Making SPACE for Learning

Trauma Informed Practice in Schools

CESA 2022

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The Australian Childhood Foundation acknowledges Aboriginal and Torres Strait Islander people as the traditional custodians of this land and we pay our respect to their Elders past, present and future.

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The content of this training can evoke strong emotions and may trigger personal experiences of trauma.

Safety

Please be mindful of your own wellbeing during this training and if you need support please ask the facilitator.

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Key learning outcomes

- To develop an enhanced understanding of complex abuse related trauma, with a particular focus on its effects on brain functioning
- To develop a clear understanding of the manifestations of abuse related trauma on the general functioning of a child or young person
- To be able to assess the impacts of abuse related trauma on the child or young person
- To gain a knowledge of the strategies and activities that we may use in the classroom to assist a child or young person manage the impacts of abuse related trauma

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- Trauma can undermine children's ability to learn, form relationships, and function.
- Schools are significant communities for children, and teachers.
- Teachers are significant role models in these communities and must be given the supports they need to address trauma's impact on learning.
- Otherwise, many children will be unable to achieve their academic and life potential.
- Trauma-sensitive school environments benefit all children.
- Those whose trauma history is known, those whose trauma isn't known, and those impacted by their traumatized classmates.
- Together, we can ensure that all children will be able to achieve at their highest levels

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SPACE

Schools can respond effectively to the needs of traumatised children and young people, using the five key dimensions of the acronym **SPACE.**

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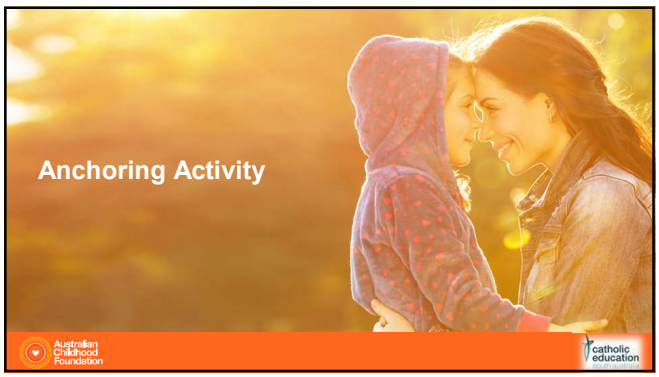
Anchoring Activity
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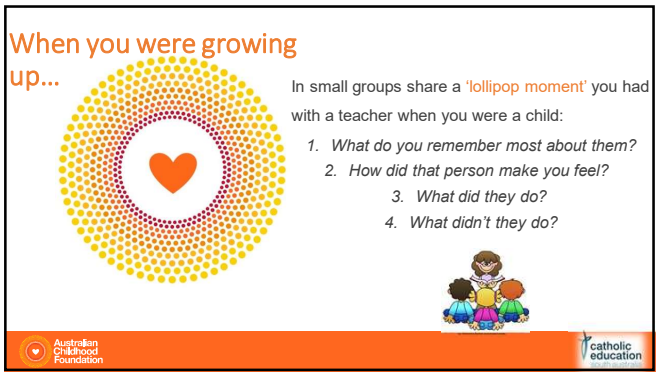
When you were growing up...
In small groups share a 'lollipop moment' you had with a teacher when you were a child:
1. What do you remember most about them?
2. How did that person make you feel?
3. What did they do?
4. What didn't they do?
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Understanding trauma and the developing brain
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Defining trauma

ANY SINGLE, ONGOING OR CUMULATIVE EXPERIENCE WHICH:

FEELS/IS OUTSIDE OUR CONTROL

OVERWHELMS OUR CAPACITY TO COPE

EVOKES A PHYSIOLOGICAL AND PSYCHOLOGICAL SET OF RESPONSES BASED ON FEAR OR AVOIDANCE

A RESPONSE TO A PERCEIVED THREAT; RESPONSE IS USUALLY BASED IN SURVIVAL

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Types of trauma:

Simple
Complex
Developmental
Collective

Transmission of trauma:

Intergenerational
Intragenerational
Transgenerational
Visible colonisation
Invisible colonisation

