Understanding What’s Underneath.

Karen Dymke
Thoughtfulworks
Teaching students is complex
Specific Learning Disorders

- A neurological disorder that affects the brain's ability to receive, process, store and respond to information.
The impact of SLDs on student learning
Understanding SLD

- Team up and take turns telling the other person about your day.

- Do not use the following words:
  
  To   And   Be   For   It   Was

- Once the person speaking uses one of these words it’s the other person’s turn.
How Did it Feel???????
Dyslexia
Most common SLD
10-16% of the population

Dysgraphia
Writing or fine motor skill deficit

Specific Learning Disorders

Dyspraxia
Sensory Integration Disorder --- Issues with motor coordination

Auditory Processing Disorder

Visual Processing Disorder

RAN

ADHD: 40 - 60% of dyslexics
ASD: High percentage have Auditory Processing Disorder, Dysgraphia and Dyspraxia
About SLD

“A neurological disorder that affects the brain's ability to receive, process, store and respond to information”

Source: National Center for Learning Disabilities
1 in 10 people are estimated to have a SLD
Worldwide figures of 16-20%

Or 3-5 students in every classroom!

40% deemed gifted or talented
The LD Process
Processes are different -- outcomes can be the same!

Students without LD
On the Express

Students with LD
Stopping All Stations
Train, Bus and Walk

Box Hill
Camberwell
Kew
Richmond
East Melbourne
Melbourne CBD

Analogy by Ann Williams
About SLD

Myths

- Mostly boys
- It’s a visual problem
- Dyslexics don’t do well in school; Not academic.
- Not smart
- Can’t learn
- Can’t read
Strategies

i.e., creating a level-playing field!
Step 1: Know the Signs. Does the Student . . .

- Have difficulty with:
  - Fine motor skills and physical coordination?
  - Expressing ideas either orally or in writing?
  - Memorising particular information?
  - Following a schedule, being on time, or meeting deadlines?
  - Following small print, and/or following columns?
  - Completing standard forms correctly?
  - Following directions, especially multiple directions?

- Avoid reading and writing tasks

- Have a short attention span and/or difficulty maintaining focus in particular subject areas?

- Misinterpret language and/or have poor comprehension of what is said?

- Get lost undertaking a task?

- Often misread or miscopy information?

- Perform similar tasks with different success rates from day-to-day?

- Confuse similar letters or numbers, reverse them, or confuse their order?

- Reverse or omit letters, words, or phrases when writing?

- Have persistent problems with sentence structure, writing mechanics, and organising written work?

- Spell the same word differently in one document?

- Confuse right and left, up and down?

- Have trouble telling you what has just been said?
Step 1: Know the Signs

Checklists

The Yale Center for Dyslexia and Creativity
http://dyslexia.yale.edu/clues1.html

British Dyslexia Association
Step 1: Know the Signs

- DET Online Training Course:
  More Support for Students with Disabilities
  - Dyslexia
  - Speech, language and communication needs
    www.education.vic.gov.au/about/program/needs/Pages/mssd.aspx

- Karen Starkiss; Michelle Hutchison & Daryl Greaves Teacher Training Course
  www.speldvic.org.au
Step 2: Assessment

Psychologist
specialising in diagnosing dyslexia/SLD

- Pediatrician
- Educational Audiologist
- Speech Pathologist
- Behavioural Optometrist
- Occupational Therapist
- ASD/ADHD Specialist
Stage 2: Assessments

IQ testing:
- WISC IV (Wechsler Intelligence Scale for Children). Assess general thinking and reasoning skills for children 6-16 years old
- (Wechsler Adult Intelligence Scale (WAIS) 16+)
- Stanford-Binet IV or V

Additional testing (may include):
- Weschler Individual Achievement (WIAT-II) reading, mathematics, written language and oral language skills (ages 4 – adults)
- Wechsler Memory Scale
- The Woodcock Word Identification Test
- Neale Analysis of Reading Abilities
- York Assessment of Reading Ability
- South Australian Spelling Test
- Comprehensive Test of Phonological Processing (CTOPP)
- Speech Pathology, OTC, Educational Audiologists, Behaviour Optometrist assessments.

