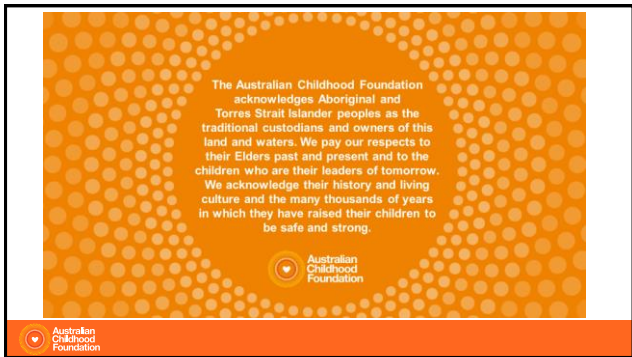
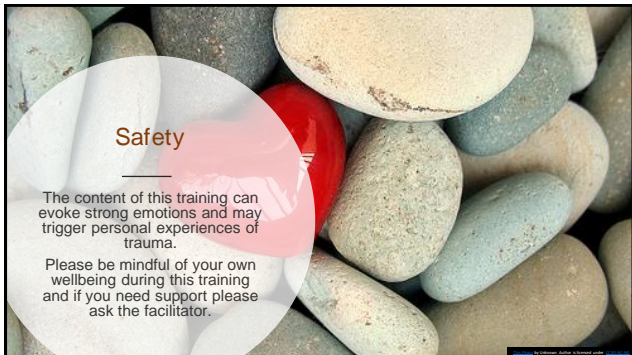


1



2




3

Trauma

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

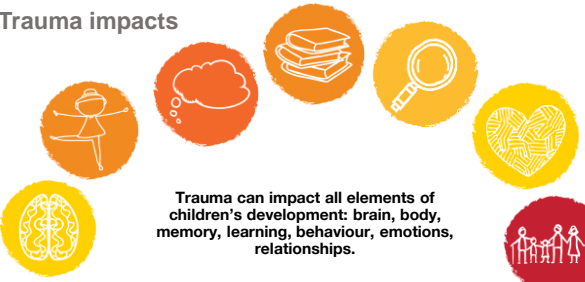
Simple	Intergenerational
Complex	Transgenerational
Developmental	Historical

© Australian Childhood Foundation 2018




5

Trauma impacts





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



6


• Trauma and the Brain

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

7

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

Australian Childhood Foundation childhood.org.au


8

Neuronal connections

- Neurons – Are the brains building blocks. These 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

Neuroplasticity refers to the brain's capacity to:


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



Australian Childhood Foundation

9

Sequential brain development – building blocks



	The Thinking brain 3-5 Years
	The Emotions and Memory Brain - Birth to 4 years
	The Movement Brain Birth – 2 years
	The survival brain Pre birth to 8 months

Australian Childhood Foundation Professional Education Services
professionals.childhood.org.au

10

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: GACF 2020

Australian Childhood Foundation

11

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?

Australian Childhood Foundation

12

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: GACF 2020

Australian Childhood Foundation

13

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?

Australian Childhood Foundation

14


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

Australian Childhood Foundation

15

Clapping



Australian Childhood Foundation

Arts Education Australia

16

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



17

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?

18

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



Image source: Pinterest

What might help during transitions, beginnings and endings?

19

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



20

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



21

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?

22

Strategies for transforming – Amygdala

- Manage own reactions (stay calm & present)
- Don't rely on reason/thinking to reduce an escalation
- Regular outreach 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.




23

Trauma and memory





24

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: ©ACF 2020



25

Encoding traumatic memories

Implicit Procedural Memory

- Non-verbal
- Separate fragments
- Emotional/sensational
- Outside conscious awareness

Explicit Memory

- Develops at 2-3 years of age
- Consciously retrieved
- Explicit memory systems can become shut down when trauma is present

Hippocampus

Australian Childhood Foundation

Professional Education Services
childhood.org.au/training

26

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?

Australian Childhood Foundation

27

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

Australian Childhood Foundation

28

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



Australian
Childhood
Foundation

Image source: ©2018 ACF

29

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?

Australian
Childhood
Foundation

30

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?”
- Mindfulness activities



Australian
Childhood
Foundation

31

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

Australian Childhood Foundation

32

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

Image source: ©ACF 2020

Right Hemisphere

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

Australian Childhood Foundation

33

Building Capacity – Limbic System

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

Australian Childhood Foundation childhood.org.au

34

Activity- Wright Family

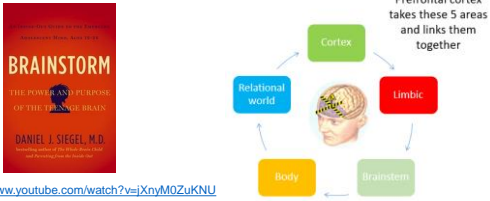


This Photo by Shutterstock Author is licensed under CC BY 4.0

Australian Childhood Foundation childhood.org.au

35

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



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


Australian Childhood Foundation

36

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, 2019).



Australian Childhood Foundation

38

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.115).

