Making



for Learning

Trauma Informed Practice in Schools

Drouin South PS. 2022



www.professionals.childhood.org.au

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.









Key learning outcomes

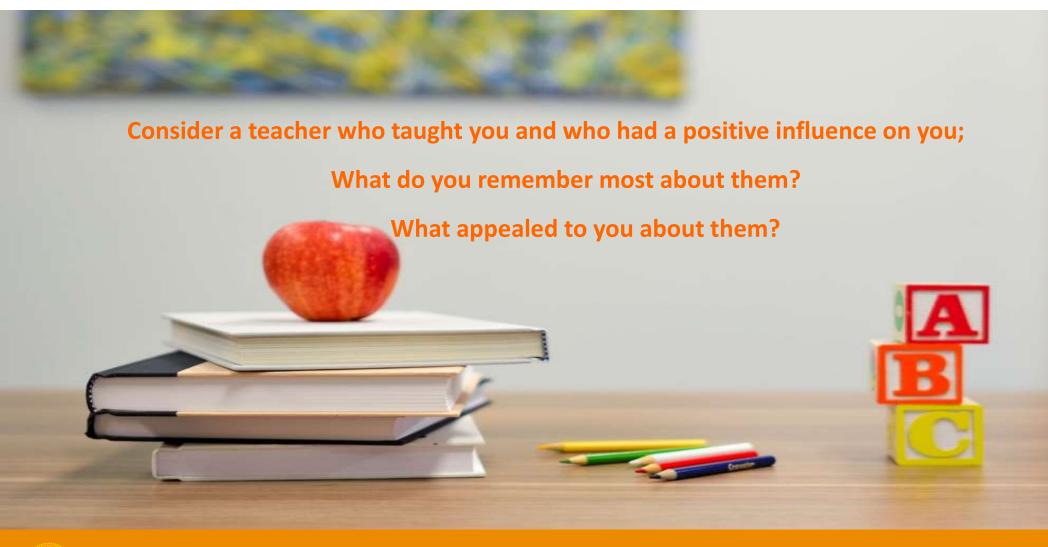
To develop an enhanced understanding of complex abuse related trauma, with a particular focus on its effects on brain functioning

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







Holding the student at the centre...

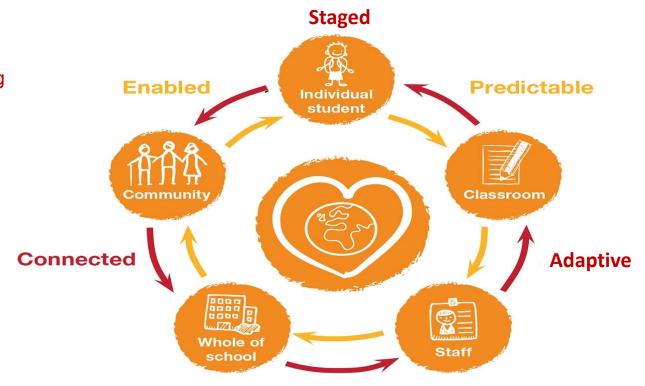




Making SPAGG for Learning

Trauma Informed Practice in Schools

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





SPACE

- Staged- Strategies staged to follow the staged patterns of behaviour
- Predictable- routine/ reactions from others strategies which promote stability and reduce stress responses
- Adaptive- responses promote adaptability in children so they develop multiple meanings to behaviour and an openness to multiple options to intervention
- Connected- relationships with consistent adults and peer as a foundation for change
- Enabled to understand themselves, make meaning of their experiences and have stronger self identity







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





Understanding the developing brain



new born 3 year old

adult



Neurons-synaptogenesis & pruning

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')







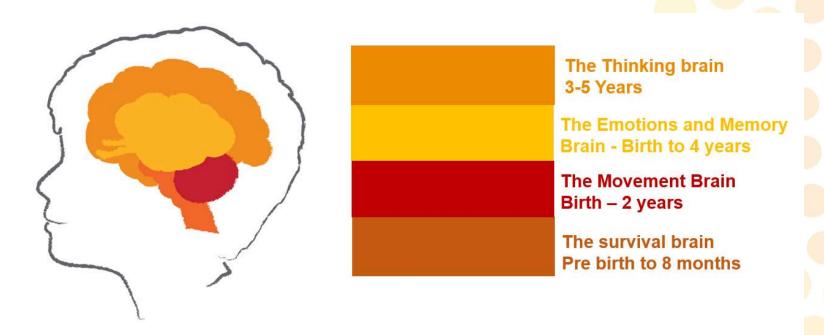
Neuroplasticity is ho

- 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





Sequential brain development – building blocks





Brainstem - basic life functions

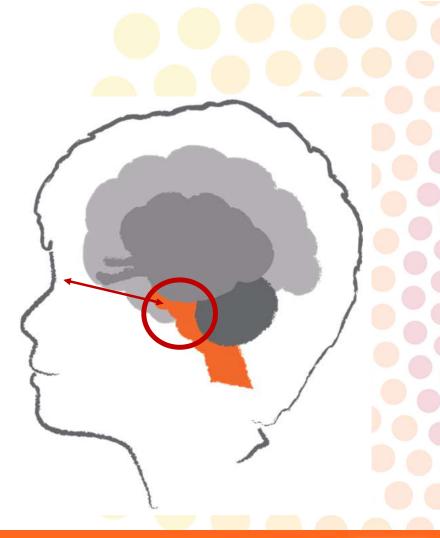
- Basic life functions
- First part of our brain to develop
- This is the most developed brain part at birth
- Responsible for our heart beat, breathing, sucking, temperature control, blood pressure