SLD cannot be diagnosed with the WISC IV alone!
Step 3: Create a Parent/Student Support Group

Funded or not – doesn’t matter it is required!
Individual Learning Plan (ILP)

- Adjusted curriculum and tasks tailored to suit individual strengths, and negates challenges.
- Interventions
- Student’s insights on what they need/don’t
### Step 4: ILP -- Example

<table>
<thead>
<tr>
<th>S</th>
<th>Specific and detailed target</th>
</tr>
</thead>
</table>
| I am going to increase Jack’s reading accuracy by teaching him to accurately read multi-syllable words without guessing. As a first step, I will teach him to accurately read two syllable words.  
*Not: Jack is going to improve his reading!* |

<table>
<thead>
<tr>
<th>M</th>
<th>Measurable (baseline data)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Currently Jack has a reading accuracy of 10 yrs and 3 months although he is 15 years and 6 months.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>A</th>
<th>Action Words (positive steps/active teaching)</th>
</tr>
</thead>
<tbody>
<tr>
<td>I am going to teach Jack two syllable words using the Reading Freedom Method Program beginning with simple compound words (Book 4) Unit 1-5. At the end of Unit 5 Jack will be able to demonstrate success by accurately reading all the words on pg 36 without assistance.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>R</th>
<th>Realistic &amp; relevant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Because Jack’s reading skills are at a Grade 5 level the work will be presented in small steps and in a cumulative way.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>T</th>
<th>Time limited (not open ended but milestones &amp; dates)</th>
</tr>
</thead>
<tbody>
<tr>
<td>I will administer this intervention one half-hour twice a week for 5 weeks. The ILP will be reviewed in 6 weeks (specify date).</td>
<td></td>
</tr>
</tbody>
</table>
Step 5: Intervention

Wave 1/Tier 1 Teaching: Initial literacy instruction

Wave 2/Tier 2 Teaching: Additional early interventions

Wave 3/Tier 3 Teaching: Individualised Program for students with severe and persistent reading and spelling difficulties.
Step 5: Intervention Criteria

- Phonologically based --
  Intensive, focused, systematic direct instruction with a strong emphasis on structured, explicit phonics

- Non-readers -- more
  Phonological Awareness and letter instruction

- Less agreement teaching sight words with phonics instruction or type of text used as instructional material.

- Time-limited – 20-50 minutes/day, 10-12 weeks.

- Clear entry and exit criteria (SMART)

- Delivered either one-to-one or in small groups of 3-4 students.

- Delivered by well trained, supported support staff
Step 5: Intervention  

Buyer Beware

- Claims to be effective on wide range of issues
- Cure
- New, breakthrough intervention/program – using words like astonishing, miraculous
- Absence of scientific evidence-based research
- 1 study that supports the ‘treatment’
- No connection between intervention and disorder, i.e, balancing to improve reading
- People selling intervention same as people that are completing intervention assessment
- Intervention not supported by established understanding of problem – phonological processing deficit and coloured glasses;
- Reputable professional bodies don’t support intervention
- Intervention promoted through infomercials, self-promoting websites, social media and books.
Propaganda techniques
- Guilt-trips – great parents buy . . .
- Use of phrases such as neuroscience, neuropsychology, brain plasticity, changing the brain, etc.
- Over 100 school systems – instead of evidence-based research
- Case Histories not validated, scientific, evidence-based research
- Not Parent or individual testimonials

Misrepresentation of Cause & Effect
- Short-Term affect? What happens 6 months after therapy?
- Claims of medical and/or educational conspiracy.
- Do they say medical/educational ‘establishment’ is attempting to discredit their breakthrough therapy/cure?

Step 5: Intervention Buyer Beware
Step 5: Interventions

Computer Programs to support other interventions:

Planning

- Inspiration

Reading and Writing

- Wordshark; Clicker 6; Textease; TextHelp!; Write Outloud 6; ClaroRead

Numeracy

- Numbershark; Dynamo Maths; Sums; MathBase; Number Gym; Flying Carpet; Chefren’s Pyramid; MathMania; ConquerMaths

Source: www.bdatech.org
Step 5: Interventions

Evidence-Based Research Interventions

- **What Works Clearinghouse** – US Department of Education

- **MUSEC Briefings** – Macquarie University Special Education Centre
  - [http://www.musec.mq.edu.au/community_outreach/musec_briefings](http://www.musec.mq.edu.au/community_outreach/musec_briefings)
Step 5: Intervention

Finding Tutors:

- VIT registered or trained in UK/Canada/USA in SLD and have experience with teaching these students LDA – tutoring referral service

www.ldaustralia.org
Step 6: Classroom Strategies

Reducing Stress absolute key!

