



2

SMART Learning Pathway

- SMART Online Training 6 hours
- SMART 2 hour training facilitated by a local SMART Trainer
 SMART Day 1 Foundation (includes specialist packages ie Early Years, Refugees, Adolescents, Working with Aboriginal communites)
- SMART Day 2 Strategies (for the above as well)
- SMART Train the Trainer program 3 days
- Graduate Certificate in Developmental Trauma (24 F:F days, online components available as well in 2021)

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What are you passionate about in the work you are doing and in the work you are doing with children and young people who have experienced trauma?



• Name • Role

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Session outline

- examine brain development in children
- define complex abuse related trauma
- understand the impact of trauma on children's and young people's development and functioning
- develop strategies for working with traumatised children
- discuss whole school or service approaches to supporting traumatised children

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5

Key learning outcomes

- develop an enhanced understanding of complex abuse related trauma, with a particular focus on its effects on brain functioning.
- apply a framework for assessing the impact of complex abuse related trauma on children and young people.
- build on practice skills to apply key models of intervention which promote recovery for children in an education setting.

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6		

Principles guiding this workshop

- we assume a knowledge of child abuse and state mandatory reporting requirements
- discussion & questions only enhance the session
- abuse related trauma covers the impact of all forms of child abuse, including sexual abuse, physical abuse, emotional abuse, family violence and neglect.
- your emotional safety is paramount



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7

Introducing the SMART Practice Framework

- Predictable
- Responsive
- Attuned
- Connecting
- Translating
- Involving
- Calming
- Engaging

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8

Safety & relationships are key...

It is important to remember that safety – feeling and being safe and having safe, connected and attuned relationships are key to supporting a child or young person who has experienced trauma.

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.





Trauma	Simple	Intergenerational
How would you define trauma? What have you	Complex	Transgenerational
noticed with your students?	Developmental	Historical
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10

Defining trauma

Any single, ongoing or cumulative experience which:

is a response to a perceived threat

- overwhelms our capacity to cope
- feels/is outside our control
- evokes a physiological and psychological set of responses based on fear or avoidance

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11



Developmental trauma

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

 Children and young people are very vulnerable to the effects of trauma because of their brain's developmental immaturity - their brains are malleable, so the impact of trauma is faster to manifest and leaves deeper tracks of damage



Children's development can slow down or be impaired
 often leading to children experiencing splintered development

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13

Understanding the developing child and the impact of trauma

Image source: https://unsplash.com

Development

- An understanding of child development is pivotal in recognising and distinguishing the impact of trauma
- Neurobiology An understanding of normative brain development gives us a point of comparison for considering the impact of trauma

A neurobiological understanding of trauma offers explanations about the way that it affects a child/young person

- Babies, children & young people who experience chronic traumatisation often experience developmental delays across a broad spectrum including:
 - Cognitive skills
 Language skills

 - Motor skills
 Social skills

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Neuronal connections

Three Core Concepts in Early Development	
Experiences Build Brain Architecture	What implication might this have for classroom practice?
NATIONAL SCIENTIFIC COUNCIL ON THE DEVELOPING CHILD Center on the Developing Child 😈 начино онниевыту	

17

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



tpst//www.youtube.com/watch?v=Etp1YC7z87g Australian Chalanoa Soundation Soundation Soundation

Developmental stages of brain maturation





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



21



- 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

What do you notice and what can you do?

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Cerebellum - body and balance centre

- helps us with our posture and balance
- helps us with our coordination and to control our movements
- helps us to know where our body is in space
- helps us with our voluntary movements such as walking and writing

g Jage source: CACF 2000

23

The cerebellum under stress and trauma

- lack of coordination and balance
- difficulty in maintaining posture
- difficulty in undertaking tasks that require balance



difficulty with voluntary movement tasks – walking or writing

What do you notice and what can you do?

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24

Strategies for transforming – brainstem & cerebellum

- 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

Have PREDICTABILITY in every aspect of the school day and curriculum.