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







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





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





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





Amygdala & Hippocampus

Amygdala

- the 'smoke detector' of the brain
- is mature at birth
- processes & stores implicit memories

Hippocampus

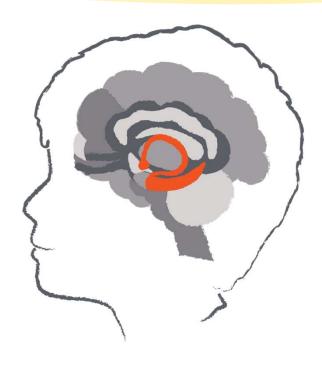
- matures between 2-3yrs of age
- provides context to memories & embeds into long-term memory





Hippocampus – Brain's historian

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





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





The prefrontal cortex- executive function

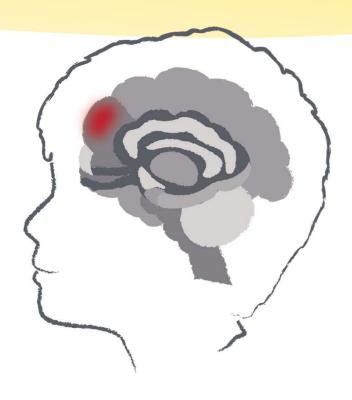
 Responsible for executive functions, such as judgement, reasoning, and self awareness.
 Final part of the brain to reach maturity in late twenties to early 30s

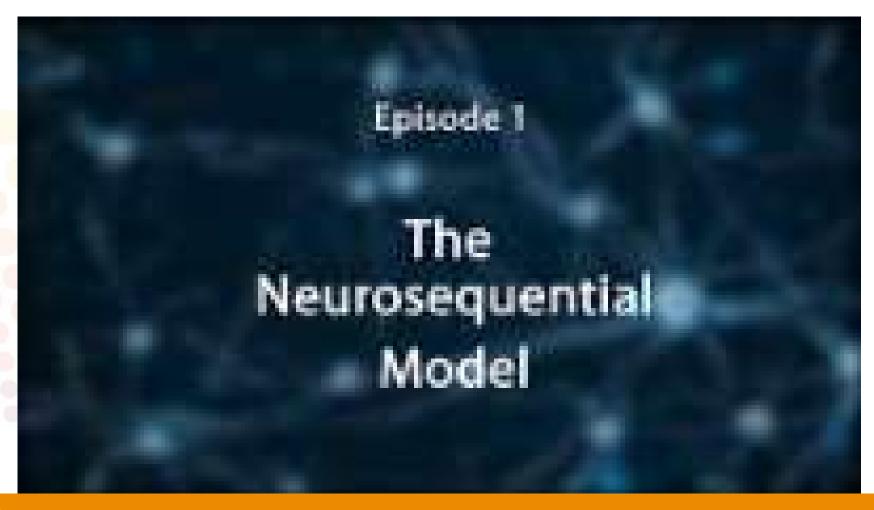




Medial prefrontal cortex

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





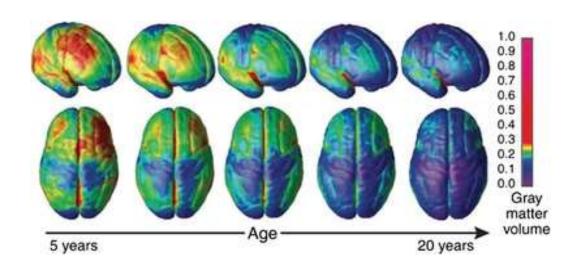


Adolescent Brain Development Synaptogenesis, pruning & myelination





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.



Vulnerabilities

Behaviours associated with an overactive limbic lobe and under-active prefrontal cortex

Overactive emotional reactions

Trouble reading facial expressions

Ill-attuned communication skills





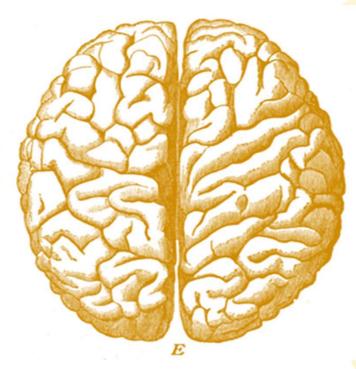




Lateral brain development

Left Hemisphere

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



Right Hemisphere

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



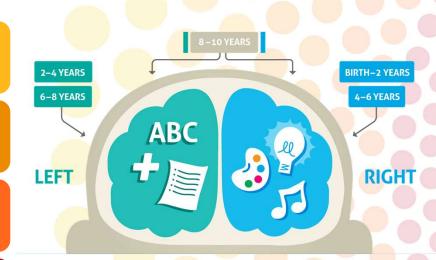
Hemispheric integration

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





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)





