Four main points

1. FASD is an invisible, brain-based *physical* disability with behavioural symptoms

2. Standard ways of dealing with behaviours target symptoms; a Neurobehavioural approach recognizes their source

3. Reframing behaviours and shifting from symptoms to source redefines problems and solutions in a manner consistent with research

4. **IT WORKS!** – and is applicable to any brain-based differences
Let’s consider what our brain does for us every day…

What did your brain have to do from the time you woke up so you could make it to this workshop?

We do all these things WITHOUT THINKING!

What if…

…someone has a hard time with even only one of these tasks?…
Foundation of the Neurobehavioral Model

Research has shown the following:

1. Alcohol, drugs, other teratogens, and trauma impact cell growth and cause physical changes in the brain.
2. Physical changes affect the structure and function of the brain.
3. Behaviors are usually the only symptoms.
4. FA/NB is an invisible brain-based physical disability (as currently defined by science).

If we agree FA/NB is an invisible PHYSICAL condition

Then Providing accommodations for people with FA/NB is as appropriate, effective and ethical as providing accommodations for people with other physical disabilities.
Specific points about FASD

1. FASD is the leading cause of birth defects and developmental and learning disabilities worldwide. Mathers, Wiles, & O’Brien, 2015

2. 90-95% FASD still not diagnosed. Chasnoff et al., 2015

3. 1.5/1,000 = FAS (facial features require alcohol exposure between days 15-18 of gestation). Canadian terminology: FASD with SFF Riley, 2011

4. 1.1 – 5.0% births = FASD in US (conservative prevalence). May, 2018

5. FASD without facial features at greater risk

Specific points about FASD – cont’d

6. 86% of all people drink, 45% pregnancies unplanned. NIAAA, 2018

7. Up to 39% - 86% of all pregnancies possibly exposed alcohol

8. Average IQ 74; range 20-130

9. Epigenetics research, paternal effects
FASD is an invisible brain-based condition

Most often, there are no facial features...

Different source, similar symptoms?

- alcohol
- other drugs
- tobacco
- ABI
- genetics
- illness
- trauma

Brain function
- Memory problems
- Executive functioning
- Processing
What if?...

What if *how* the brain works *(or works differently)* has something to do with the behaviors you are observing?...

All Brains are Different:

*Neurodiversity!*
Linking Brain Function with Behaviors

Primary Characteristics and Secondary and Tertiary Symptoms

FA/NB are invisible *physical* disabilities

Brain changes = Behavioral changes
Behaviors directly associated with differences in brain structure and function

**Strengths** are also Primary Characteristics

Source: Ann Streissguth, 1996

1. Developmental level of functioning
2. Sensory systems
3. Nutrition
4. Language and communication
5. Processing pace
6. Learning and memory
7. Abstract thinking
8. Executive functioning
9. Strengths
9. Strengths

Strengths and Interests

- Creative
- Artistic
- Mechanical
- Musical
- Willing
- Athletic, hard working, determined, persistent
- Others?
Secondary Symptoms of FA/NB

Secondary defensive behaviors develop over time when there is a “poor fit”

Defensive behaviors are normal reactions to pain and frustration and can be prevented, reduced or resolved

Adapted from: Ann Streissguth, 1996
“Everybody is a genius, but if you judge a fish by its ability to climb a tree, it will spend its whole life believing it’s stupid…” - Albert Einstein

Secondary Behavioral Symptoms

- Easily tired, fatigued
- Anxious
- Lonely, isolated
- Shut down; flat affect
- Fearful, withdrawn
- Depressed
- Frustrated, short fuse, angry
Examples of Poor fit

<table>
<thead>
<tr>
<th>FA/NB Characteristic</th>
<th>Strategy / Expectation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Visual learner</td>
<td>Verbal instruction</td>
</tr>
<tr>
<td>Processes slower</td>
<td>Fast paced</td>
</tr>
<tr>
<td>Needs external support</td>
<td>Work independently</td>
</tr>
<tr>
<td>Difficulty organizing</td>
<td>Organize, prioritize</td>
</tr>
<tr>
<td>Concrete</td>
<td>Abstract</td>
</tr>
</tbody>
</table>
Poor Fit = Problems

Tertiary Symptoms of FA/NB

Are the net result of a *chronic* poor fit, failure, isolation and alienation:

- Trouble in school
- Social services involvement
- Involvement with justice
- Homelessness
- Addictions/mental health issues, suicide

*Like secondary symptoms, tertiary symptoms can be prevented, reduced or resolved*
Fit between technique and ability

