumping jacks, hopping, or animal walks
- Quick obstacle courses or wheelbarrow walks
- Resistance-band work done briskly
- Fast bursts of crawling or running

Tactile: Strategies to Calm and Alert



Down-Regulating (Calming)

- Slow, firm deep-pressure touch
- Soft, smooth textures and warm temperatures
- Kneading playdough or putty at a slow pace
- A weighted or textured lap item, held still



Up-Regulating (Alerting)

- Light touch or unexpected textures — introduce with caution, never tickling
- Cool water or cool textures
- Rough or varied textures — sand, cotton balls, water play
- Quick, varied tactile exploration

Auditory: Strategies to Calm and Alert



Down-Regulating (Calming)

- A quiet, slow, calming voice
- Whispering or soft humming
- Slower-paced, quiet music
- Reducing background noise where possible



Up-Regulating (Alerting)

- Upbeat, faster-paced music
- Singing, clapping rhythms, or instruments
- Louder or more varied vocal tone
- Novel sounds or rhythmic patterns

Visual: Strategies to Calm and Alert



Down-Regulating (Calming)

- Soft, natural, or dimly lit spaces
- Muted colors and subdued, simple backgrounds
- Reducing visual clutter within the student's view
- Slow-moving visuals — bubbles, calm lighting



Up-Regulating (Alerting)

- Bright or colorful patterns — avoid flashing lights, which can trigger seizures in sensitive individuals and overwhelm rather than alert
- Busy visual backgrounds
- Novel visual materials — glow sticks, scarves, flashlights
- Quick visual changes or movement in the visual field

Interoception: Supporting Awareness, Calm and Alert

When Awareness Feels Overwhelming

- Slow breathing, paired with a hand on the chest or belly
- Naming one internal sensation at a time, quietly
- Grounding through touch — feet on the floor, hands on a solid surface
- A predictable body-check routine, done the same way each time

When Awareness Is Hard to Notice

- Brief movement or heavy work to make body signals more noticeable
- Concrete, specific language for internal cues — "fast heart," "tight tummy"
- Modeling your own body-check aloud first
- Pairing an internal sensation with a known external cause or event

Sensory Strategy Quick Reference

- Vestibular — Alerting: quick spinning or bouncing. Calming: slow, linear rocking.
- Proprioceptive — Alerting: jumping jacks or a quick obstacle course. Calming: heavy work or a deep-pressure hug.
- Tactile — Alerting: cool water or varied texture play. Calming: slow, firm pressure and soft textures.
- Auditory — Alerting: upbeat music or rhythm instruments. Calming: a slow, quiet voice or soft humming.
- Visual — Alerting: bright colors or novel visuals. Calming: dim lighting and a decluttered space.

Interoception: Sensing the Inside

- Interoception is the sense of internal body states: hunger, thirst, heart rate, temperature, pain, need to use the bathroom, and the physical sensations under emotions.
- It is foundational to self-regulation, self-awareness, and social-emotional understanding.
- Many neurodivergent individuals experience altered interoceptive awareness. Sensations may register faintly, all at once, or with a delay.
- A student who "melts down without warning" may genuinely not have registered the early internal cues most of us rely on.

The Evidence Base for Sensory Integration Approaches

Promising, Not Proven

A fair, accurate read of the current evidence
for Ayres Sensory Integration (ASI)
intervention.

- A systematic review of ASI intervention for children with autism found emerging, encouraging evidence, particularly for individualized, family-identified goals.
- Effects were strongest when intervention followed the ASI protocol with fidelity, delivered by trained clinicians.
- The authors call for continued rigorous research, not blanket claims of a cure or guaranteed outcome.
- Practice takeaway: use sensory strategies as one evidence-informed tool for regulation, matched to the individual. Not as a stand-alone treatment for autism itself.

Postural Control: A Hidden Barrier to Play

- Gross motor and postural-control difficulties are linked to social-communication challenges in autistic children.
- When posture takes constant, effortful work, eye contact, conversation, and play all get harder to sustain.
- A student who "joins in, then runs away" or shows a sudden negative behavior during play may be responding to postural fatigue, not motivation.
- Look beyond "fidgeting" or "behavior" language. See the postural struggle that may be underneath it.