- Be flexible, flexible, flexible!
- Give them more time across the board!!!!
- Frequent breaks
- Be conscious of the comments you make
- Look deeper into why they do or say something
  - Processing is different
  - They may be trying to do the right thing – it just doesn’t look like that
  - They may not appear to be paying attention but . . .
Step 6: Classroom Strategies

- Take a step back . . . **What is the objective?**
- Think laterally – outside the square
- Don’t set them up for failure . . . set realistic goals
- Relieve them from expectations that are not important, i.e., spelling
- Continual positive reinforcement
Step 6: Classroom Strategies

- Arrange classroom for safe visibility, accessibility and movement
- Seat:
  - near teacher and/or positive role models
  - low-distraction area

- Cooperative learning/small groups
- Individual tables
- Learning centre
- Time-out without excluding
- Stand near student when giving instructions
Step 6: Classroom Strategies

Support

- Peer tutoring
- Cross-age tutoring
- Study buddies
- Support Aides

- Teach to monitor own behaviours
- Behaviour contracts/rewards
- Self-advocacy/communication skill training
- Conflict resolution strategies
Step 6: Classroom Strategies

- Outlines and study guides
- Ensure regular lesson revisit/reviews
- Highlight instructions
- Clear behavioural objectives
- Clearly explain assessment grading criteria
- Use visual prompts

- Use high-impact games and resources
- Reminders to stay on task, and monitor students work regularly
- Divide page into clearly marked sections when necessary
Step 6: Classroom Strategies

Accommodations – VCE/VCAL Admin Handbook great resource!

- Reschedule assessment task
- Extra time to complete
- Substitute task of the same type
- Replace one task with a different kind
- Use a planned task to assess more outcomes, or aspects of outcomes
- Use technology, aides, scribers, etc.
- Derive satisfactory completion of outcomes/ score from other assessments/work completed e.g. History Essay credited in English
Step 6: Classroom Strategies

Substitute/adjust a task - example

**From . . .**
Write an essay that demonstrates how accurate the film Michael Collins was to what really happened.

**To . . .**
Write an essay on **three examples** in the Michael Collins film that were not entirely an accurate view of what really happened.
IT - helps to teach, organise, remediate and adjust

- Text to Audio – text to speech, calculators with speech, text to audio;
- Visual Tools – screen magnification, graphing calculations;
- Voice to Text – speech recognition;
- Planning and organisational tools – mind mapping, templates, alerts;
- Accessibility Devices – scans text, formatting, scanners;
- Literacy Tools – word predictions, dictionary/thesaurus, spelling support;
- Portable Tools – iPads/tablets, phones, etc.
Step 6: Classroom Strategies

Organisational Skills

Specifically and Actively Teach!

- Planning ahead
- Prioritising
- Setting clear task and timeline objectives
- ‘Chunk’ down tasks in manageable sub tasks and set target dates for each step
- Calendar alerts, weekly overviews
- Colour-code – binders with dividers; index cards, etc.
- Housekeeping – filing/organisation, locker/chair bag clean-up/organisation set day every week
- Highlight pens
Step 6: Classroom Strategies

Instructions

- Explicit, multi-sensory instructions – accessible written form using demonstrations/concrete materials
- Directions in small steps
- Clear, simple, concise. Reduce word amount
- Be conscious of what you’re saying, how you’re saying it, how quickly you’re saying it
  - **Teacher:** Calculate means work out  **Student:** Use a calculator

- Feedback – ensure they understand
  - Teach them to come to you at various steps of the process to ensure they understand
Step 6: Classroom Strategies

Instructions

- Explicitly provide ‘big picture’ prior to beginning a new unit or task . . .
  - Unit outline including objectives
  - Tasks within Unit with timing
  - Reading lists

- Break down large tasks into small chunks

- Written instructions -- address reader as ‘you’ as if you were speaking to them directly, e.g.
  - Step 1: You need to choose one French Impressionist Artist.
Step 6: Classroom Strategies

Instruction

Whiteboard

- Blue or black markers and red only for some things
- Write learning intentions/lesson activities on side of the board at the start of each lesson.
  - Put approximate amounts of times next to each
- Divide board into small columns rather than writing across length of board.
  - Hint: if you have to move to finish a line, it is probably too long.
Step 6: Classroom Strategies Reading