Hemispheric functioning during fear event

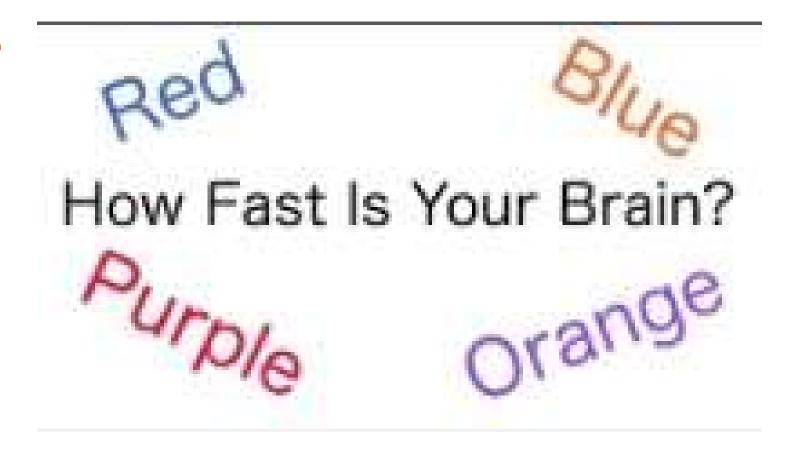
| Monitoring | monitoring the intensity of our movements, primed to look for signs of threat |
|-------------|--|
| Acting | acting in the moment and won't have a strong grasp of future or past, therefore will not likely be able to grasp the potential consequences of their actions at the time |
| Processing | 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) |



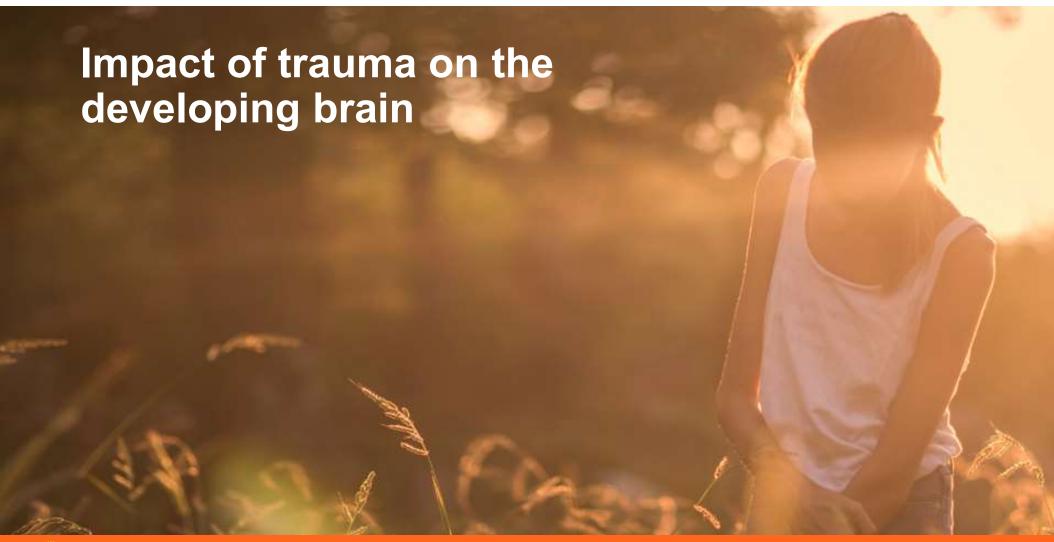




Try this...



















Trauma can impact all elements of children's development: brain, body, memory, learning, behaviour, emotions, relationships.





Three Core Concepts in Early Development

Toxic Stress Derails Healthy Development

NATIONAL SCIENTIFIC COUNCIL ON THE DEVELOPING CHILD

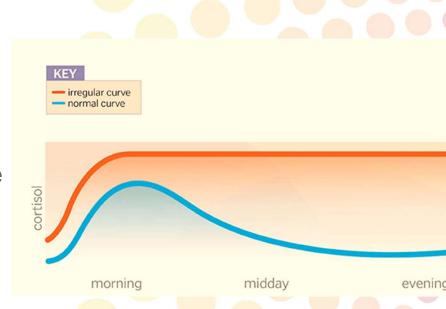
Center on the Developing Child W HARVARD UNIVERSITY



