

**Making**  
**SPACE**  
**for Learning**  
Trauma Informed Practice in Schools

Ajuga School, Glenfield NSW  
21 October 2020

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The Australian Childhood Foundation acknowledges Aboriginal and Torres Strait Islander peoples as the traditional custodians and owners of this land and waters. We pay our respects to their Elders past and present and to the children who are their leaders of tomorrow. We acknowledge their history and living culture and the many thousands of years in which they have raised their children to be safe and strong.

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**Learning together online**

- Participation is always welcome
- Cameras on, unless you need to take a break
- Mute yourself when not talking
- Hands up or use the chat button if you have questions
- Please use headphones if children are in your training space
- Please maintain confidentiality

Australian Childhood Foundation Professional Education Services professional@childhood.org.au

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### Principles guiding this workshop

- We assume a knowledge of child abuse and mandatory reporting requirements.
- The emotional safety of participants is paramount in this workshop and for this group. All activities are optional.
- We acknowledge this can be difficult material for a range of reasons. Feel free to chat with your facilitator.
- Discussion and questions only enhance the session and knowledge sharing is really important.
- Abuse related trauma covers the impact of all forms of child abuse, including sexual abuse, physical abuse, emotional abuse, family violence and neglect.



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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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### Trauma

**Developmental Trauma:** Occurs when the foetus in utero, baby, child or adolescent experiences trauma, from abuse and neglect during key stages of development

|               |                   |
|---------------|-------------------|
| Simple        | Intergenerational |
| Complex       | Transgenerational |
| Developmental | Historical        |

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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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### • Trauma and the Brain

- Normative development
- Impacts of trauma
- Capacity Building and Repair



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### Neuronal connections

- Neurons – cells in our brain interact and communicate with other neurons
- The neural system has the ability for one neuron to communicate with up to 10,000 other neurons
- The newborn brain has approximately 100 billion neurons

What builds our neuronal connections?

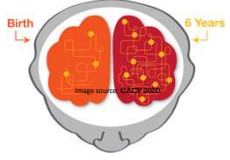


Image source: Shutterstock

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### Neuroplasticity – hope for healing

Neuroplasticity refers to the brain's capacity to:

- Grow new nerve cells
- Strengthen connections between nerve cells
- Sprout new connections between different cells



Image source: <http://highexistence.com/its-all-in-your-head-how-to-take-advantage-of-neuroplasticity/>

<https://www.youtube.com/watch?v=ELpfYCz87g>



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### Developmental stages of brain maturation

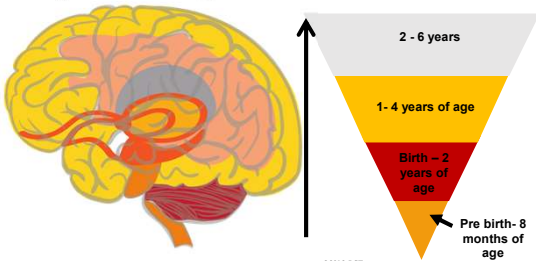


Image source: ©2018 ACF



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### Brainstem – survival centre

- basic life functions
- first part of our brain to develop & the most developed brain part at birth
- responsible for our heart beat, breathing, sucking and swallowing, temperature control blood pressure and our sleep cycle



Image source: ©ACF 2020



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**The brain stem under stress and trauma**

- may experience fast or slower heart rate
- shortness of breath or breathing difficulties
- sleep disturbances and unsettledness
- sucking and swallowing and digestion difficulties
- may feel hot or cold or not notice changes in temperature





Image source: Shutterstock

**What do you notice?**



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**Cerebellum – movement & coordination centre**

- helps us with our posture and balance
- helps us to know where our body is in space
- helps us with our voluntary movements such as walking and writing
- Plays a role in **physical** and **mental** coordination





Image source: ©ACF 2020



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**The cerebellum under stress and trauma**

- Difficulties coordinating cognitive processes such as planning & working memory
- difficulty in maintaining posture & balance
- difficulty in undertaking tasks that require balance
- lack of awareness of their body in space
- difficulty with voluntary movement tasks – walking or writing





Image source: Shutterstock

**What do you notice and what can you do?**



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### Strategies for transforming – brainstem & cerebellum: RHYTHM, BREATH, MOVEMENT