Movement Quality Over Quantity

What We See in Play

- Avoiding sitting with peers, poor eye contact
- Trouble joining games
- Taking up too much space, or crashing into others
- Always "on the move"

What Might Be Underneath

- Postural weakness, low endurance, poor motor planning
- Trouble dissociating eyes from head and body movement
- Fear of failure, difficulty doing two things at once
- An attempt to self-regulate, not simply excess energy

Move With, Not Just Direct

- Moving alongside a student- not just directing from the sidelines creates more opportunities for imitation, joint engagement, and turn-taking.
- Simple shared movement (scooter boards, drumming together, mirrored stretches) builds connection and predictability while supporting the body.
- This is co-regulation in motion: your calm, engaged movement is information the student is taking in, and a natural place to model language.
- No special equipment required: sitting on the floor and moving with a student for two minutes counts.

Practical Supports — Including for Limited Space

- Flexible seating does not have to mean a stability ball — cube chairs, wedge cushions, or simple floor seating all count, and a student without core support won't focus regardless of how engaging the option looks.
- No dedicated room? A pop-up tent, a quiet corner, or a lap pad with resistance bands looped on chair legs can substitute for a whole sensory space.
- A short, permitted hallway walk or simply more co-regulation from you can replace a larger movement break when space is tight.
- Check with your OT before introducing new equipment for a specific student. The goal is a good fit, not the newest gadget.

Embodied Learning and the Interprofessional Payoff

- Embodied learning treats the body, not just the brain, as central to acquiring knowledge and skills; a 2021 literature review found embodied approaches can improve language acquisition, motor skill development, and memory retention.
- A 2023 study found sensory processing, motor skills, visual-perceptual skills, and executive function are all associated with kindergarten school readiness.
- A 2024 clinical tutorial introduces the MIND-AP framework: Motor Speech Intervention for Neurodiversity-Affirming Practices, explicitly integrating motor-speech work with affirming principles.
- Practical takeaway: pairing a physical action with a language target is not a distraction from the goal: sensory-motor foundations and speech-language goals cannot be treated as separate tracks, especially for our youngest or most complex students.



LEARNING OBJECTIVE 3 — CHECKPOINT

Define the primary sensory systems and the body's role in supporting regulation, engagement, and communication.

1

Regulation doesn't have one look. The goal is enough access to participate, communicate, and engage, not a specific calm, still posture.

2

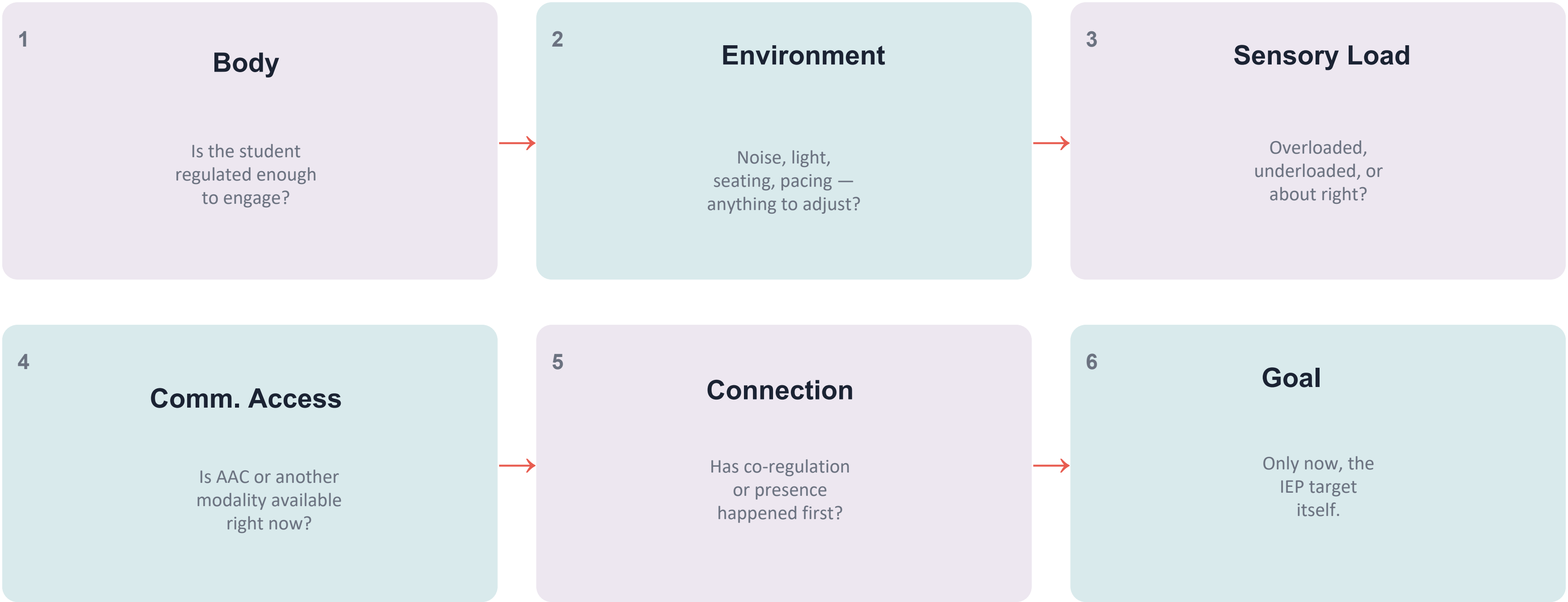
Vestibular, proprioceptive, and tactile systems, plus interoception, shape movement, comfort, and self-awareness and can support or disrupt that access.