Cortisol

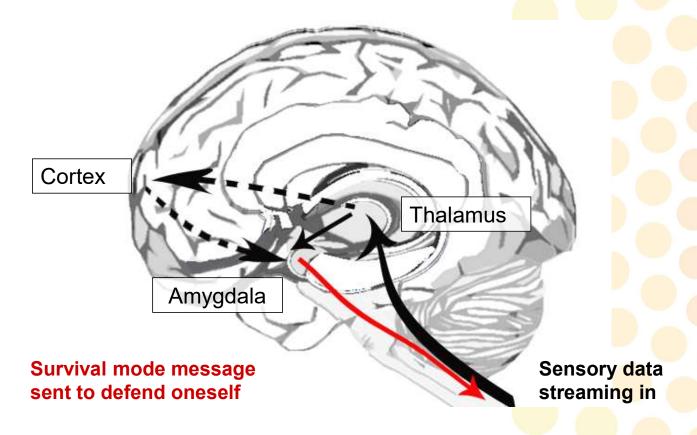
Can help:

- 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



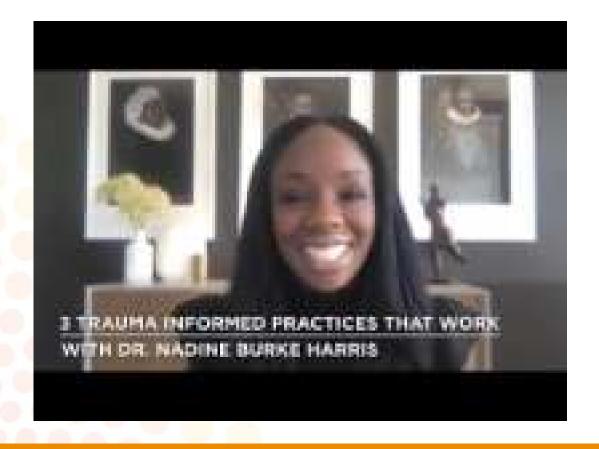


Hypervigilance loop





Classroom antidotes to toxic stress









Healing developmental trauma



Safety



Self-Regulation



Self-Reflection



Relational Engagement





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





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.



A secure relationship is central to how...



Image source: https://unsplash.com

- A child perceives themselves
- A child feels in their bodies
- A child focuses attention
- A child is able to learn
- A child feels safe and secure in the presence of others
- A child acts or behaves appropriately
- A child thinks and interacts with the world
- A child manages their feelings



How do we...

- Build connection with our students and learn their stories?
- Help them to make sense of their stories?
- How do we ensure there is relational repair after a conflict/rupture in our relationships with students?



Image source: https://unsplash.com



Handshake



https://www.youtube.com/watch?v=4JueNr1e0H4







Trauma and the body



Brain & body go into survival mode



Individual becomes stuck in a blocked cycle of response



Little room for new information – no learning



Thinking, feeling and behaviour routines activated without variation



Limited effective routines for managing trauma and stress to fall back on



Adaptability gradually retreats



Polyvagal theory and protective responses







Behavioural Functions

Body Functions

by Stephen Porges

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







(Porges, 2012)



Regulated Arousal

Fight or Flight

hyper-vigilant, actionorientated, impulsive, emotionally flooded, reactive, defensive, self-destructive Freeze Physically immobilized, frozen, tense musculature

Sympathetic

Hyper-arousal



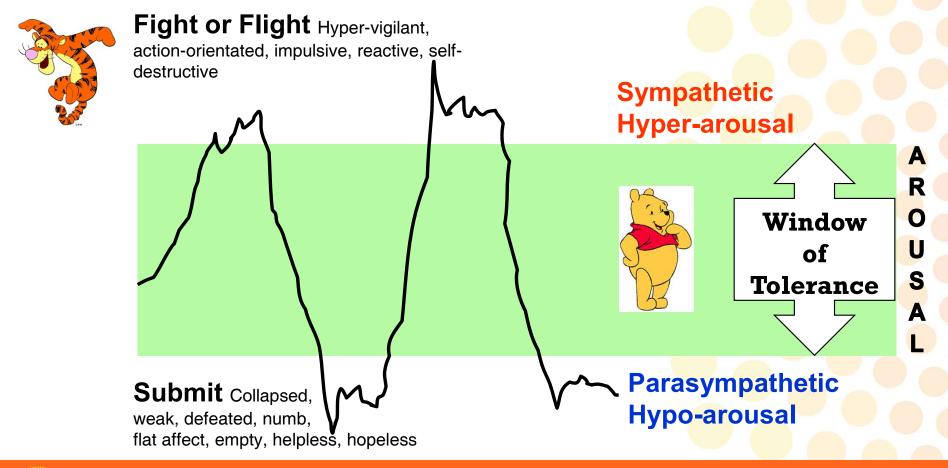
Submit Collapsed, weak, defeated, flat affect, numb, empty, helpless, hopeless

Parasympathetic Hypo-arousal

(Ogden & Fisher, 2015)



Dys-regulated Arousal





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

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

Affect: Shame

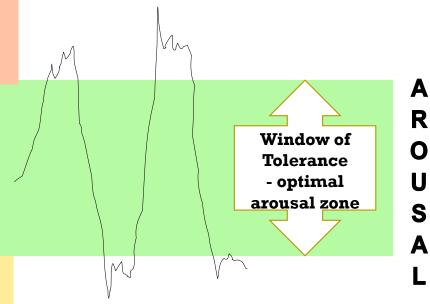
Thought: "I don't care, I can't do it"

