Getting Started:

1. If you have any questions, please type them into the Q&A box.

2. Place a pen/pencil/paper nearby to jot down your thoughts.

3. At the end of this session, there will be a Session Quiz / Feedback Form.
Respond to the poll to tell us a little about yourself.
Culture of Care Series

Today’s Topics:

The Neuroscience of Stress & Neuroplasticity
Introductions

Michelle Kelsey Mitchell
michelle@pureedgeinc.org
Director of Partnerships &
National Trainer
Who We Are

**Pure Edge, Inc. (PEI)** is a private operating foundation that provides direct service to organizations through professional development & strategy thought partnership.

PEI also provides grants to national organizations that advance the work of whole child development & SEL.
Welcoming Activity

Respond to the poll to share your response with our group.

Please Describe Your Mood

Sunshine  Rainy  Thundery  Cloudy  Rainbow
Engaging Activity: Mindful Minute

• Start in Seated Mountain.
• Bring your attention to the present moment. We are going to start by taking a Mindful Minute.
• Start bringing your attention to the breath, noticing its qualities (fast, slow, warm, cool, shallow, deep...).
• Continue to focus your attention on the breath, and notice how you are feeling. Just notice.
Series Learning Objectives

- Illustrate the interconnectedness of SEL and self-care.
- Practice and implement Breathe, Move, and Rest strategies for Self-Awareness and Self-Management.
- Identify CASEL competencies.
- Acquire skills to train colleagues in SEL, evidence-based curricula.
Session 2 Learning Objectives

- Describe the neuroscience of stress.
- Analyze the effects of the stress response on the educational environment.
- Define neuroplasticity and explain growth mindset.
- Examine the potential opportunities and concerns for Self-Awareness and Self-Management.
We Always Practice

- Self-Care 🍃
- Brain Breaks 😊
- Modeling SEL Lesson Structure 🌈
Modeling and Implementation of SEL

Welcoming / Inclusion Activities

Engaging Strategies

Optimistic Closure

Source: SEL 3 Signature Practices Playbook 2019

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Breathe

Move

Rest
Breathing properly can allow us to live longer and healthier lives.”

-James Nestor

Breathing poorly can exacerbate or cause:
- asthma
- anxiety
- attention deficit hyperactivity disorder
- hypertension
- and more.

Poor breathing habits can even change the physical structure of our skeletons, depleting essential minerals and weakening our bones.
Engaging Activity: Alternate Nostril Breathing

1. Let’s start with a few deep breaths through the nose.
2. Inhale, close the right nostril by pressing the side of the nose with the right thumb.
3. Exhale out the left nostril.
4. Inhale through the left nostril.
5. Close the left nostril by pressing the side of the nose with your right pinky and fourth finger. At the same time, take your thumb off of your right nostril.
6. Exhale out the right nostril.
7. Inhale through the right nostril.
8. Close the right nostril with your thumb again and exhale through the left (removing the pinky and fourth finger).
9. This is one round. Complete 2 or 3 rounds by repeating steps 2-8. End on a left exhalation.
10. Take a few regular breaths.
11. Notice how you feel.

- The hand movements will take some practice to feel comfortable.
- If thumb and pinky are too hard for learners to coordinate, you could use right thumb to close right nostril and left thumb to close left nostril.
- Once your learners have mastered the hand movements, helpful verbal cues are: inhale right, close, exhale left. Inhale left, close, exhale right.
- This exercise can take 1 to 3 minutes.
Review
How is social emotional learning (SEL) connected to self-care?

Self-Awareness
- Integrating personal & social identities
- Identifying personal, cultural, & linguistic assets
- Identifying one’s emotions
- Demonstrating honesty and integrity
- Linking feelings, values and thoughts
- Examining prejudices and biases
- Experiencing self-efficacy
- Having a growth mindset
- Developing interests & a sense of purpose

Self-Management
- Managing one’s emotions
- Using planning and organizational skills
- Identifying and using stress-management strategies
- Setting personal and collective goals
- Exhibiting self-discipline and self-motivation
- Showing the courage to take initiative
- Demonstrating personal and collective agency

www.casel.org
Stress Response

“Gas Pedal”
Sympathetic Nervous System: Fight or Flight

“Brake”
Parasympathetic Nervous System: Rest and Digest

https://www.health.harvard.edu/staying-healthy/understanding-the-stress-response
Emotional Regulation

Balanced emotional regulation entails:

• Feelings
• Thoughts
• Physiological signals:
  • Heart rate
  • Breath pattern
• Nonverbal communication:
  • Body language
  • Facial expression
Respond

Vs.