3

Environmental and interactional adjustments are within every SLP's scope and come first: seating, noise, pacing, demand before any individualized sensory intervention, which belongs to OT.

Before You Target the Goal: A Readiness Check

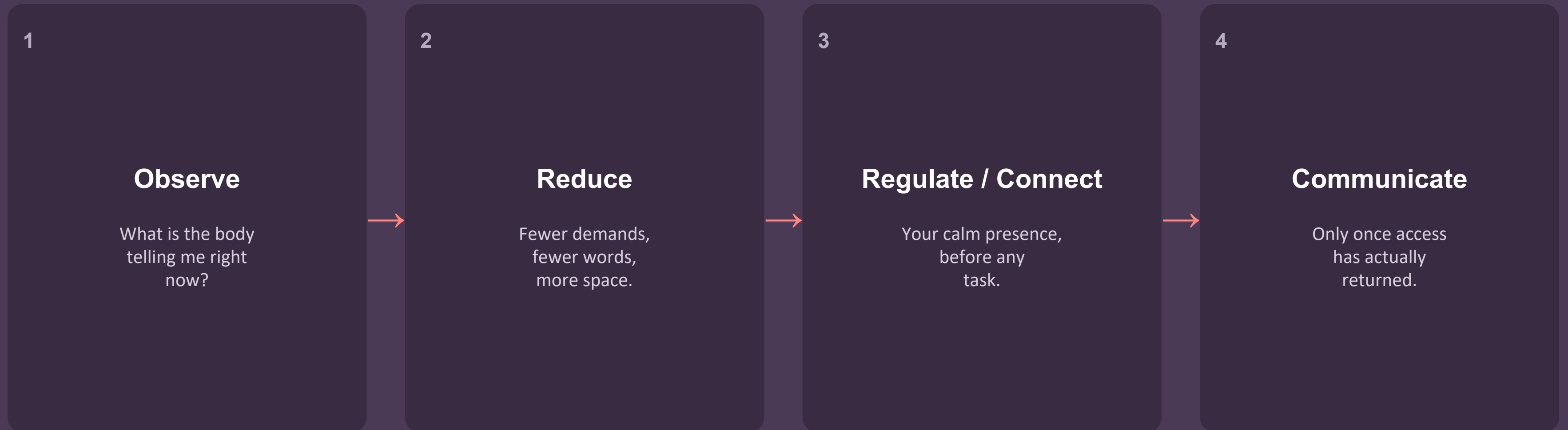
Run this sequence before demanding performance on any IEP goal.



WHAT DO I ACTUALLY DO IN THE MOMENT?

The In-the-Moment Decision Tree

When a student is moving, scripting, crying, withdrawing, or fixated — start here.



Movement & Proprioceptive Regulation Breaks

- Build "heavy work" into your sessions, like wall push-ups, carrying a stack of books, chair push-ups.
- Pair movement with the language target, rather than treating them as competing priorities.
- Offer movement proactively and predictably, not only after dysregulation has already escalated.

Interoception Check-Ins, Built Into Routine

- Start sessions with a 30-second body check-in, modeled by you first: "My heart feels a little fast today."
- Use concrete internal-sensation language rather than abstract feeling words alone : "warm face," "tight tummy," "fast heart."
- Pair interoceptive language with the external event that may have caused it, to build the connection over time.
- Keep it brief and optional: the goal is noticing capacity, not a mandatory performance.