- Accessible
- More time

- Reduce amount of reading
  - Movies instead of books

- Reading in other formats
  - Audio books
  - Customised formats
  - Software programs – TextHELP!
  - E-text books on iPads – issue for some
Step 6: Classroom Strategies Reading

Print Guidelines for People with SLD

- **Typeface** – sans-serif fonts such as Calibri, Verdana, Arial and Trebuchet MS. Sassoon Infant and Open Dyslexic – typefaces for people with dyslexia.
- **Type size** larger than 12pt – many prefer 14 or 16 pt.
- **Spacing** at least 1.5 or double spaced.
- **Simple layout best** – without a lot of visual distractions, i.e., background images, watermarks, pictures everywhere, etc.
- **Avoid printing on both sides of paper**
- **Type should be flush left, rag right** – for tracking (i.e., easier to see where the line ends).
- **Colour.** Black type is best. Different colour backgrounds helps some people, with many preferring black type on a yellow or light blue background
- **Paper** – plain paper not glossy, textured or lightweight
- Give students option of handouts on different colour paper
Step 6: Classroom Strategies

Reading

- Limit lines to 60–70 characters. Lines too long or short can increase eye strain and limit comprehension.
- Don’t hyphenate words not normally split just to fill line ends.
- Some **Bold** print is good – especially to highlight. **Do not** use ALL CAPS, *italic* or underline type

Use:

- Wide margins and headings.
- Short paragraphs to avoid dense blocks of text.
- Bullets or numbers rather than continuous prose (unless appropriate to the text type).
Step 6: Classroom Strategies

Reading

To test whether instructions/worksheets are written to appropriate student reading level

www.readability-score.com
Step 6: Classroom Strategies Reading

- Teacher’s Notes – synopsis, list of characters, themes, etc.
  - Days prior to delivery so they can absorb

- Help highlight key points

- Reading aloud
  - DO NOT PUT THEM ON THE SPOT
  - Only ask them if they volunteer
  - Pre-arrange
Step 6: Classroom Strategies Reading

Handouts

- DON’T . . .
  - photocopy multiple times
  - reduce when photocopying

- Please follow Dyslexic print guidelines
Step 6: Classroom Strategies Writing

- Encourage writing on computer/iPad – easier to cut and paste thoughts
  - Writing can mean using speech to text software

- Utilise templates to help organise thoughts
  - Inspiration software (mind-mapping)
  - TEAL not explicit enough
Step 6: Classroom Strategies Writing

- Bullet point ideas – then make complete sentences and paragraphs
- Teach Who, What, Where, Why and/or How
- Paragraphs do not need to be written in order
  - It may be easier to write intro and conclusion paragraphs last
- Assessing - look for substance/ideas – not spelling, grammatical, or punctuation errors;
Step 6: Classroom Strategies Writing
Essay Writing Template – Step 1 Modify

Original Assignment
Write an essay that demonstrates how accurate the film Michael Collins was to what really happened.

Modified
Write an essay that shows 3 examples in the Michael Collins film that were not entirely an accurate view of what really happened.

Include if you think these changes significantly made the film less accurate.
Assignment: Write an essay that shows **3 examples** in the Michael Collins film that were **not entirely an accurate view** of what really happened. Include if you think these changes significantly made the film less accurate.

<table>
<thead>
<tr>
<th>Paragraph</th>
<th>Question</th>
<th>Your Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction</td>
<td>What is the film Michael Collins about?</td>
<td></td>
</tr>
<tr>
<td></td>
<td>When did the movie come out?</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Who directed it?</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Who played Michael Collins?</td>
<td></td>
</tr>
<tr>
<td></td>
<td>What are 3 examples in the film that were not entirely an accurate view of what really happened?</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Do you think these changes significantly made the film less accurate?</td>
<td></td>
</tr>
<tr>
<td>Paragraph</td>
<td>Question</td>
<td>Your Answer</td>
</tr>
<tr>
<td>------------</td>
<td>--------------------------------------------------------------------------</td>
<td>------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Introduction</td>
<td>What is the film Michael Collins about?</td>
<td>The film Michael Collins is about an Irishman who led the Irish in the fight for Ireland to be independent from England in the 1920s.</td>
</tr>
<tr>
<td></td>
<td>When did the movie come out?</td>
<td>The movie came out in 1996.</td>
</tr>
<tr>
<td></td>
<td>Who directed it?</td>
<td>The movie, which is an historic biopic, was directed by Neil Jordan.</td>
</tr>
</tbody>
</table>
### Essay Writing Template
Step 3 - have student answer each question