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A Rhythmic Classroom model focuses on building a strong, regulated body – ensuring teachers incorporate knowledge of trauma's significant impacts on the body and the body's regulatory abilities

(Perry, 2009)

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26

A rhythmic classroom or school yard

- bring rhythm in to the classroom activities like drumming, music, physical movement breaks, short exercise bursts
- brain breaks or "Brain kits" for fine and large motor skills cardio activities, or stationary equipment – (stationary bikes, treadmills)
- "rhythmic or containing furniture" for regulation rocking chairs, hammocks, swings, beanbags, mats, blankets
- design school routines with a rhythmic sense to the lesson, day, week and year
- embedding "circle" routines and morning meetings with a sense of rhythm, positive emotion, fun and relational attunement
- integrating heart rate activities and heart rate monitors in both personal and learning development (ie great to include in maths or science lessons)

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27

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

Exercised Tournel



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

What do you notice and what can you do?

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29			

Sensory information response sequence



Strategies for transforming – diencephalon







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

 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 	\sum



Amygdala

Has three roles:

- Alarm centre the 'smoke detector' of the brain
- Memory centre processes & stores implicit memories



Emotion centre – helps with emotional understanding and regulation

Implicit Memory Development • Subconscious retrieval	Explicit Memo Conscious encoding and Explicit memory develop place and has three com	ry Development I retrieval s after brain systems are in ponent
Is non-verbal memory Active before birth	Develops around 18 months	Develops around 2 – 3 years
Implicit memory lacks conscious awareness & is fundamental to how the brain stores traumatic representations	Semantic/factual memory Knowledge of the world, memories about the way things work Episodic memory Discrete events that occur at different points in time	Narrative/Autoblographical To do with sense of self and time
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34		



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

What do you notice and what can you do?

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Strategies for transforming - Amygdala -**IIMPLICIT MEMORIES**

- understand that their behaviour may be triggered/awakened because of an implicit memory
- don't ask questions at this stage the thinking part of the brain will be offline.
- try to determine what might have caused the triggering or awakening (noise, smell, colour).
- stay calm, stay present and with the child or young person. Reassure

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

36

Strategies for transforming - Amygdala -EMOTIONS

- include explicit teaching around emotional literacy
 build emotional regulatory activities in to the day calming, rhythmic, repetitive, breath-based positive and constructive feedback, celebrating significant events, element of joy, fun and laughter
 provide opportunities to experience and understand emotions in others through safe relationships, role modelling and game playing
 greet your students at the door or at the start of the day/lesson- even if they are late make them feed included
- are late, make them feel included are rate, make them eer included take time to know your students, understand their background and acknowledge their learning needs and successes. .

(Golding, et al., 2016) Australian Childhood Foundation





Hippocampus

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

memory puzzle sorting centre	Image sector: 0ACT 2000
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Implicit and Explicit Memory Systems



39

38



 doesn't function properly - it feels as if the trauma hasn't ended.

 reduction of hippocampal volume up to 25% as a result of high levels of cortisol

 working memory, retention and recall (retrieval) capacity is severely impacted



What do you notice and what can you do?

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Strategies for transforming – hippocampus – EXPLICIT MEMORIES

- provide lots of opportunities for review of what has been taught
- have visual timetables and lots of reminders around the room
- reinforce, remind and practice expectations for entering classrooms and routines for classroom learning. Scaffolds like morning routines, timetables, what's on today, books to be out this morning etc.
- use of diaries or other reminder tools for high school aged students
- use of sticky notes, colour codes etc to assistallow extra time for activities
- break down tasks to be more manageable

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41

42



- the largest part of the brain
- associated with higher brain function such as thought and action
- examples of functions:





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The Prefrontal Cortex- executive function centre

Begins to develop in infancy and is the final part of the brain to reach maturity in one's mid to late twenties





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





What do you notice and what can you do?

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44

Strategies for transforming - cortical areas

- problem solving activities break down the problem in to "bite size", achievable goals
- mapping and planning out the activity or options
- games card games boards games strategy games
- sharing and taking turns games
- voluntary movement activities/complex patterns table top drumming, clapping etc thinking and choice games – "Would you rather?"
- identity and life story work help them build a picture of their life

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45



Medial Pre-frontal Cortex and the Right Orbitofrontal Cortex

Strategies for transforming - using the medial pre-frontal cortex and the right-orbitofrontal cortex

- mindfulness activities engages the medial prefrontal cortex and the right orbito- frontal cortex
- any activities that build on focussing attention, use the working memory, social cognition, attuned communication, involved self-regulation (mirror games), impulse control, and judgement and reasoning.
- involve children/young people in physical activities that include movement and build in stillness