Strategy example: Talking

Assumption about Brain Function:
- Store information / memory
- Retrieve information
- Make links
- Abstract
- Generalize
- Predict
- Process quickly

Common brain differences associated with FA/NB:
- Difficulty with memory
- Difficulty retrieving information
- Difficulty forming links
- Concrete
- Difficulty generalizing
- Difficulty predicting
- Processes slowly

Good fit: Accommodations

FA/NB Characteristic
- Visual learner
- Processes slower
- Needs external support
- Difficulty organizing
- Concrete

Accommodation
- Provide visual cues
- Allow adequate time
- Provide supports
- Provide structure
- Teach experientially, build on strengths

FASCETS
Examples of Success

- Artist, musician
- Warehouse person
- Electrician
- Boat builder
- Mechanic
- Child care worker
- Animal rescue worker
- Drummer
- Dancer
- Office worker
- Special ed. teacher
- Counselor
- Massage therapist
- Truck driver
- Husband, wife
- Delivery person
- Parent
- Adult care worker

Creating a good fit

A systematic approach to developing person-specific accommodations in all settings
### Accommodations Grid

**Setting:** Home  
**Chronological Age:** 17

<table>
<thead>
<tr>
<th>1</th>
<th>Task or Expectation</th>
<th>2</th>
<th>Brain has to</th>
<th>3</th>
<th>Primary symptoms</th>
<th>4</th>
<th>Devel. Age (estimate)</th>
<th>5</th>
<th>Secondary Behaviors</th>
<th>6</th>
<th>Strengths</th>
<th>7</th>
<th>Accommodations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clean Your Room</td>
<td>Understand concepts</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
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<tr>
<td></td>
<td>Have visual closure</td>
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<td>Remember</td>
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<td></td>
<td>Control impulse</td>
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<tr>
<td></td>
<td>Filter stimulus</td>
<td></td>
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</tr>
</tbody>
</table>

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31

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32

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16
# Accommodations Grid

**Setting:** \underline{Home}  \hspace{2cm} **Chronological Age:** \underline{17}

<table>
<thead>
<tr>
<th>Task or Expectation</th>
<th>Brain has to</th>
<th>Primary symptoms FA/NB</th>
<th>Devel. Age (estimate)</th>
<th>Secondary Behaviors</th>
<th>Strengths</th>
<th>Accommodations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clean Your Room</td>
<td>Understand concepts</td>
<td>Gets piece not picture</td>
<td>Poor memory</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Have visual closure</td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td></td>
<td>Remember</td>
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</tr>
<tr>
<td></td>
<td>Control impulse</td>
<td></td>
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<td></td>
</tr>
<tr>
<td></td>
<td>Filter stimulus</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Primary symptoms:**
- FA/NB

**Secondary Behaviors:**
- Anger
- Frustration
- Learns by being shown
- Likes to be & play with others

**Strengths:**
- Lears by being shown
- Likes to be & play with others
# Accommodations Grid

**Setting:** _Home_  
**Chronological Age:** _17_

<table>
<thead>
<tr>
<th>1 Task or Expectation</th>
<th>2 Brain has to</th>
<th>3 Primary symptoms FA/NB</th>
<th>4 Devel. Age (estimate)</th>
<th>5 Secondary Behaviors</th>
<th>6 Strengths</th>
<th>7 Accommodations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clean Your Room</td>
<td>Understand concepts</td>
<td>Gets piece not picture</td>
<td>9 Anger Frustration</td>
<td>Learns by being shown Likes to be &amp; play with others</td>
<td>Work together</td>
<td>Take photos of clean room Make it a game</td>
</tr>
<tr>
<td></td>
<td>Have visual closure</td>
<td>Poor memory</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Remember</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Control impulse</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Filter stimulus</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Creating a good fit = ↓ Frustration & “Behaviors”