Behaviour: Collapsing, spacing out

Sense of self: "I am bad, I am broken"

Consciousness: Diffuse, spacey

frozen, emotionally reactive, racing thoughts, hyper-arousal, impulsive, aggressive



Numb, lethargic, collapsed, cognitively slowed, withdrawn, distant

(Adapted from Ogden & Fisher, 2015)



Consider were the student is at







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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Learning Activity

Safety





My Day feeling safe and unsafe

Mobilised

I don't feel safe zone

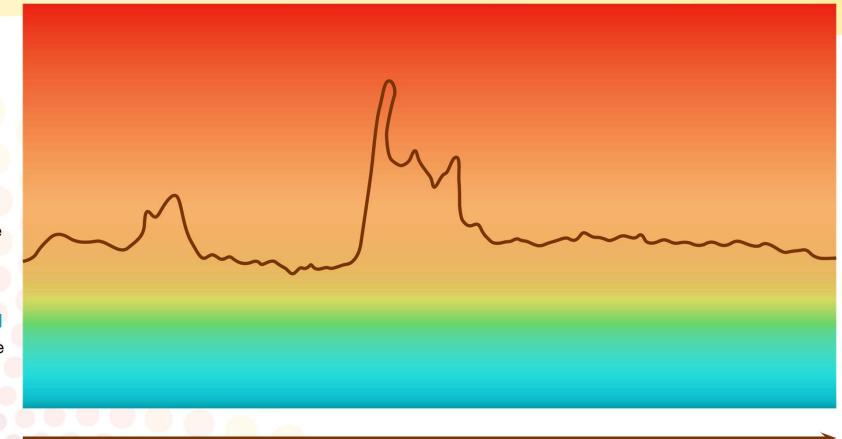
Socially Engaged

I feel safe zone

Immobilised

I don't feel safe zone

My Day





Sensing Safety

"Before we can engage in social behaviour and learning we must first

feel safe"

Dr Steven Porges





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.





Overshooting your Window of Tolerance:

- •Upset and hyped up
- Angry and agitated
- Frustrated
- · Heart beating fast
- · Tense and can't think clearly
- Unable to regulate your emotions



Making Space for Learning – Action Research Project - St Thomas More School, Elizabeth Park, S.A.

Within your Window of Tolerance:

- · Feeling safe, calm and peaceful
- · Happy and able to think clearly
- ·Ready to learn
- Settled and content
- Mindful and able to regulate your emotions

Undershooting your Window of Tolerance:

- ·Sad and tired
- Unmotivated with no energy
- ·Feel empty and withdrawn
- . Don't want to listen, talk or play
- ·Can't think about learning







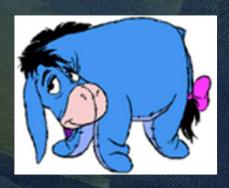
Environmental and Collective WOT

Consider what the baseline for the community might be.

Consider what the baseline for the school might be.



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





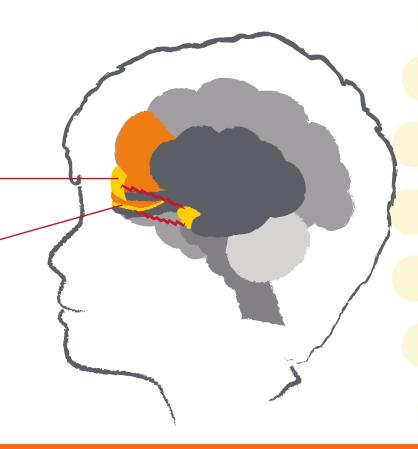


2 ways to regulate

Medial Pre-Frontal Cortex

Right Orbitofrontal Cortex

(Regulation of Arousal)



 Mindful awareness/ meditation de-activates the amygdala

 Quality co-regulation de-activates the amygdala



8 senses

- Visual
- **Auditory**
- **Olfactory** (smell)
- **Gustatory** (taste)
- Tactile System (touch)
- Vestibular (sense of head movement in space)
- 7. Proprioceptive (sensations from muscles and joints of body)
- 8. Introception (awareness of basic primary functions hunger, toileting, breathing)

















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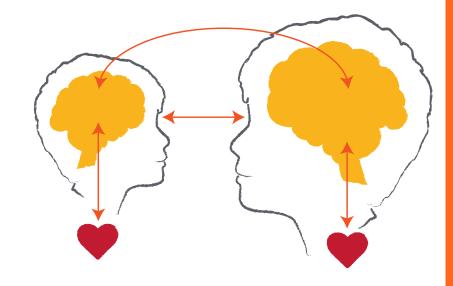
Importance of relationship as an intervention to support and assist the student to heal from the impact of trauma,



The right hemisphere in relationship

These primary relationships contribute to:

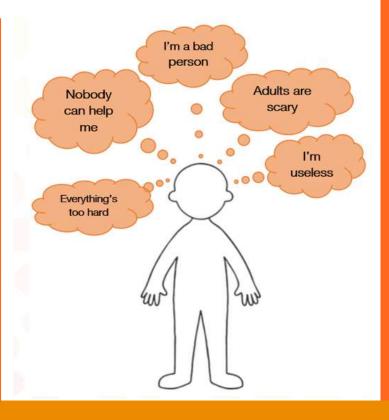
- stored internal working models of primary relationships recorded in the right hemisphere
- the perception of emotion in self and others, enabling empathy and humour.