React
Engaging Activity: Seated Forward Bend

1. Sit in Seated Mountain Pose with feet flat on the floor. Inhale and sit tall, making your back as long as possible.

2. Exhale, reach both feet slightly out in front of you and fold over your legs, sliding your hands down your legs towards your shins. Take 2-3 breaths here.

3. Inhale and come back up to Seated Mountain Pose.

4. Repeat as required.

*Use this move as a quick pick-me-up or to restore when energy seems to be low.
Guiding Questions

What does the expression “flip your lid” mean?
Grades 3-5, Lesson 2.12

What is neuroplasticity?
Grades 6-12, Lesson 4.7

What does it mean to “grow” your brain?
Grades 3-5, Lesson 2.1
Grades K-5 Unit 2
Power to Tame Your Temper

Grades 6-12
Unit 4
Power of a Balanced Life

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Potential Concerns

- In the US, dominant cultural norms equate wealth and Whiteness, and uncritically accept them as indicators of success.
- Negative biases and stereotypes exist about people of color.
- Negative biases and stereotypes exist about those from low-income backgrounds.

Potential Opportunities

- Self-awareness is foundational for equity.
- The sense of self for all young people includes cultural values and orientations, and collective identities (e.g., ethnic-racial group, socioeconomic status, and gender).
- A healthy sense of ethnic-racial identity (ERI) is important for psychological, academic, and social well-being.
Potential Concerns

• **Acculturative stress** occurs when low-income and/or immigrant youth encounter a cultural mismatch between the expectations and norms of their host (e.g., U.S.) and their home (heritage).

• **Racial/ethnic discrimination** (different from acculturative stress) has a number of interpersonal and institutional manifestations and is a common experience for people of color.

• Reactionary and self-defeating responses to cultural and racialized stress and micro-aggressions often result in punishment of students of color.

Potential Opportunities

• The cultural and ethnic-racial identity (ERI) aspects of self-awareness could provide youth with more adaptive coping strategies.

• Instead of becoming emotion-focused and disengaged, students could become more focused on identifying situational or societal challenges and pursuing individual and collective solutions.
Breathe: Guidelines for Teaching

- Sit up tall so lungs can fully expand.
- Use props to make breath concrete.
- Use nasal breathing (unless otherwise instructed).
- Breathing effects change in the nervous system.
Engaging Activity: Starfish Breathing or Take Five

1. Make a starfish with one hand, fingers spread wide.
2. Put the index finger from the other hand on the outer base of the thumb.
3. We are going to trace the outline of our starfish hand. Keep looking at your pointer finger while you do your breathing.
4. Inhale (finger traces to top of thumb).
5. Exhale (finger traces down the other side of thumb).
6. Repeat until you have traced the outline of the starfish hand.

*Learners are synchronizing their movement, breath, and gaze. On the inhale, index finger and eyes trace upward along a finger; on the exhale, index finger and eyes trace downward along a finger. Each upward movement is coupled with an inhale, whereas each downward movement is coupled with an exhale.

*After Starfish Breathing, you can have learners rest their hands on their chest, continuing to breathe mindfully, as they silently recall three things for which they are thankful.
### Student Mental Health

<table>
<thead>
<tr>
<th>Statistic</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>60%</td>
<td>of K-12 students are exposed to a traumatic event.</td>
</tr>
<tr>
<td>17 million</td>
<td>children have untreated mental health diagnoses.</td>
</tr>
<tr>
<td>2nd</td>
<td>most common cause of death among ages 10-24 is suicide.</td>
</tr>
<tr>
<td>95%</td>
<td>of teens have smartphones, while 45% are “online constantly.”</td>
</tr>
<tr>
<td>9</td>
<td>hours is the average amount of media consumed each day, unrelated to school, by teens (13-18). The average for ages 8-12 is 6.</td>
</tr>
<tr>
<td>52%</td>
<td>is the rate of increase in major depression among youth ages 12-17, from 2005-2017.</td>
</tr>
<tr>
<td>6.1 million</td>
<td>children ages 2-17 have received an ADHD diagnosis.</td>
</tr>
<tr>
<td>30-40%</td>
<td>of undergrads at Ivy League institutions seek mental health services, up 20% per year over the last 6 years.</td>
</tr>
</tbody>
</table>

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[https://www.cdc.gov/ncbddd/adhd/data.html](https://www.cdc.gov/ncbddd/adhd/data.html)
[https://ssir.org/articles/entry/five_ways_to_advance_conservation_entrepreneurship](https://ssir.org/articles/entry/five_ways_to_advance_conservation_entrepreneurship)
From March through October 2020, as compared to the same period in 2019, mental health-related emergency department visits rose 24% for children ages 5 to 11 and 31% for adolescents 12 to 17.
39% college students had anxiety disorders.