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47

Brain food for the developing child

	Opportunities to practise making decisions, to weigh up consequences.
making, analysing and problem solving	to take risks in non life and death settings, to learn boundaries. Integrative activities such as outdoor adventures, ropes courses, group work, yoga, meditation, mindfulness.
Consolidation and Exploration	Problem processing opportunities to concentrate on areas of interest, to challenge and be supported, games requiring skill, strength and agility, experiences of raised and lowered heart rate.
Maturing thinking functions	Reading, playing games, counting, talking, storytelling, games with siblings and in teams
	Playing games with parents, dress ups, acting stories, act out feelings, sharing, taking turns, dress ups
Coordination of body movements	Dancing, painting, blocks, threading, sliding, crawling, rolling, running, clapping
Basic Survival	Tactile play, peek a boo, lots of touch, being rocked





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

50

Development of the left and right hemispheres



51

Lateral integration – Left and right hemispheres working together

- hemispheric specialisation means that LH and RH need to work together to achieve optimal adaptive states.
- knowing a feeling and giving that feeling a language occur through the integrative capacity of the two hemispheres.
- tuning into, understanding and responding to social cues in communication occur through the integrative capacity of the two hemispheres.

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Hemispheres under stress and trauma

- will struggle to process the content of our words (left hemisphere -Wernicke's area)
- may not be able to speak & will be acutely aware of our facial expressions, posture, gestures, intensity of movements and eye contact and searching for signs of disapproval, rejection & danger (left hemisphere - Broca's area)
- will be tuned into the tone of voice, not the content (right hemisphere)
- difficulties with understanding and knowing feelings and articulating them
- difficulties with tuning into, understanding and responding to social cues in communication

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53

Strategies for transforming – RH and LH

Building RH

- using attunement and relationally based activities to build connection eg: mutual smiling, mirroring games based on facial expressions, voice copying
- modelling appropriate gestures and proximity

Building LH

- incorporating cognitive processes into calming or stimulating activities eg: counting for relaxation
- providing oportunities to use language and logic through game playing, discussion and decision making

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54

Strategies for transforming – building RH/LH connection

Emotionally

 attunement and noticing how a child/young person feels, says and shows in the body and giving language – "I notice that you are/have...(tears in your eyes, are yawing lots, are shivering...and I wonder if you are feeling....(sad, tired, scared....)



 doing any activity that enables you to cross the imaginary "midline" of the body eg: cups games, hokey pokey, clapping chants, mirroring games, playing musical instruments, physical activity/sports



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Young people and the importance of sleep

 adolescents need more sleep than adults or children - optimal time being about nine and a half hours

pruning and myelination occur during sleep

pranning and myelination occur during sleep
 sleep strengthens learning and memories

 later starting times for schools show statistically significant impact on academic achievement

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Polyvagal theory and neuroception



BRAINSTORM

What do you think?

57

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Cues of risk and safety are constructed by our nervous system. Image: Cuestion of the cuestion o



Polyvagal Theory and our protective responses











What does hyper-arousal look like for students and your centre/school?

- What does hypo-arousal look like?
- Where is the calm in our centre/school?

What is the calm for us? Australian Childhood Foundation

Arousal Consider:























Using the SMART PRACTICE Framework tool

- Predictable
- Responsive
- Attuned •
- Connecting
- Translating Involving
- CalmingEngaging

65

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Summary

Trauma has impaired children's cortical capacity to regulate subcortical functioning. In order to return cortical capacity (which is essential for learning) we must restore calm.

- Be predictable
- Be connected
- Be present
- Promote understanding
- Equip the child with calming and engaging strategies they can use and help co-regulate



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66

Hope



What are your hopes for the children/yp you work with?

What are your hopes for your school?

Thank you for your participation!



Keeping in touch with ACF & SMART

- SMART Online training
- SMART training
- Discussion papers
- Making Space For Learning resources
- https://professionals.childhood.org.au/smart-online-training
- Prosody Blog <u>http://www.childhoodtrauma.org.au/</u>
- Calendar Training <u>https://professionals.childhood.org.au/training-development/course-list/</u>

www.childhood.org.au

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69

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