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Learning Activity
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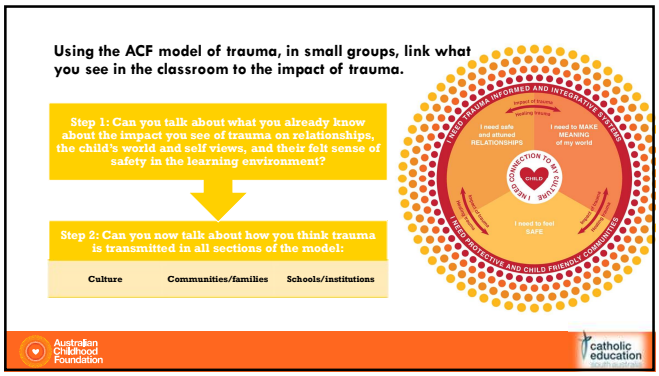
Using the ACF model of trauma, in small groups, link what you see in the classroom to the impact of trauma.
Step 1: Can you talk about what you already know about the impact you see of trauma on relationships, the child's world and self views, and their felt sense of safety in the learning environment?
Step 2: Can you now talk about how you think trauma is transmitted in all sections of the model:
Culture
Communities/families
Schools/institutions
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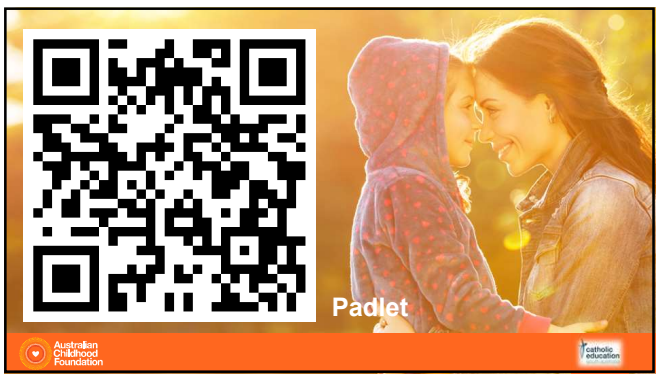
Padlet
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Understanding the developing brain

new born | 3 year old | adult

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Neurons

- Brain's building blocks
- At birth there are approximately 100 billion neurons;
- However very few neural connections at birth
- Child's brain – job is to lay down as many neuronal connections as possible
- Adolescent brain – job is to strenghten those connections and increase processing speed
- Neurons that fire together survive, those that don't, die (*'use it or lose it'*)

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Neuroplasticity is hope

- The brain is at its most plastic in early childhood
- In early childhood, the brain is most vulnerable to harm, but also has the greatest potential for healing
- Neuroplasticity gives us hope

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Sequential brain development – building blocks

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Brainstem - basic life functions

- Basic life functions
- First part of our brain to develop
- This is the most developed brain part at birth
- Responsible for our heart beat, breathing, sucking, temperature control, blood pressure

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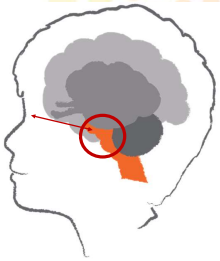
Superior Colliculus

- Processes visual threats – looming objects identified by cells in the retina of the eye
- Retinal neuronal input received by Superior Colliculus which engages the body in **Avoidance and defensive behaviours**



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Cerebellum- movement and balance

- Helps us to know where our body is in space
- Helps us with our posture and balance
- Helps us not to fall over and to control our movements
- Has its own connective pathways between the 2 halves- cerebellar vermis

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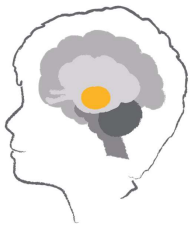
Diencephalon - sorting & sending centre

- This area of the brain develops mainly after birth
- It sorts out messages coming into the brain and sends them
- It uses hormones to send signals to body
- Hormonal signals tell your body what it needs, eg. food, water, love



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Limbic lobe- emotional gateway

- The part of the brain that helps us attach an emotion to an experience or memory
- This part of the brain is particularly involved with the emotions of fear and anger
- Also heavily involved in attachment processes
- This area develops mainly after birth

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Hippocampus – Brain's historian

- Explicit memory system
- Develops approximately 2-3 years of age
- Provides context to memory and embeds long term memory

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Amygdala – smoke alarm

- Detects threat
- Develops from birth
- Learns by association
- Involved in implicit memory processes