51% high school students experienced anxiety.

40% early childhood teachers signs of depression.

42% principals considered leaving.

75% K-12 teachers felt anxious.

95% school leaders' feelings were "negative".

Anxious, Fearful, Worried, Overwhelmed, Sad.
Engaging Activity: Recharge Sequence

1. Begin standing in Mountain with feet slightly apart, hands at your sides.
2. Inhale, take your arms overhead and look up.
3. Exhale and fold over your legs, bending the knees slightly to allow the hands to rest on the shins, the feet or the floor.
4. Inhale, place hands on shins, straighten legs and look up.
5. Exhale and fold over the legs once more.
6. Inhale, come all the way up to standing, arms overhead and look up.
7. Exhale, return to Mountain.

*This sequence can be done behind or in front of desks/chairs. It’s useful to re-energize learners when they get tired.
Self-Regulation & the Brain

Prefrontal Cortex

Amygdala
Adults think with the Prefrontal Cortex, the brain’s rational part. This is the part of the brain that responds to situations with good judgment and an awareness of long-term consequences.

The Prefrontal Cortex isn’t fully developed until age 25 or so.

Children, teens, and young adults rely on the amygdala - the emotional part of the brain - to process information.
Engaging Activity: Sunrise/Sunset

1. Start in Mountain Pose. Take a few breaths here.

2. Inhale, reach your arms up overhead (this is Sunrise Pose).

3. As you exhale, fold forward. Put your hands on your shins, or your ankles, or maybe the floor (this is Sunset Pose).

4. Inhale all the way back up to Sunrise.

5. Exhale hands down for Mountain.

6. Repeat a few times. Notice how you feel.
Blue Zone

[Image of a child sitting on the floor with their knees drawn up to their chest, facing the wall with a sad expression.]

Red Zone

[Image of a child sitting on the floor with a tantrum, their mouth open and tears streaming down their face.]


Green Zone

Image source: https://happykids.hu

Upstairs Brain – Downstairs Brain

Concept from The Whole-Brain Child by Dr. Dan Siegel and Dr. Tina Payne Bryson
Upstairs Brain – Downstairs Brain

Strategies for integration:

1. **CONNECT, THEN REDIRECT:** Be present with your child’s feelings, help them get into the “green zone.”

2. **Breathing** will help bring the prefrontal cortex ("upstairs brain") back online.

3. **Move** it or lose it: Get child moving and their mood will change.
Engaging Activity: Even In – Even Out

1. Start in Seated Mountain with a tall spine, relaxed shoulders, and eyes gently closed.
2. Breathe naturally through the nose.
3. We are going to focus on making our inhales and exhales even.
4. Inhale deeply through the nose and exhale through the mouth for a count of one.
5. On the next breath, let’s count to two on the inhale and the exhale.
6. Repeat, continuing to extend the breath up to a count of five.
THE VAGUS NERVE

How to Hack Your Nervous System

The vagus nerve, the tenth cranial nerve, is the superhighway of the nervous system that connects the body and brain. We can tone the vagus nerve through deep breathing exercises.

http://depresseddisorder.blogspot.com/2015/09/7-ways-to-stimulate-your-vagus-nerve-to.html
Vagus Nerve

Latin for “wanderer,” which is appropriate for the longest cranial nerve in the body.

It is intricately connected to:

- Mood
- Immune response
- Digestion and
- Heart Rate

Image: Gersema, Emily, “Gut Instinct may have been the GPS of human ancestors.” USC News: https://news.usc.edu/144479/vagus-nerve-research-gut-instinct-may-have-been-gps-of-early-humans/

Vagus Nerve

Parasympathetic activation moves the body toward homeostasis.

- Our inhalations/exhalations become smooth & quiet.
- The nervous system becomes calm.
Engaging Activity: Seated Figure Four

1. Begin in Seated Mountain Pose.
2. Inhale, cross the right ankle over the left thigh, just above the knee. Place the right hand on the right thigh and left hand on the right foot.
3. Exhale, fold torso forward and relax the head down. Take 2-3 breaths here.
4. If it’s easier, you can hold the legs of the chair as you fold forward.
5. Inhale, come back to Seated Mountain.
6. Switch legs and repeat on the other side.