<table>
<thead>
<tr>
<th>Paragraph</th>
<th>Question</th>
<th>Your Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction</td>
<td>What are 3 examples in the film that were not entirely an accurate view of what really happened?</td>
<td>The movie contains a variety of changes to what actually happened in reality. These changes include the age of actor Liam Neesom vs Collins’ real age; the inclusion of car bombings; and the creation of one character named Boyd.</td>
</tr>
<tr>
<td></td>
<td>Do you think these changes significantly made the film less accurate?</td>
<td>When looking at these changes, which could be viewed as simple ‘creative licenses’, it is important to examine the effects they had in relationship to the movie being both believable, entertaining as well as an accurate historical portrayal.</td>
</tr>
</tbody>
</table>
The film Michael Collins is about an Irishman who led the Irish in the fight for Ireland to be independent from England in the 1920s.

The movie came out in 1996.

The movie, which is an historic biopic, was directed by Neil Jordan.

The movie contains a variety of changes to what actually happened in reality. These changes include the age of actor Liam Neesom vs Collins’ real age; the inclusion of car bombings; and the creation of one character named Boyd.

When looking at these changes, which could be viewed as simple ‘creative licenses’, it is important to examine the effects they had in relationship to the movie being both believable, entertaining as well as an accurate historical portrayal.
Writing Essay Template
Step 5 – Edit and Finalise

The film Michael Collins is about an Irishman who played a crucial role in Ireland’s fight to be independent from England in the 1920’s, which is the timing of the film. Released in 1996, the movie is an historic biopic directed by Neil Jordan, with Irish actor Liam Neeson playing Michael Collins.

The movie contains a variety of changes to what actually happened in reality. These changes include the age of actor Liam Neeson vs Collins’ real age; the inclusion of car bombings; and the creation of one character named Broy.

When looking at these changes, which could be viewed as simple ‘creative licenses’, it is important to examine the effects they had in relationship to the movie being both believable, entertaining as well as an accurate historical portrayal.
**Step 6 – Classroom Strategies: Notetaking**

- Share notes (assign a student), photograph from board, soft copies

- Explicitly teach note taking skills
  - Write like SMS – abbreviations, few words, etc.
  - Draw pictures – doesn’t always have to be words
  - Note taking templates
  - Note cards

- Regularly review student’s notes to ensure accuracy/completion
Step 6 – Classroom Strategies: Notetaking

Note taking template. Step 1: set-up prior:

<table>
<thead>
<tr>
<th>Main Idea</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Example 1 – film versus actual</td>
<td></td>
</tr>
<tr>
<td>Example 2 – film versus actual</td>
<td></td>
</tr>
<tr>
<td>Example 3 – film versus actual</td>
<td></td>
</tr>
</tbody>
</table>
**Step 6 – Classroom Strategies: Notetaking**

Notetaking Template: Step 2 – Student completes details.

<table>
<thead>
<tr>
<th>Main Idea</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Example 1 – film versus actual</td>
<td>• Liam Neeson had grey hair in the movie.</td>
</tr>
<tr>
<td>Example 2 – film versus actual</td>
<td>• Car bombings to assassinate officials in the movie.</td>
</tr>
<tr>
<td>Example 3 – film versus actual</td>
<td>• Character named Broy in movie</td>
</tr>
<tr>
<td></td>
<td>• Helped Michael Collins obtain intelligence on English government</td>
</tr>
</tbody>
</table>
Homework can lead to engagement between students and their parents and families.

Source: Education and Training Committee *Inquiry into the approaches to homework in Victorian schools* Aug 2014
Homework

Really????????
Step 6: Classroom Strategies

- Is it actually necessary???? Do they have support at home?
- Exhausted – think Public Transport Map
- If it really is essential:
  - Short and focused on skill reinforcement – not extending skills (10min total optimum)
  - Time limited
- Grade on completed work only
- Work completed in Private Study times
  - Modified
  - Allow to partner
Step 6: Classroom Strategies Homework

- Be aware of all other homework requirement – someone needs to manage/priorities
  
  ▪ Explicit instructions in accessible format – including objectives and grading criteria
  
  ▪ Review prior to deadline – so you know they are on the right track
  
  ▪ Submitting . . . remind them, allow them to email it to you, place on school intranet, etc.
“Reducing children to a test score is the worst form of identity theft we could commit in schools”

Steven Covey
Step 6: Classroom Strategies Tests/Exams

Results may just reveal how well a student can perform a test – not necessarily what they know!