- include soothing and calming activities, safe containment
- movement based activities
  - include activities that have a rhythmic, repetitive element
  - include activities that have a balancing element & gross & fine motor skills
- breath based activities
- conduct a sensory audit – ie: is it too hot or too cold, too noisy?
- include proprioceptive and interoceptive awareness and activities



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### Diencephalon – sorting and sending centre

- develops mainly after birth
- sorts out “messages” coming into the brain and sends them out to other parts of the brain
- uses hormones to send signals to body



Image source: ©ACF 2020



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### The diencephalon under stress and trauma

- becomes overwhelmed and cannot sort the information
- is unable to send information to the memory and thinking parts of the brain – that pathway shuts down
- it alerts the amygdala which sets of a sensory information response sequence



Image source: Shutterstock

**What do you notice and what can you do?**



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### Strategies for transforming – diencephalon

- conduct a sensory audit
- provide calm, positive sensory experiences
- provide regular and predictable brain and body breaks
- Provide routine and prompts to support body systems and tuning in



What might help during transitions and at beginnings and ends of classes?




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### Limbic lobe - emotion and memory centre

- helps us attach an emotion to an experience or memory
- particularly involved with the emotions
- heavily involved in attachment processes
- develops mainly after birth
- two important brain parts – the amygdala and the hippocampus are in this part of the brain



Image source: ©ACF 2020




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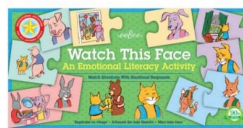
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### Building Capacity – Limbic System

1. Co-regulating strong emotions  
*Validate emotion, cues for proximity/space, engage senses, prosody, rhythm & breathing*
2. Enhancing positive emotions  
*May need help to name & express*
3. Promoting emotional literacy  
*Teach during moments of calm*



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### Amygdala

- Alarm centre - the 'smoke detector' of the brain
- 'Fires' when a threat is detected – triggers a series of brain and body responses
- Stores (& generalises) implicit memories relating to fear/threat






Image source: ©ACF2020

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### The amygdala under stress and trauma

- can be over active or under active
- can evoke reminders and flashbacks of the trauma (awakenings)
- will have difficulty in emotional regulation
- will have difficulty in reading facial expressions
- Constantly 'firing' – can hijack the cortex (thinking goes offline)




Image source: Shutterstock

**What do you notice and what can you do?**

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### Strategies for transforming – Amygdala

- Manage own reactions (stay calm & present)
- Don't rely on reason/thinking to reduce an escalation
- Regular outbreath activities
- Provide opportunities for rest and recovery
- Environmental audit (noise, smell, colour, person, situation).

*Re-entry to the classroom should be a safe and positive transition whenever possible.*



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### Hippocampus

- explicit memory centre
- provides context to memories
- provides consolidation of information from short term memory to long term memory
- memory puzzle sorting centre








Image source: ©MCF 2020

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### The hippocampus under stress and trauma

- Reduction of hippocampal volume up to 25% as a result of high levels of cortisol
- Can't place memories in time or place – flooding & flashbacks
- Working memory, retention and recall (retrieval) capacity is severely impacted
- Narrative/autobiographical memory is affected






Image source: Shutterstock

**What do you notice and what can you do?**

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### Strategies for transforming – Hippocampus

- Repetition
- Reminders
- Review
- Reinforce



- *Calming the brainstem, quietening the amygdala and boosting the cerebellum will all help the hippocampus to function more effectively*



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### The Prefrontal Cortex- executive function centre

- self awareness
- reasoning and judgement
- foresight and anticipation
- focusing and sustaining attention
- planning organising and prioritising
- decision making
- reflecting
- enthusiasm, motivation and persistence
- impulse control
- working memory






Image source: ©2018 ACZF

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### Cortical areas under stress and trauma

Unable to:

- use foresight and anticipation, focus or sustain attention
- plan, organise or prioritise or make decisions well
- reflect or have self-awareness
- be enthusiastic, motivated or persist with activities
- use impulse control





Image source: Shutterstock

**What do you notice and what can you do?**



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### Strategies for transforming – cortical areas

- **Safety and stability are essential pre-requisites for cortical access**
- problem solving activities and strategies
- Support to map and plan activities
- games - card games – boards games – strategy games
- voluntary movement activities – table top drumming, clapping etc
- thinking and choice games – “Would you rather?”