*Use this sequence to release the back, which can get tired from sitting.*
If you are just joining us, we are on a 5 minute break.

Part 2 will start momentarily.
Introductions

Gill McClean
gill@pureedgeinc.org
Director of Professional Development &
National Trainer
Engaging Activity: This or That

Respond to the questions in the poll.
Engaging Activity: One Minute Reflection

1. Before leaving school take a moment to pause and reflect on today.
2. Sit comfortably, either at your desk or on the floor.
3. Were there things you did today that you are proud of? Let them soak in for 20-30 seconds.
4. Feel good about your accomplishments.
5. Were there things you felt you could have done better or differently? It’s ok to make mistakes or missteps.
6. Tomorrow, with a fresh mind and even breathing, you can try again.

*If on the floor, sleeping crocodile can be done lying on the belly. Instruct learners to cross arms, “make a pillow with your hands” and lie down with head resting on hands.
What is Neuroplasticity?

the brain’s capacity to change and rewire according to environment and experience

https://www.projectrex.org/adolescent-brain-cognitive-development-abcd-study/
Neuroplasticity

When you make an effort to reroute your habitual thoughts and actions, your brain absorbs and adapts to this effort.

The image illustrates a section of the Mississippi River. The course of the river has changed over many, many years. Imagine your neural connections as the flowing water and your brain as the land through which those currents are moving.

This is a beautiful way of visualizing how neural currents are routed and rerouted depending on what kind of input your brain is exposed to.


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“A child’s brain forms more than 1,000,000 neural connections EVERY SECOND during the first years of life.”

Dr. Nadine Burke Harris, M.D.
Brain Development Factors

[Diagram of neuronal development from birth to 3 years]

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https://classroomclipart.com/

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The social isolation caused by repeated and sudden quarantines and widespread social inequities may prove the heaviest burdens for young and older adolescents, who are going through a period of growth in social learning now thought to be as intense as the cognitive growth seen in toddlers.
Engaging Activity: Brain Balance Sequence

1. Inhale, take the right arm overhead and the left foot slightly behind, placing only your toes on the floor.

2. Exhale, lift the left leg, knee bent, and touch the right hand to the inside of the left knee.

3. Inhale, return the right arm overhead and the left foot slightly behind placing only your toes on the floor.

4. Exhale and again lift the left leg, knee bent, and touch the right hand to the inside of the left knee.

5. Repeat on the other side.
Scientists have found that **new habits, ideas, and thoughts can be continually learned** and changed throughout our entire lives.

- Sensory input prompts neurons to communicate.

- If particular neurons communicate with one another often enough, a strong neural connection is made.

"**Neurons that fire together, wire together.**"

-Donald Hebb


Neuroplasticity

- There are as many neurons in the brain as stars in the Milky Way: about 100 Billion.
- The brain physically stops growing around 18, but it keeps changing forever.
- By design, our brains are all about growth and change - as is the whole human body.
- Celebrate mistakes that make the brain grow.

https://medium.com/thrive-global/neuroplasticity-mental-wellness-our-path-forward-4c03a632868

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Engaging Activity: Give One, Get Many

Take a moment and write down two takeaways from the section on Neuroplasticity.

How will you apply this information in your role? Share the application in the Q & A box.
Self-Care Practice
Neurochemicals

Endorphins

Neurotransmitters

Improved mood

Improved memory

Please take out your phone, laptop or notebook for a two-minute free write. The goal is to check in with yourself.

Reflection

What is on your mind?

or

How are you feeling?
Movement Sequence

Mountain
Half Opening Sequence A x3
Star into Triangle
Tree or Forest
Sandwich
Table
Butterfly
Seated Mountain
Guided Rest

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Mindful Movement: Mountain

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Mindful Movement: Half Opening Sequence A

[Diagram of movement sequence with inhalation and exhalation annotations]

©2021 Pure Edge, Inc.
Mindful Movement: Star into Triangle

©2021 Pure Edge, Inc.
Mindful Movement: Tree or Forest
Mindful Movement: Sandwich
Mindful Movement: Table
Mindful Movement: Butterfly
Mindful Movement: Seated Mountain
Engaging Activity: Guided Rest
Please take out your phone, laptop or notebook for a two-minute free write. The goal is to check in with yourself.