Parasympathetic System

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

<http://lewisinstitute.com.au/wp-content/uploads/2017/08/img-ctragger2.jpg>

Australian Childhood Foundation

39

Polyvagal theory and protective responses

(Porges, 2011)

Behavioural Functions	Body Functions
Social Engagement Soothing and calming Indicates safety	<ul style="list-style-type: none"> • 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 <ul style="list-style-type: none"> • Increases heart rate • Sweat increases • Inhibits gastrointestinal function • Narrowing blood vessels - to slow blood flow to extremities • Release of adrenaline
Immobilisation Collapse or submission Death feigning Increased pain threshold Conserves metabolic resources Life threatening situations	Hypo - arousal <ul style="list-style-type: none"> • Slows heart rate • Constricts bronchi • Stimulates gastrointestinal function

Australian Childhood Foundation

40

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

Parasympathetic Hypo-arousal

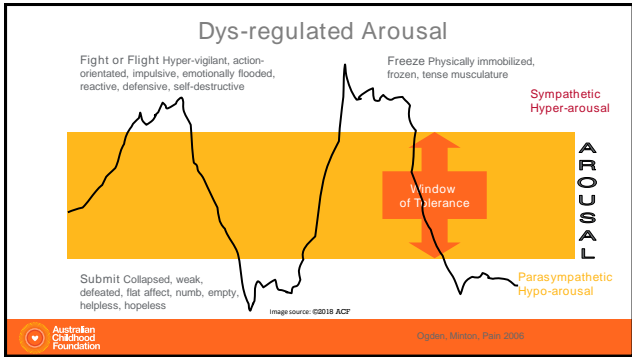
Submit Collapsed, weak, defeated, flat affect, numb, empty, helpless, hopeless

Image source: ©2018 ACF

Ogden, Mazon, Pan 2006

Australian Childhood Foundation

41



42

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.

Australian Childhood Foundation

43

Trauma and behaviour – adaptive to maladaptive

➔

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

Australian Childhood Foundation

44

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 **stressors or situations** 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**

Australian Childhood Foundation childhood.org.au

45


Finding it difficult to stay (want to be) connected?

Well-Connected Brain
Utilizing the front part of the brain



Open Flexible and Adaptive

Stressed out Brain
Utilizing the more primitive middle region of the brain



Closed and Rigid

Australian Childhood Foundation professionals.childhood.org.au

46

Experience Feeling safe in relationship



Mutual Joy
Causes Contentment

Australian Childhood Foundation professionals.childhood.org.au

47

SPACE

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

STAGED
PREDICTABLE
ADAPTIVE
CONNECTED
ENABLED

Australian Childhood Foundation

48

Staged

- Brain development is sequential
- Brain functions are consolidated through repetition and practice
- Reparative strategies must follow this staged pattern of conceptualisation and implementation

Australian Childhood Foundation Catholic Education

49

Predictable

Changes to the routines are a source of stress to children and young people who have experienced trauma

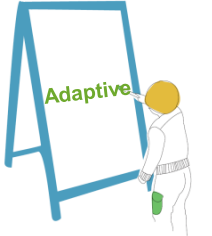
Brain and body are constantly hyperaroused

Predictability in their relationships and environment deactivate the stress systems

This then promotes flexibility and adaptability

Australian Childhood Foundation Catholic Education

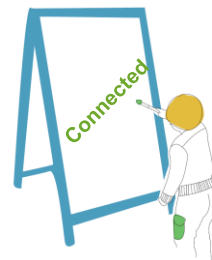
50



- Traumatized children 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 children and young people are those which are able to maintain multiple meanings for behaviour and remain open to multiple options for interventions.

Australian Childhood Foundation Catholic Education Queensland

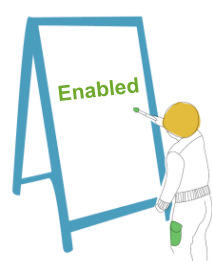
51



- Traumatized children and y/people develop insecure and unstable templates for forming and being in relationships.
- They have distorted or confusing internal maps to help them navigate intimacy.
- They avoid engaging fully in relationships for fear of being hurt or rejected again.
- Strategies to support traumatized children and young people emphasise relationships with safe and consistent adults and peers as the foundation for change.

Australian Childhood Foundation Catholic Education Queensland

52



- Traumatized children and y/ people find the process of understanding themselves difficult. They are challenged in their capacity to identify their feelings, understand them and communicate them to others.
- They struggle to piece together a coherent narrative about their qualities, their attributes and their talents.
- Strategies for responding to traumatized children and y/ people in the school context will enable them to make linkages between and give meaning to their experiences of their past & present, feelings, thoughts and actions.

Australian Childhood Foundation Catholic Education Queensland

53

Things you can do

- Be predictable
- Be consistent
- Be connected
- Be present
- Promote understanding
- Help them make meaning of their experiences
- Help children develop calming tools that make sense to them and that they can use
- Grow with them!



54

Making SPACE for Learning – Site Audit Tool

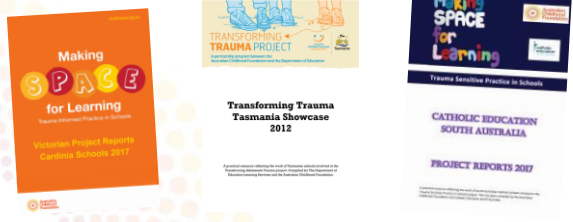
This audit tool can be used to evaluate the policies and initiatives of a school that measure and equip different levels of the school structure to undertake trauma informed practice. In the following table, list strategies, policies or other processes currently undertaken that support traumatised students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

	Whole Site	Staff	Classroom / Group	Small Group	Individual Student / Case
S Support					
P Prevention					
A Assessment					
S Support					
E Engage					



55

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



56

Melissa Powney
mpowney@childhood.org.au

To find out more about the
Australian Childhood Foundation
please visit our website:

www.childhood.org.au
training@childhood.org.au

Phone: 1300 381 581