Internal Working Models

| View of self | I am lovable I am worthy | I am unlovable I am unworthy |
|----------------------------------|--|---|
| View of others/ relationships | Others are responsive Others are loving Others are interested in me Others are available to me | Others are unavailable Others are neglectful Others are rejecting Others are unresponsive |
| | The world is relatively safe | The world is unsafe |





SPACE

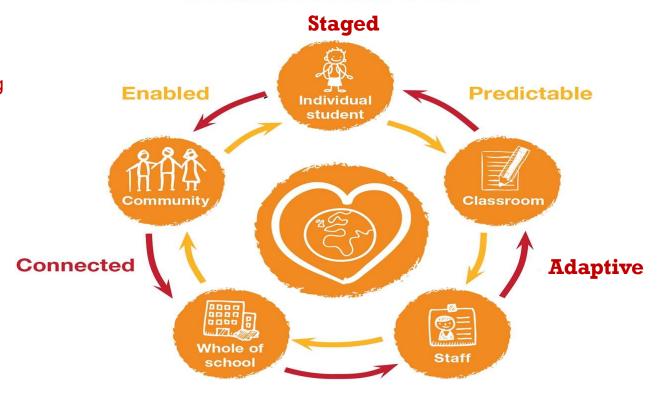


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Making SPAGE for Learning

Trauma Informed Practice in Schools

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





5 Domains- Staged

| Mobilisation Fight, Flight, Active Freeze | I don't feel safe | I am filled with energy I need to move I need to act now | Red Faced, hot and sweaty Fast beating heart Muscles tensed Moving body, hard to find stillness |
|--|-------------------|--|---|
| Social Engagement | I feel safe | I am all set to play and explore I am ready to connect I am open to your ideas | Making Eye contact Orienting towards those around Listening Relaxed, loose, flowing body |
| Immobilisation Flop | I don't feel safe | I am numbed out I am retreating inside I am collapsed, small, and distant | I have cold extremities Glazed eyes, distant stare Slow movement Lethargic & passive body |

5 Domains- Staged

- Brain development is sequential
- One of the ways our brain develops is vertically, from the bottom to the top
- Some neurodevelopmental delays such as those effected by trauma can cause brain changes. However with the right support the brain can be repaired through neuroplasticity.

Cortex, reasoning and judgement centre
Limbic system
Emotional
centre
Brain stem Basic life functions: breathing; heart rate; blood pressure; respiration

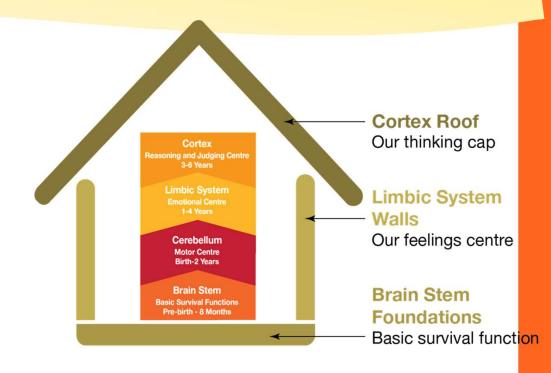
Children's brains need support to grow and learn

My brain grows upwards, step by step.



Staged- A brain development metaphor - My Brain House

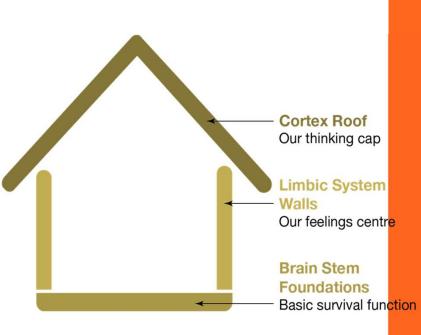
- We build our brain from the bottom to the top- like building a house
- We reinforce parts of our house as we grow, with our roof continuing to develop into our mid 20s.
- A student who is calm and focused at school will likely be functioning with a strong standing brain house, from foundation to roof.
- In times of great stress bits of our brain house can come down and require repair. This is achievable and our brain house can stand strong again.





5 Domains- Staged

- Our brain house can experience adversity. This can effect its structural integrity. If we get rattled our thinking cap roof can come off, leaving our feeling walls exposed. This can lead to strong emotions coming out without our thinking cap to help us contain our feelings.
- When this happens we can struggle to find words to communicate as our words flew off with our thinking cap roof.
- If we are deeply shook our roof and walls might come down and leave only our foundation. Our foundation is very strong and reliable. In these times we have our basic life functions to focus on to get us through- eg. our breathing, our heart beat.
- Everyone's rooves blow off from time to time. Given we have all built our own brain houses, we are all equipped to support each other to repair our houses together.