What is on your mind?

or

How are you feeling?
Mindsets

Our mindset is our set of attitudes, or beliefs that we have about ourselves as learners.

Stanford University professor and psychologist, Carol Dweck, Ph.D., conducted a landmark study which found that when students are taught that intelligence is not fixed but is changeable, it made a dramatic impact on both their grades and morale.

Image Source: https://www.makelifegr8.com/neuroplasticity/
A fixed mindset is the belief that intelligence is static:

one is born with a certain degree of intelligence and range of talents that do not change very much, even with continuous, dedicated practice and effort.
A growth mindset is the belief that one can cultivate one’s basic qualities like intelligence, character, and personality through effort.

A growth mindset inspires the necessary ingredients for achievement:

- a love of learning
- perseverance
- courage
- resilience
The Power To Grow and Stretch teaches the principle of resilience and cultivating a “growth mindset.”

Attitude affects behavior and the ability to succeed in different environments.

Focus on how to recognize negative self-talk, or a fixed mindset, and develop the positive self-talk of a growth mindset.

Developing a growth mindset empowers us to face daily frustrations with more mindful responses and maintain effort despite setbacks.
Growth Mindset: Considerations & Strategies

- “I Can’t – Yet” Strategy
- “Thought Stopping Strategy”
  2. Stop the negative self-talk.
  3. Replace it with positive self-talk.
- Recognize mistakes as an opportunity for learning, self-improvement, and growth

Strategies can be found in the Pure Power Curriculum: Grades 3-5, Unit 4 & Grades K-2, Unit 4

Engaging Activity: Attitude of Gratitude

1. Sit comfortably, and if you like you can close your eyes.
2. Think of something/someone in your life for which you are thankful, or grateful. It can be anything or anyone!
3. Take a few moments to just appreciate this thing or person.
4. Now think of another thing or person for which you are grateful.
5. Take a few moments to appreciate this thing or person.
6. Notice how you feel.

*As you introduce this exercise, you might want to model an example for learners before bringing them through the exercise.

*This is a nice exercise to take a few responses from learners after the exercise is finished.

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Gratitude Effects

• **Decreases heart rate** – this may be due to activating the Parasympathetic Nervous System.

• Increases our ability to **regulate our emotions**.

• Enhances **motivation**.


Takeaways

- Breathing exercises bring the PFC back online ("green zone") and tone the vagus nerve.
- The brain continues to grow and change in response to environment and experience throughout one’s life.
- Repetition makes new neurological pathways stronger.
- Practice Breathe, Move, and Rest strategies to create positive neurological pathways.
Brain Breaks Review

**Breathe**
- Alternate Nostril Breathing
- Starfish Breathing or Take 5
- Even In – Even Out

**Move**
- Seated Forward Bend
- Recharge Sequence
- Sunrise/Sunset
- Seated Figure Four
- Brain Balance Sequence
- Movement Sequence

**Rest**
- Mindful Minute
- One Minute Reflection
- Attitude of Gratitude
Optimistic Closure: Synectics

“Self-Talk” is like...

1. ME! ME! ME!
2. This Photo by Unknown Author is licensed under CC BY-SA
3. Because...
4. This Photo by Unknown Author is licensed under CC BY-NC-ND
5. This Photo by Unknown Author is licensed under CC BY-NC-ND

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Today’s Reflection

Self-Care:
1. Choose 2 Breathe, Move, and/or Rest Brain Breaks to practice independently. Note how you feel before (pre) and after (post) your practice.

2. Review the 5 SEL competencies and objectives. List which competencies/objectives are strengths for you. List the competencies/objectives where you feel you need additional support.

Classroom Planning:
Identify and list 3 SEL signature practices in each category that you can implement in an online or in-person classroom setting. You should have a total of 9 strategies upon completion. (3 Welcoming, 3 Engaging, and 3 Optimistic Closure)

Pro-tip: Differentiate between virtual and in-person settings
Consult www.schoolguide.casel.org for the SEL 3 Signature Practices Playbook

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HEADSPACE: Mindfulness On Demand

Headspace is donating their app to all Educators.

go.headspace.com/pureedge

Use your work email address
Thank you for joining us!

Session 2: Culture of Care Institute
Trainers: Michelle Kelsey Mitchell & Gill McClean

Please Note: You will receive a follow-up email within 24 hours of this session. This serves as your confirmation of attendance. This is for live webinars via Zoom only.