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Cerebral cortex- complex thinking

- The largest part of the brain
- Associated with higher brain function such as thought and action
- Examples of functions:
  - Reasoning
  - Logic
  - Judgement
  - Voluntary movement

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The prefrontal cortex- executive function

- Responsible for executive functions, such as judgement, reasoning, and self awareness
- Final part of the brain to reach maturity in one's mid 20s
- Under reconstruction in adolescents from the age of approximately 12 years

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Medial prefrontal cortex

- Associated with perceptions of self and similar others
- Known as centre for mindfulness
- Involved in maternal bonding – the parent child dyad and inter-subjectivity

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Adolescents - The remodelling brain: Pruning & myelination in the teenage brain

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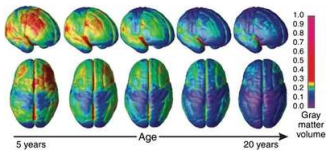
Adolescents – Increased density of grey matter



E.D. Gennatas et al. "Age-related effects and sex differences in gray matter density, volume, mass, and cortical thickness from childhood to young adulthood." *Journal of Neuroscience*. Vol. 37, May 17 2017, p. 5065-5073. doi: 10.1523/JNEUROSCI.3550-16.2017.

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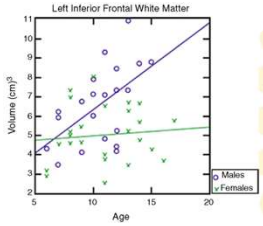
Gendered differences in brain development



Relationship between age and volume of white matter in the IFG for males and females. A significant linear relationship was found between age and IFG white matter for males (Blanton et al., 2004)

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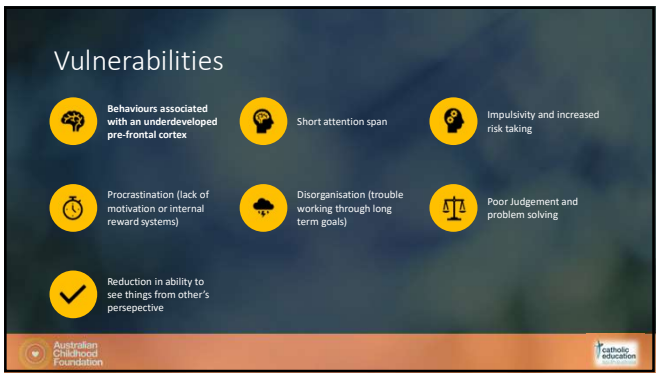
Vulnerabilities
Behaviours associated with an underdeveloped pre-frontal cortex
Short attention span
Impulsivity and increased risk taking
Procrastination (lack of motivation or internal reward systems)
Disorganisation (trouble working through long term goals)
Poor Judgement and problem solving
Reduction in ability to see things from other's persepective
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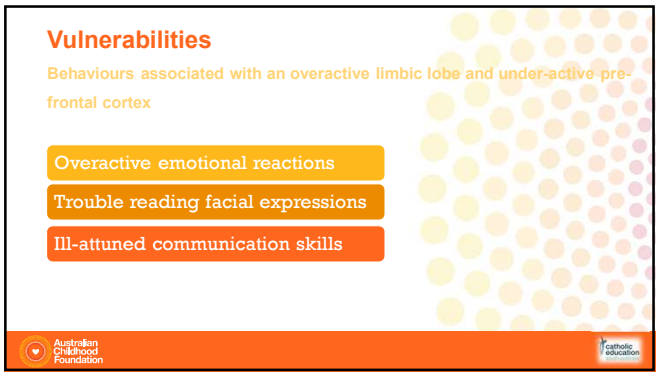
Vulnerabilities
Behaviours associated with an overactive limbic lobe and under-active pre-frontal cortex
Overactive emotional reactions
Trouble reading facial expressions
Ill-attuned communication skills
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Learning Activity
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How can we re-language deficit based language to strength based language?