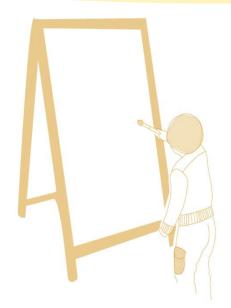




Predictable

- Changes to routines and uncertainty can be a source of stress to student
- Predictability in Student's relationships and online activities deactivates their stress systems
- This then promotes flexibility and adaptability

Student need to know what they can count on

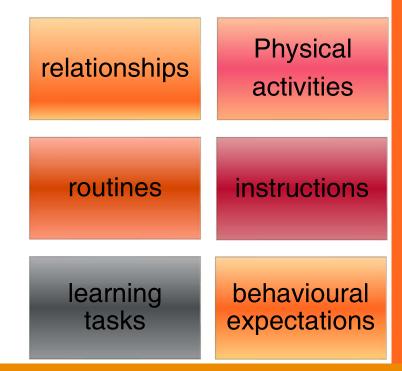


I feel better when I know what is coming next.



What might predictability look like in practice?

- Build routines and predictability wherever possible
- Prepare children and young people for what is coming next eg: giving countdowns to transitions
- Visual timetables are useful
- Think about how to do transitions throughout the day
- Play online and fun
- Planned brain breaks
- Give plenty of information and time building up to changes,

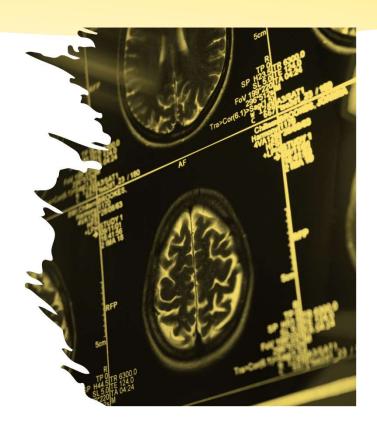




Predictable you

- Co-Regulating Child's State of Arousal:
- Use of Self
- Matching Vitality Affect
- Match tone
- Match intensity
- Match prosody
- Don't match the emotion

Dan Hughes 2007





Adaptive

- Most of us have a set of behavioural routines that we draw from to respond to challenges when they emerge.
- To broaden student's behavioural repertoires and promote increased adaptability we need to maintain multiple meanings for the behaviour and remain open to multiple options for interventions.
- We need to provide challenges that extend the window of tolerance but do not push the young person outside the WoT.



Student need support to grow up healthy and strong There are things I need to grow up healthy and strong.



Adaptive



- Traumatised students and young people rely on a limited set of behavioural routines to respond to the challenges of their context.
- These routines are sourced in the history of their physiological reaction to trauma and the experiences of relationships through which these reactions were interpreted and responded to.
- Strategies which promote adaptability in students and young people are those which are able to maintain multiple meanings for behaviour and remain open to multiple options for interventions.

What might adaptive look like in practice?

- See the needs beneath the behaviour.
- Utilise strengths
- Psychoeducation in the virtual space
- Relationship, repetition, rhythm
- Use PACE
 - Playfulness
 - Acceptance
 - Curiosity
 - Empathy



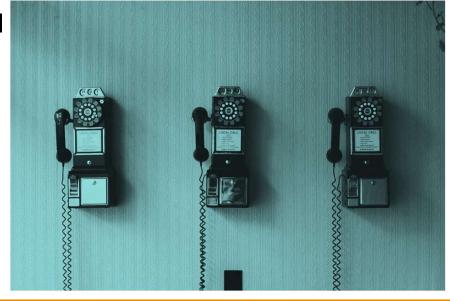


Connected

- Students need connection to teachers
- Connections to others students in the virtual space
- Connections to self

Where attention goes, neural firing flows, and neural connection grows."

Seigel 2018.





Connected

- Student's relational templates for forming and being in relationships take shape as they grow. They learn what to expect and how to navigate relationships through their experiences of connection with those around them.
- We tend to expect things from relationships based on what we have known from past connections.
- Strategies to support students as their relational templates continue to develop emphasise relationships with safe and consistent adults and peers as the foundation for healthy, strong social and emotional functioning.

I need to feel like I am connected.
I need to feel safe.
I need safe connections in my life.

Students need to feel like they are connected.

Students need to feel safe and know about what makes a safe connection.

Sian Phillips et al 2021 Bruce Perry 2019



What might connected look like in practice?

- The student feels safe and connected
- Co-regulation occurs
- A feeling of connectedness is what you get when you feel like you belong in a group, when you are with others of your
- Mirror neurons –eye contact
- Attuned listening.