- Train students how to take tests/exams
- Test directions and responses both orally and written (accessible)
- Sample questions prior
- Multi-choice hardest format of them all!
- More time
- Use short, frequent quizzes
- Allow use of IT and/or scribe
Step 6: Classroom Strategies Tests/Exams

- Permit rest breaks, reduce questions, allow for time extensions or tests to be completed fully rather than within a set timeframe
- Allow notes/open book
- Quiet room away from other students
- Don’t mark down for spelling, punctuation, grammar
- Adjust grading criteria based on individual
- Adjusted grading option; e.g. to simply satisfactory/unsatisfactory
A Parting Thought . . .

Everybody is a genius, but if you judge a fish
by its ability to climb a tree
it will live its whole life believing it is stupid!

Albert Einstein
Thank You!
Sources

- Glyn Jones, Dyslexia Management Services
- Ann Williams
- Larry B Silver, MD
- Gerry Kennedy IT Consultancy
- LD Online (www.ldonline.com)
- British Dyslexia Association (www.bdadyslexia.org.uk)
- Action Dyslexia (www.actiondyslexia.co.uk)
- National Center for Learning Disabilities (US)
- Acheiveability.org.uk
- University of Sheffield
- Dyslexia Association of Ireland
- Yale Center for Creativity and Dyslexia
- University of Sheffield
Trauma theory
Ways to manage challenging behaviour
Ways to self regulate
Definition:

“psychic trauma occurs when sudden, unexpected, overwhelming intense emotional blow or series of blows assaults the person from outside. Traumatic events are external but they quickly become incorporated into the mind.”

Terr, L., Too Scared To Cry: Psychic Trauma in Childhood. 1990, New York: Harper and Row

Trauma impacts the entire person: the way they learn, the way they remember things, the way they feel about themselves, feel about others, and the way they make sense of the world.
The Human Brain

- The human brain is responsible for all of our thoughts, emotions and actions.

- All learning is change to the brain. The brain develops from the most primitive to the most complex.

- The brain is a multi system. All systems are comprised of networks of nerve cells called neurons. These neurons are continually changing in response to signals from other parts of the brain, the body and the environment.
Biology equips humans to protect themselves with this mechanism.

The body triggers this response in all of our organs and systems to protect us.

With every fight or flight response our brain becomes more sensitive to danger and forms a network of connections that are more sensitive to be triggered.

Children who have repeated experiences become unusually sensitive, so minor threats trigger physical, emotional, and cognitive responses. This biological response is in-built and cannot be controlled.
The structure of the human brain
Brain Architecture

The Human Brain

- Abstract Thought
- Concrete Thought
- Affiliation
- "Attachment"
- Sexual Behavior
- Emotional Reactivity
- Motor Regulation
- "Arousal"
- Appetite/Satiety
- Sleep
- Blood Pressure
- Heart Rate
- Body Temperature

B. Perry, MD
Processing learning in the brain
Failure to Thrive

3 Year Old Children

Normal

Extreme Neglect

All rights reserved © 2005 Bruce D. Perry
When we are overwhelmed with fear, we lose the capacity for speech, we lose the capacity to put words to our experience. Without words, the mind shifts to a mode of thinking that is characterized by visual, auditory, olfactory, and kinesthetic images, physical sensations, and strong feelings.”

They are deeply imprinted, more strongly in fact, than normal everyday memories. The neuroscientist Joseph LeDoux has called this “emotional memory” and has shown that this kind of memory can be difficult or impossible to erase, although we can learn to override some of our responses.
The brain stores experiences through creating templates in a use dependent fashion. The more the “use” is activated the more the state associated with the function will be a built in function of the brain.

Both negative and positive experiences are stored in this way and shape how children interpret the world.

Sensory experiences build the mid brain and build the capacity of the brain to integrate learning.

Memories are given different states of arousal and stored in templates in this way.
Learned Helplessness

- Human beings are programmed for self protection through fight, flight response. When a victim is unable to protect themselves, human biology cannot tolerate this.

- The biological response to this dilemma is to accommodate and become accustomed to trauma.

- They fail to recognize danger, this can often be linked to risk taking behaviors.