Think about this in terms of what does the child need from us and the environment to feel safe when they are learning/ relearning to build the capacity of their social relational systems and to safely experience very strong emotions? Remember, the science suggests they cannot do it on their own…

- Overactive emotional reactions
- Trouble reading facial expressions
- Ill-attuned communication skills

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Risk taking and impulse control

- Heightened sensation seeking
- Under-developed self-regulatory control
- **Increased RISK TAKING**

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Understanding lateral brain development

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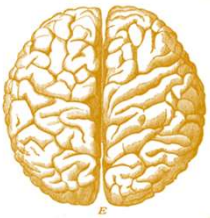
Lateral brain development

Left Hemisphere

- Evaluates language cont
- Optimistic hemisphere
- Understands beginning,
- Learns from the past anc
- Looks for patterns



Right Hemisphere

- In the present moment
- Eye contact
- Facial expression
- Tone of voice
- Posture
- Gesture
- Intensity
- Is mute
- Grasps the whole

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Hemispheric integration

Both hemispheres required for healthy development and functioning

Connected through corpus callosum

Good integration leads to coherent life narratives

Abuse and trauma causes disconnection - results in 1 hemisphere dominating

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Hemispheric functioning during fear event

The child will struggle to process the content of our words (a left hemisphere task)

The child may not be able to speak (a left hemisphere task)

The child will be tuned into our tone of voice, not the content (a right hemisphere task)

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Hemispheric functioning during fear event

Monitoring	monitoring the intensity of our movements, primed to look for signs of threat
Acting	acting in the moment and won't have a strong grasp of future or past, therefore will not likely be able to grasp the potential consequences of their actions at the time
Processing	processing our postures and gestures, attuned for signs of danger
Registering	registering the way we try to use eye contact (e.g: demanding a young person look at us may escalate the situation)

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Try this…

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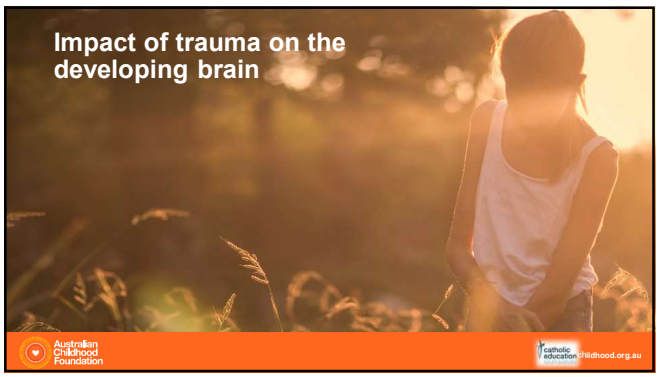
Impact of trauma on the developing brain
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Trauma Impacts
Trauma can impact all elements of children's development: brain, body, memory, learning, behaviour, emotions, relationships.
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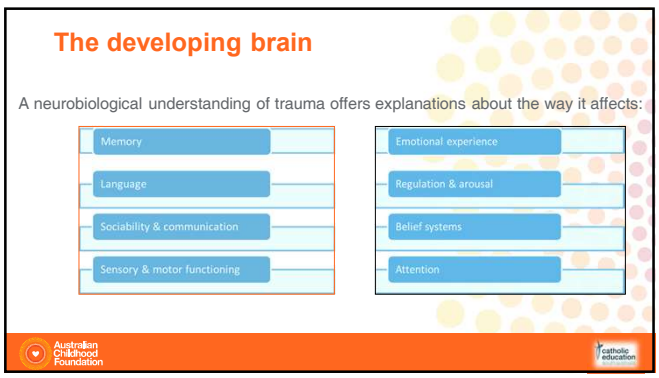
The developing brain
A neurobiological understanding of trauma offers explanations about the way it affects:
Memory
Language
Sociability & communication
Sensory & motor functioning
Emotional experience
Regulation & arousal
Belief systems
Attention
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Three Core Concepts in Early Development

3 Toxic Stress Derails Healthy Development

NATIONAL SCIENTIFIC COUNCIL ON THE DEVELOPING CHILD
Center on the Developing Child HARVARD UNIVERSITY

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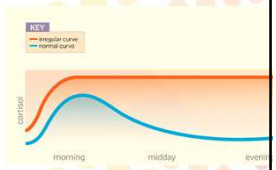
Cortisol

Can help:

- your body respond to stress or danger – **fight, flight, freeze, submit response**
- increase your body's metabolism of glucose
- control your blood pressure
- reduce inflammation