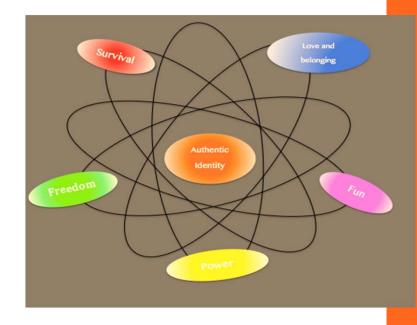


Schools and their staff are lifeboat a in a chaotic world

Trauma-responsive educators understand traumatized, abused and neglected students need to:

- Have a strong felt sense of safety
- Reach their developmental stages and potential
- Be <u>seen</u> and heard
- Learn to regulate themselves
- Develop a sense of agency (control)
- Psychoeducation- learn about their own neurophysiology and neurobiology
- Gain emotional literacy and understanding

Sian Phillips et al 2021



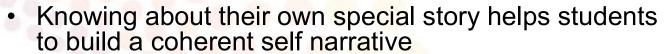


Enabled

 Engaging students in the process of understanding themselves can build social and emotional well being.

 Learning about and identifying feelings, understanding them and practice communicating them with others in socially cohesive ways bolsters emotional regulation.

 When students know about their qualities, their attributes and their talents they can feel good about themselves.



Students need to know more about what makes them who they are.

I grow stronger as I learn more about what makes me, me.



What might enabled look like in practice?

- Creating safety
- Understand triggers
- Map behaviours
- Victoria Dept of Ed's ABC and Scatter Plot Data
- Classroom approaches for individuals
- Flight, Fight, Active Freeze or Submit responses are assisted to enable learning.





SPACE

All educators want students to thrive in the **spaces** we create with them at school.

What makes the best kinds of learning spaces for students?



Week by Week Delivery Summary

| Week | Needs Statements | Week by week |
|---|--|---|
| 1 Staged | Student's brains need support to grow and learn My brain grows upwards step by step | The brain week |
| 2 Adaptive | Students need support to grow up healthy and strong There are things I need to grow up healthy and strong | The healthy body, mind, heart and spirit week |
| 3 Predictable | Students need to know what they can count on I f <mark>eel b</mark> etter when I know what is coming next. | The things we can count on hand week |
| 4 Connected | Students need to feel like they are connected- I need to feel like I am connected | The connection week |
| 5 Connected | Students need to feel safe- I need to feel safe What makes a safe connection? – I need safe connections in my life | The feeling safe week |
| 6 Enabled | Students need to know more about what makes them who they are I grow stronger as I learn more about what makes me, me. | The feelings week |
| 7 Enabled | Students need to know more about what makes them who they are I grow stronger as I learn more about what makes me, me. | The 'Me' week |
| 8 Bringing things together and Sharing | A week to reflect and consolidate learnings, culminating in a sharing session on the final day of the program | The Reflective week |



Learning: Things to do

- Be predictable and consistent with routines and structure
- Prepare the student for any change in routine in advance
- Provide boundaries to help the student feel safe
- Be flexible and adapt to the student's needs
- Give the student short periods to practise independence
- Give consistent, clear and simple instructions
- Look for opportunities to build self-esteem
- Celebrate success and good choices, e.g. photographs

- o 1 thing Lockwood does well?
- o 1 thing you do well?
- o How do you do that well?









Making SPACE for Learning – Site Audit Tool

This audit tool can be used to evaluate the policies and initiatives of a school that resource and equip different levels of the school structure to undertake trauma informed practice. In the following table, list strategies, policies or other processes currently undertaken that support traumatised students at your school.

| | Whole Site | Staff | Classroom / Group | Small Group | Individual Student / Child |
|-------------|------------|-------|-------------------|-------------|----------------------------|
| Staged | | | | | |
| Predictable | | | | | |
| Adaptive | | | | | |
| Connected | | | | | |
| Enabled | | | | | |

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Mindfulness in education







Transforming regulation

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

Trauma impairs children's capacities to orient to, interpreand 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

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



For slowing down?

For speeding up or releasing stress?



Calming & engaging















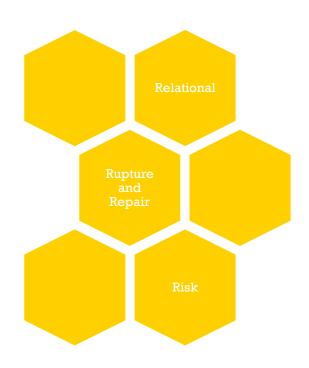


Mindful breathing





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





Energising & Releasing





Next steps/what else

What are 3 things I would like to understand more or research?

What are three concepts/areas I would like to explore further next week?

What are three things the whole of school needs to do?







What Survival Looks Like At Home

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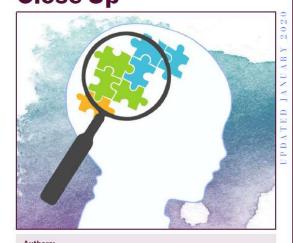












Dr Shoshanah Lyons, Dr Kathryn Whyte, Ruth Stephens and Helen Townsend www.beaconhouse.org.uk/useful-resources/

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