- This is known as “learned helplessness”.
Volume Control

- Repeated trauma results in the ability to modulate arousal based on the importance and relevance of stimulus.
- This means they are chronically irritable, angry, impulsive, unable to manage aggression and anxiety.
- Willing to do anything to establish self control and self soothing.
Function is dependent on state

<table>
<thead>
<tr>
<th>Sense of Time</th>
<th>Extended/Future</th>
<th>Days</th>
<th>Hours/Minutes</th>
<th>Seconds</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brain Area</td>
<td>Neo cortex/Sub-brain</td>
<td>Sub-brain/Limbic</td>
<td>Limbic</td>
<td>Brain Stem Autonomic</td>
</tr>
<tr>
<td>Cognition</td>
<td>Abstract</td>
<td>Concrete</td>
<td>Impulsive/Aggressive</td>
<td>Reflexive</td>
</tr>
<tr>
<td>Heart Rate</td>
<td>CALM 60-90</td>
<td>ALERT 91-100</td>
<td>FEAR 101-135</td>
<td>TERROR 136+</td>
</tr>
</tbody>
</table>
Dissociation

- Dissociation is defined as “a disruption in the usually integrated functions of consciousness, memory, identity, or perception of the environment”.

- Dissociation helps us do more than one thing at once. We can go on autopilot and automatically complete tasks that we have previously learned well, while we are focused on something else. This increase in efficiency may help explain why we evolved the ability.

Addicted to Trauma

- One hypothesis is that people can become “addicted” to their own internal endorphins and as a result only feel calm when they are under stress while feeling fearful, irritable and hyper aroused.

- When the stress is relieved, they are uncomfortable much like someone who is withdrawing from heroin. This has been called “addiction to trauma”.
Victim to Victimizer

Human beings will do anything to avoid feeling powerless. If you have been victimized, one of the possible outcomes is to assume the power of the one who has hurt you by becoming someone who terrorizes and abuses others.

Such behavior can reduce anxiety while providing a certain excitement and the combination of these two effects can become habit-forming.

Psycho- biology of Trauma

- Affect Dysregulation – manifests as:
  - Disassociation; these children become distant, vague, unreachable and disconnect from their feelings as a survival mechanism
  - Hyper-vigilance / hyper-arousal; these children often perceive neutral stimuli as threatening
  - Think of examples from your practice
Sensory Activities

- The use of sensory stimulus works to build pathways in the brain and reduce heart rate. E.g.: walking, deep breathing, exercise, weight blanket

- Small amounts sensory activities at regular intervals work more effectively to sustain a reduction in heart rate.

- Building sensory activities into an educational program early works to preventatively to reduce heart rate.

- Strategies often can de-escalate students and create a reduction in heart rate, however recovery happens when children can sustain a calm heart rate.
Clinical Presentation PTSD

Typical Symptoms:

Impulsivity

Distractibility and attention problems due to hyper vigilance

Dysphoria

Emotional Numbing

Social Avoidance

Disassociation

Sleep Problems

Aggressive ( often re enactment play )

School failure

Regressed or delayed development
Impact of Trauma on Academic Performance

- Reduced cognitive capacity
- Sleep disturbance and poor concentration
- Difficulties with memory
- Language delays
- Need for control
- Attachment difficulties
- Poor peer relationships
- Unstable living situation
- Unable to learn from mistakes
Escalation

- Peak
- Affect Dysregulation
- Clinical range
- Not access to limbic system

Some times the child is not out of control, however we are. It is important that we are self aware and do not project our distress on others as this can escalate the situation. A crisis response is only required when the child is in crisis.
<table>
<thead>
<tr>
<th>Level of distress</th>
<th>Characteristics</th>
<th>Strategies Removal from environment / crisis management plan</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>High</strong></td>
<td>Unable to access rational thought processes Fight, stun or flight response</td>
<td>Building to a major incident of violence/property damage Third party intervention with key relationship Remove stimulation Minimise interaction</td>
</tr>
<tr>
<td><strong>Medium</strong></td>
<td>Oppositional defiant; refusing reasonable requests</td>
<td>Oppositional defiant; refusing reasonable requests One to one support Change of activity/diffusion</td>
</tr>
<tr>
<td><strong>Low</strong></td>
<td>Swearing, agitated, irritable, disengaging</td>
<td>Swearing, agitated, irritable, disengaging Safety Plan</td>
</tr>
<tr>
<td><strong>Calm</strong></td>
<td>Friendly and co-operative</td>
<td>Friendly and co-operative Able to respond to instructions</td>
</tr>
</tbody>
</table>
Key Concepts