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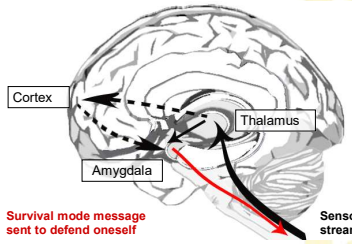
Hypervigilance loop



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Classroom antidotes to toxic stress

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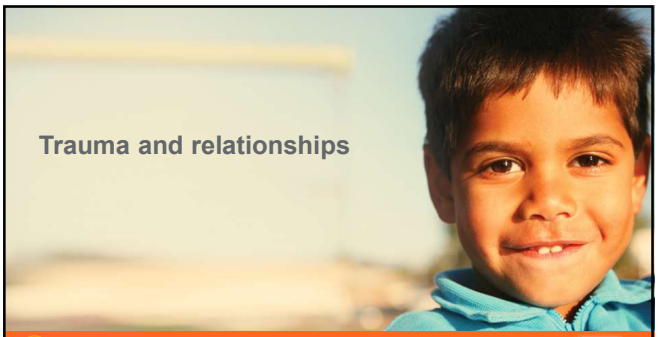
Trauma and relationships



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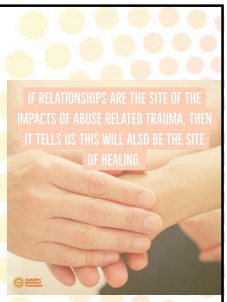
Healing developmental trauma

- Safety
- Self-Regulation
- Self-Reflection
- Relational Engagement



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The importance of you

- Relationships are the key way we learn to engage with the world around us
- Through meaningful connection Oxytocin is realised, a hormone that rejuvenates cell development in the brain
- The quality of relational right – brain to right brain interactions in childhood influence our development in all areas of life

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Relational Alliances with children

An analysis by the Review of Educational Research of 46 studies found that when teacher-student relationships are strong, improvements are seen in key areas.

Student academic engagement, attendance, grades, disciplinary actions, and school dropout rates.

Developing and nurturing trusting relationships between students and teachers is central to building a trauma-sensitive learning environment.

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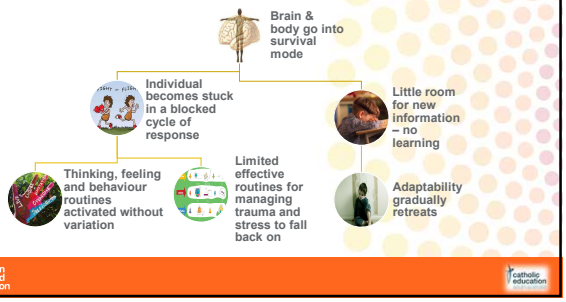
Trauma and the body



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Polyvagal theory and protective responses

Behavioural Functions	Body Functions
Social Engagement Soothing and calming Indicates safety	• Lowers or raises vocalisation pitch • Regulates middle ear muscles to perceive human voice • Changes facial expressivity • Head turning • Tears and eyelids • Slows or speeds heart rate
Mobilisation Fight or Flight Active Freeze Moderate or extreme danger	**Hyper arousal** • Increases heart rate • Sweat increases • Inhibits gastrointestinal function • Narrowing blood vessels - to slowblood flow to extremities • Release of adrenaline
Immobilisation Collapse or submission Death feigning Increased pain threshold Conserves metabolic resources Life threatening situations	**Hypo - arousal** • Slows heart rate • Constricts bronchi • Stimulates gastrointestinal function

by Stephen Porges

(Porges, 2012)

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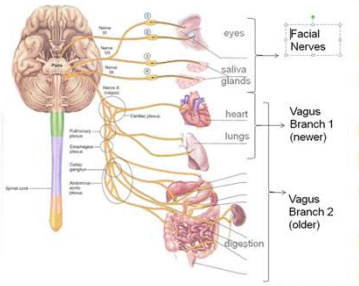
The Vagus Nerve