Communication Access During Dysregulation

- AAC should not disappear the moment a student becomes distressed. That is often exactly when access matters most.
- Language demands should go down, not up, when processing resources are strained: fewer words, slower pace, more time.
- Keep visual supports and gestures within reach; accept whatever modality is available in that moment.
- Model self-advocacy language ("I need a break") rather than requiring a fully regulated request before honoring the need.

Advocacy Scripts for Real Team Conversations

INSTEAD OF

"Can he sit still and follow directions?"



TRY

"What might be preventing him from accessing this activity right now?"

INSTEAD OF

"She needs to stop scripting and use her own words."



TRY

"Her scripts are communicating something. Let's figure out what."

INSTEAD OF

"He's refusing to work."



TRY

"His nervous system may not have access to that task right now. Here's what helps."



LEARNING OBJECTIVE 4 — CHECKPOINT

Implement at least three body-based and sensory-informed strategies to support regulation and facilitate communication.

1

The Observe → Reduce →
Regulate/Connect → Communicate
decision tree gives a concrete first move
for any dysregulated moment.

2

Brief, proactive movement, interoception
check-ins, and protected communication
access can be embedded directly into
existing routines — 1:1 or in groups.

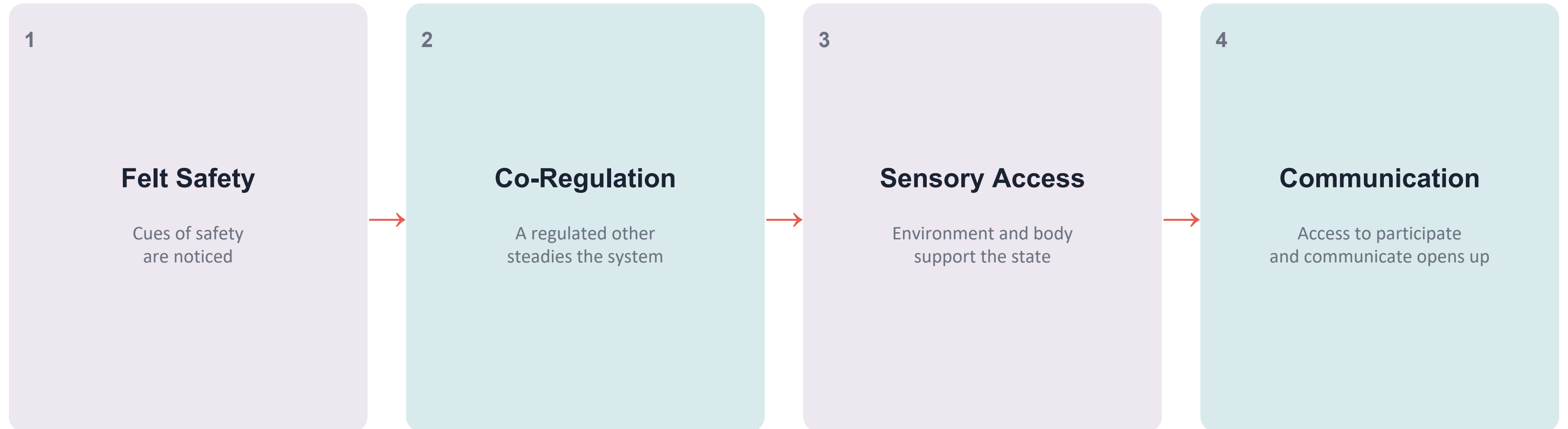
3

Rewriting one IEP goal and practicing one
advocacy script turns today's framework
into next week's paperwork and team
conversations.

Why This Can't Be an SLP-Only Job

- A 2023 mixed-methods systematic review found that collaboration between SLPs and classroom teachers meaningfully supports student outcomes.
- The same review found that collaboration is often limited by time constraints, unclear roles, and a lack of structured opportunities to connect.
- Effective interprofessional practice requires dedicated time, mutual role understanding, and shared goals and language.
- Regulation and sensory needs, specifically, sit at the intersection of speech-language, occupational therapy, and classroom practice.

Start to Finish



A man and a woman are in a room, possibly a nursery, with several balloons on the floor. The man is holding a striped blanket, and the woman is also holding it. A large dark purple cloud-like shape is in the center of the image, containing the text 'Thank you!'. Below this, a red cloud-like shape contains contact information. In the bottom left corner, there is a small logo of a mouse holding a sign that says 'First Phrases'.

Thank you!

Email: farwa@firstphrases.com
www.firstphrases.com
IG: @firstphrasesofficial



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