- A Behavior Management Plan works to modify behavior over time. To be effective, staff must be able to identify behavioral indicators of distress and respond in a way to diffuse these behaviors;

- Strategies that are put in place work best as an early intervention when the child is on a low to medium state;

- The aim of a BMP is to help children remain in a calm state;

- A crisis management plan is when the child is in crisis and their removal from others is necessary for safety;

- Students in crisis are in peak; in many cases, safe exit may be necessary.
Observations

- Some students need to peak before they are able to calm themselves down.
- Some students appear to escalate very quickly once in a medium state of distress and there is not enough time to redirect them.
- Some students respond to support via relationships to calm themselves before they peak.
- Some students may hover on the threshold between peak and high and can never quite resolve their distress.
- Learning only takes place when students feel calm and safe.
BMP Step by Step

- Collect data by making careful observations of students you are writing a plan for
- Try and locate a trigger and observe a cycle of behavior
- Describe the cycle of behavior
- Cycles build until they reach peak behaviors
- What is a peak behavior for you? Describe what this looks like and what gets you there.
- Exercise: Identify a cycle of student behavior and map it.
Cycle example

- Trigger: reading and writing task
- Body language is withdrawn; head down on the desk slouching and looking disengaged
- Begins swearing and taunting others in the form of a joke
- Starts complaining about the task and refusing cooperation
- Begins targeting and annoying others
- Builds to bullying and victimizing students who respond to taunts with a negative response
Common Triggers

- Transitions between activities
- Tone of voice
- Noise levels
- Rejection by peers
- Academic tasks
- Direct Instruction
- Being Punitive
Map The cycle

- Using the BMP framework enter the cycle of behavior into the template Example

- Trigger: Circle time group sharing

- Low Behavior: walking around the room

- Medium Behavior: lying on the floor and rocking to and fro

- High – Hysterical crying; tantrums and screaming; self stimulating activity
Students in your class

Using the data provided today of students in your room

- Identify a cycle of behavior linked to triggers
- Identify strategies that work to support de-escalation
- Share information to create a student well being plans
Strategies: Diffusion and Re-Direction

- The use of diffusion and redirection techniques work to build opportunities for students to calm themselves without being punished. These activities help promote the child’s self-soothing.

- Using these opportunities extensively helps to maintain connections and builds the foundation relationship which is the key tool for student management. “Time In rather than Time Out”
Some Examples

- Change of activity in the classroom
- Using a sense of humour to break the tension
- Directing student to the person they have the best relationship with to help refocus them
- Physical activity like jumping on a trampoline
- Practical learning task like cooking or gardening
Strategies: Being Intentional

- Be conscious of your emotional responses and show calm non-punitive mode of interaction to children.

- The most challenging part of UPR is to respond to a supportive and controlled manner to children to display the following features:
  - Power struggles and need for control
  - Angry outbursts that build to a peak
  - Resistance to routine and refusal to comply with structure
Strategies:
Avoid use of direct instructions

It is our responsibility as professionals not to deliberately trigger students.

Example: The most common trigger for students is making demands on students.

Commanding students to sit down and get on with their work will often result in the opposite behaviour.

Come and join us at the table we, we are waiting for your to start.

Exercise: Think of some examples of indirect instruction.
- **Playfulness:** Fun game, or joke with student.

- **Acceptance:** If you find it hard to work on your table you can work in a different place in the room.

- **Curiosity:** I wonder why you don’t like getting changed for swimming?

- **Empathy:** A summarizing comment that reflects student feeling is an empathic response.” You seem very annoyed when I ask you to help with packing up.”
Role Play

- Using the PACE model role play a difficult teacher student interaction taking turns.

- Practice the full range of PACE alternatives.

- Reflection: As the recipient of a PACE response how do you feel?
Conclusion

At the end of this training each class will have a plan for student(s) who present with high levels of anxiety and dysregulation.

These plans should be used to guide practise and help staff work together to meet the emotional needs of students.
Further References

- http://www.lfcc.on.ca/mccain/perry.pdf
- http://www.acrf.org/Self-StudyCourses/neglectcourse/LessonTwoPrintable.htm
- http://www.curledup.com/boyasdog.htm
- http://www.youtube.com/watch?v=UmmRubMv9iY&feature=related
- http://www.childtrauma.org/