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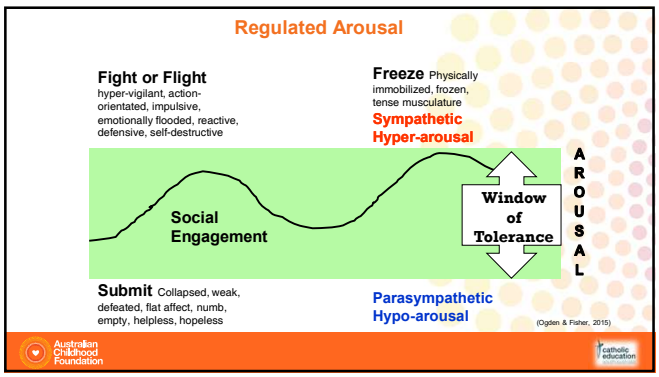
Regulated Arousal
Fight or Flight
hyper-vigilant, action-orientated, impulsive, emotionally flooded, reactive, defensive, self-destructive
Freeze Physically immobilized, frozen, tense musculature
Sympathetic Hyper-arousal
Social Engagement
Window of Tolerance
AROUSAL
Submit Collapsed, weak, defeated, flat affect, numb, empty, helpless, hopeless
Parasympathetic Hypo-arousal
(Ogden & Fisher, 2015)
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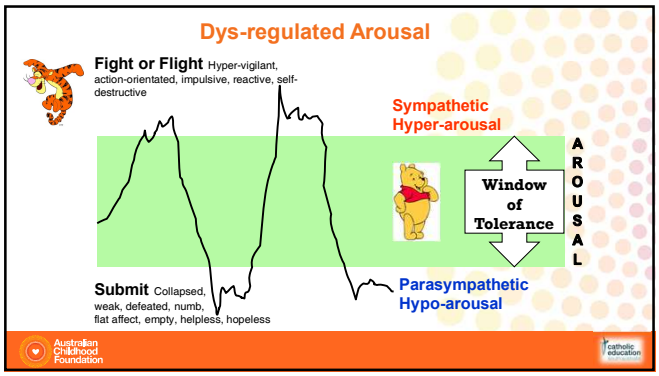
Dys-regulated Arousal
Fight or Flight Hyper-vigilant, action-orientated, impulsive, reactive, self-destructive
Sympathetic Hyper-arousal
Window of Tolerance
AROUSAL
Submit Collapsed, weak, defeated, numb, flat affect, empty, helpless, hopeless
Parasympathetic Hypo-arousal
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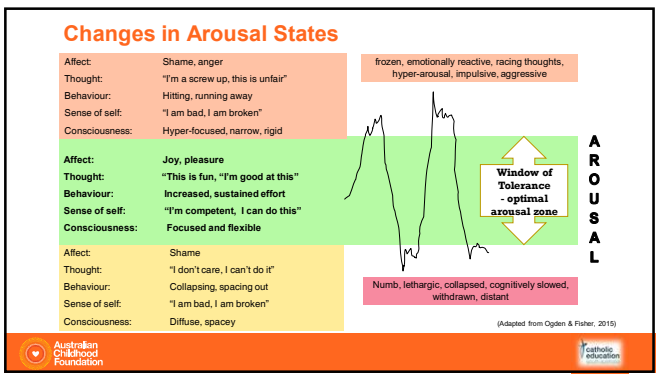
Changes in Arousal States
Affect: Shame, anger
Thought: "I'm a screw up, this is unfair"
Behaviour: Hitting, running away
Sense of self: "I am bad, I am broken"
Consciousness: Hyper-focused, narrow, rigid
frozen, emotionally reactive, racing thoughts, hyper-arousal, impulsive, aggressive
Affect: Joy, pleasure
Thought: "This is fun, "I'm good at this"
Behaviour: Increased, sustained effort
Sense of self: "I'm competent, I can do this"
Consciousness: Focused and flexible
Window of Tolerance - optimal arousal zone
AROUSAL
Affect: Shame
Thought: "I don't care, I can't do it"
Behaviour: Collapsing, spacing out
Sense of self: "I am bad, I am broken"
Consciousness: Diffuse, spacey
Numb, lethargic, collapsed, cognitively slowed, withdrawn, distant
(Adapted from Ogden & Fisher, 2015)
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Helping students return to their Window of Tolerance

- Point to something ___, touch something ____.
- Check the eye colour of the person next to you.
- 5 things you can see
- 4 things you can feel
- 3 things you can hear
- 2 things you can smell
- 1 thing you like doing

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Stress

Consider:	What do you see when children have too much energy?	What do you see when there is not enough energy for learning?	Where is the calm in our centre/school?	What helps us to get back into our window of tolerance?