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### Medial Pre-frontal Cortex and the Right Orbito-frontal Cortex

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

**Right Orbito-frontal Cortex**  
(Regulation of Arousal)

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

Image source: ©ACF 2020

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### Mindful breathing

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### Trauma and the brain

**Hypothalamus**  
Links the nervous system to the endocrine system via the pituitary gland. It synthesizes and secretes hormones to control body temperature, hunger, thirst, fatigue, sleep, and circadian cycles.

**Corpus Callosum**  
Bridge between the 2 hemispheres. Chronic stress can damage and thin down this bundle of neurons

**Prefrontal cortex**  
Responsible for executive functions, such as judgement, reasoning, and self awareness. Final part of the brain to mature in one's mid 20s.

**Thalamus**  
Sensory receptor within the diencephalon. Receives and passes on sensory data to be further processed by other areas of the brain

**Amygdala**  
Survival response centre within the limbic lobe that becomes enlarged and more sensitive the more it is activated through responding to threats

**Hippocampus**  
Consolidates memory by providing the context/ sequential data for episodic memories. Goes offline if trauma overwhelms and disrupts cortex.

**Cerebellum**  
Balance and coordination, motor skills may be impacted by trauma

Image source: ©ACF 2020

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Strategies for transforming

| Brain area               | Function                            | Activity ideas                                                                    |
|--------------------------|-------------------------------------|-----------------------------------------------------------------------------------|
| Brainstem & Diencephalon | Basic survival & sensory processing | Pacification or stimulation. Activities in the child's preferred sensory modality |
| Cerebellum               | Coordination of movement            | Using music, rhyme and movement activities                                        |
| Limbic                   | Emotional processing                | Building relational connection through plays, animals, games                      |
| Cortex                   | Thinking processes                  | Linking experiences and sensations to words and descriptions                      |
| Prefrontal cortex        | Analytical and abstract thinking    | Challenges and safe risk taking activities                                        |

Image source: ©2018 ACF

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### Development of the left and right hemispheres

**Left Hemisphere**

- Evaluates language content
- The optimistic hemisphere
- Understands beginning, middle and end
- Learns from the past and expects the future
- Looks for patterns

**Right Hemisphere**

- Orientated in the present moment
- Eye Contact
- Facial Expression
- Tone of Voice
- Posture
- Gesture
- Intensity
- Grasps the whole

Image source: ©ACF 2020

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### Strategies for transforming – building RH/LH connection

- Activities that cross the midline
- Using gestures, intonation, melody, etc to accompany speech
- Putting words to feelings when making observations
- Incorporate cognitive elements into calming/stimulating activities (eg. Counting)

Image source: istock

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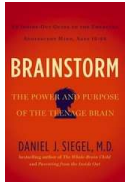
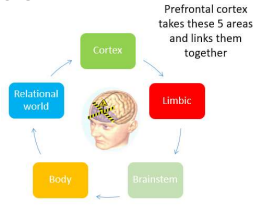
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### Adolescents - The remodelling brain: Pruning & myelination in the teenage brain

<https://www.youtube.com/watch?v=iXnyM0ZuKNU>

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### Risk taking and impulse control



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

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### Trauma and the Body

- Neuroception
- Polyvagal Theory
- Window of Tolerance
- Creating Safety

Neuroception: *Cues of risk and safety are continually monitored by our nervous system* (Porges, 2010).

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### Polyvagal theory and protective responses

(Porges, 2011)

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

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### An introduction to the Polyvagal theory and neuroception

Cues of risk and safety are continually monitored by our nervous system.

**“Before we can engage in social behaviour and learning we must first feel safe.”**

(Porges, 2015, p.119).

**Parasympathetic System**

- Constricts pupils
- Stimulates flow of saliva
- Constricts bronchi
- Slows heartbeat
- Stimulates peristalsis and secretion
- Stimulates bile release
- Contracts bladder

<http://newinstitute.com.au/wp-content/uploads/2017/08/img-dragage12.jpg>

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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

**Social Engagement**

**Window of Tolerance**

**Sympathetic Hyper-arousal**

**Parasympathetic Hypo-arousal**

Image source: ©2018 ACF

Ogden, Nimmo, Pina, 2006

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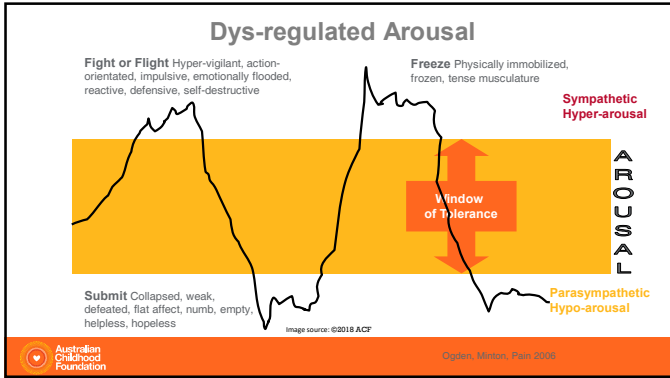
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**Overshooting your Window of Tolerance:**

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

**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

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

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The more **predictable** the response the more confident children become in understanding the world around them.

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### Developmental trauma healing

Third: We can support the child to reflect, learn, remember, articulate and become self-assured.

Second: We must relate and connect with the child through an attuned and sensitive relationship.

First: We must help the child to regulate and calm their fight/flight/freeze responses.

<https://basconhouse.org.uk/wp-content/uploads/The-Three-Rs.pdf>

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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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### 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, set strategies, policies or other processes currently undertaken that support traumatised students at your school.

Whole Site   Staff   Classrooms / Group   Small Group   Individual Student / Child

|                  |  |  |  |  |
|------------------|--|--|--|--|
| S<br>Staged      |  |  |  |  |
| P<br>Predictable |  |  |  |  |
| A<br>Adaptive    |  |  |  |  |
| C<br>Connected   |  |  |  |  |
| E<br>Enabled     |  |  |  |  |

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**Trauma and behaviour – adaptive to maladaptive**




Trauma based behaviour is functional at the time in which it develops as a response to threat.

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**Framing Behaviour Support Plans**

- Consider the function behind the behaviour – what is the unmet need? What alternatives could we offer the child to meet this need in a different way?
- Can the behaviour be understood as a *fight, flight, freeze or withdrawal* response?
- What stresses or situation do we think trigger these behaviours, and which ones can we do something about?
- What skills can we help the child/young person to develop, to support them in reducing these behaviours?
- Don't rely on consequences to promote behaviour change

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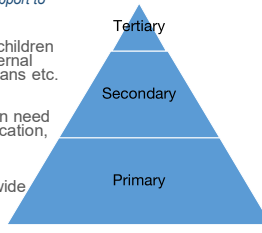
**Multi-tiered Service Delivery Model**

*Provide effective practices for all students, and intensive support to those who need it.*

**TERTIARY TIER:** individualised interventions for children who need more intensive support – referral to external services, wrap-around support, tailored support plans etc.

**SECONDARY TIER:** identifying 'at-risk' students in need of targeted small group intervention – psycho-education, etc

**PRIMARY TIER:** preventive measures – system-wide changes to promote a safe learning environment



Phifer & Hull (2016)

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**Small, everyday moments of positivity can build to something truly reparative, given enough repetitions.**

Marina Dickson#childtrauma2016



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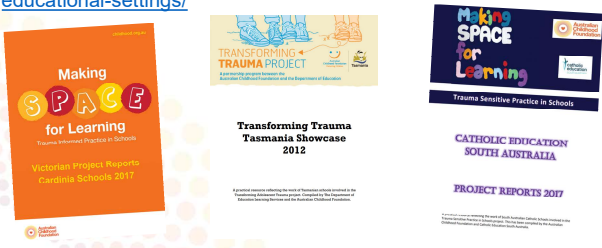
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**Showcase booklets**  
<https://professionals.childhood.org.au/building-capacity-in-educational-settings/>



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[www.childhood.org.au](http://www.childhood.org.au)  
[training@childhood.org.au](mailto:training@childhood.org.au)

Phone: 1300 381 581



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