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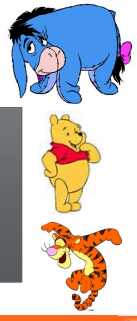
Stress



1

Stand up

- Stand up. Write your first name with your right foot. Write your last name with your left foot …

2

Walk

- Walk once around your table without lifting your feet off the floor.

3

Follow

- Follow the leader tapping tempo

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Regulation in the Covid Era

Teachers who taught their students skills in self-regulation, engaged in gradual release of responsibility and focused on content and deep learning had better outcomes.

Reimers and Schliecher, 2021, Schooling Disrupted, Schooling Rethought: How the Covid-19 pandemic is changing education

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Learning Activity

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Environmental and Collective WOT

Consider what the baseline for the community might be.

Consider what the baseline for the school might be.

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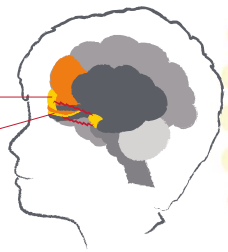
2 ways to regulate

Medial Pre-Frontal Cortex (the centre of Mindfulness/ Self awareness)

Right Orbitofrontal Cortex (Regulation of Arousal)



- Mindful awareness/ meditation de-activates the amygdala
- Quality co-regulation de-activates the amygdala

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Descending cortical structures 'The Bridge'

Dan Siegel's research suggests we can build a 'bridge' from our MPC to our Amygdala that allows us to respond instead of react, feel anger but express it safely and to feel fear but find safety.

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Mindfulness in education

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daysparent.com/family/activities/simple-games-that-teach-your-kid-self-regulation/

Transforming regulation

Trauma has a disintegrative impact on our ability to regulate brain and body processes

Trauma impairs children's capacities to orient to, interpret and integrate sensory stimulation in an adaptive fashion

Regulation can be aided through :

- bottom-up, body-oriented work
- top-down, cognitive work
- holding attention in the moment
- experiences of positive, attuned co-regulation

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Calming & engaging

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Mindful breathing

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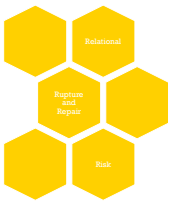
Play as a classroom collective regulation tool to up-regulate and build neural tone



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Energising & Releasing

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Learning Activity

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How do we implement regulation as a whole of classroom approach?

For slowing down?

For speeding up or releasing stress?

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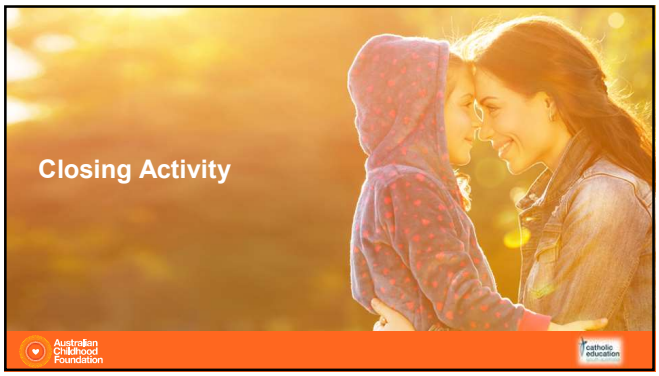

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Word Cloud

Say one word that reflects how you feel right now, let's take turns and create!

Inspired

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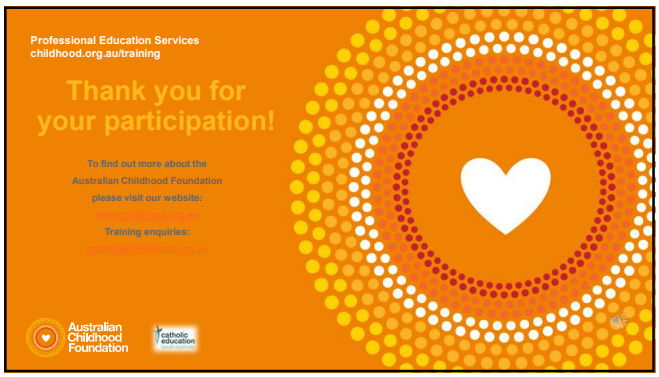
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