- Equal ≠ Fair

Accommodations Grid

<table>
<thead>
<tr>
<th>Setting: Treatment</th>
<th>Chronological Age: 28</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1 Task or Expectation</strong></td>
<td><strong>2 Brain has to</strong></td>
</tr>
<tr>
<td>Cognitive behavioral techniques</td>
<td>Analyze</td>
</tr>
<tr>
<td></td>
<td>Concrete</td>
</tr>
<tr>
<td><strong>3 Primary symptoms FA/NB</strong></td>
<td><strong>4 Devel. Age (estimate)</strong></td>
</tr>
<tr>
<td></td>
<td>14</td>
</tr>
<tr>
<td><strong>5 Secondary Behaviors</strong></td>
<td><strong>6 Strengths</strong></td>
</tr>
<tr>
<td>May not finish assignments</td>
<td>Artistic</td>
</tr>
<tr>
<td></td>
<td>Experiential</td>
</tr>
<tr>
<td><strong>7 Accommodations</strong></td>
<td><strong>Art, drama, music</strong></td>
</tr>
<tr>
<td></td>
<td>Relationship</td>
</tr>
<tr>
<td></td>
<td>Role Modeling</td>
</tr>
<tr>
<td></td>
<td><strong>Art, drama, music, poetry</strong></td>
</tr>
<tr>
<td><strong>Communicate</strong></td>
<td><strong>Process language</strong></td>
</tr>
<tr>
<td>Slow processing pace</td>
<td><strong>12</strong></td>
</tr>
<tr>
<td><strong>Anger Frustration</strong></td>
<td><strong>Determined Creative</strong></td>
</tr>
<tr>
<td><strong>Apply new knowledge</strong></td>
<td><strong>Store info Retrieve info Generalize</strong></td>
</tr>
<tr>
<td><strong>Difficulty generalizing</strong></td>
<td><strong>16</strong></td>
</tr>
<tr>
<td><strong>Defensive Relational</strong></td>
<td><strong>Teach in different settings Use mentor</strong></td>
</tr>
</tbody>
</table>
### Accommodations Grid

**Setting:** Justice System  
**Chronological Age:** 25

<table>
<thead>
<tr>
<th>1 Task or Expectation</th>
<th>2 Brain has to</th>
<th>3 Primary symptoms FA/NB</th>
<th>4 Devel. Age (estimate)</th>
<th>5 Secondary Behaviors</th>
<th>6 Strengths</th>
<th>7 Accommodations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Understand rights</td>
<td>Understand abstractions</td>
<td>Difficulty with abstractions</td>
<td>12</td>
<td>Compliance</td>
<td>Concrete, Literal</td>
<td>Simplify.</td>
</tr>
<tr>
<td>Show up for court dates or appointments</td>
<td>Plan, manage time</td>
<td>Difficulty with executive functions, planning</td>
<td>14</td>
<td>Denial, Defense, Blame</td>
<td>Willing, Relational</td>
<td>Utilize supports to prevent problems</td>
</tr>
<tr>
<td>Comply with orders</td>
<td>Remember, generalize</td>
<td>Poor memory, difficulty generalizing</td>
<td>15</td>
<td>Breach, Anger, Avoidance, Aggression</td>
<td>Determined, Persistent</td>
<td>Reduce number of tasks Show rather than tell</td>
</tr>
<tr>
<td>Learn from mistakes</td>
<td>Store, retrieve, apply information, inhibit impulses</td>
<td>Difficulty, retrieving, applying information, impulsive</td>
<td>10</td>
<td>Re-offense</td>
<td>Wants to please</td>
<td>Establish informed networks to prevent problems</td>
</tr>
</tbody>
</table>

### Accommodations Grid

**Setting:** Fast Food Restaurant  
**Chronological Age:** 26

<table>
<thead>
<tr>
<th>1 Task or Expectation</th>
<th>2 Brain has to</th>
<th>3 Primary symptoms FA/NB</th>
<th>4 Devel. Age (estimate)</th>
<th>5 Secondary Behaviors</th>
<th>6 Strengths</th>
<th>7 Accommodations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Greet customers</td>
<td>Socially appropriate Friendly</td>
<td>Friendly Outgoing</td>
<td>15</td>
<td>None: good fit for the task</td>
<td>Friendly, Hands-on learner</td>
<td>Increase customer contact</td>
</tr>
<tr>
<td>Take and enter order in cash register</td>
<td>Multitask Process quickly Communicate Make links Remember</td>
<td>Difficulty multitasking Slower processing</td>
<td>12</td>
<td>Anxiety, Frustration, Agitation, Quit</td>
<td>Hard worker, Does one thing at a time very well</td>
<td>Have employee greet customers and fill orders</td>
</tr>
<tr>
<td>Count change</td>
<td>Able to abstract, Understand money</td>
<td>Difficulty counting change accurately</td>
<td>11</td>
<td>Anger, Frustration, Less polite to co-workers</td>
<td>Good at filling orders</td>
<td>Reassign tasks</td>
</tr>
</tbody>
</table>
Starter strategies for accommodations: Home, School and Community

1. Think brain: Reframe perceptions
2. Observe patterns of behaviors
3. Identify, **build on strengths**
4. *Write the IEP for the environment*: Modify environments for a good “fit”
5. Collaborate, coordinate, communicate

---

More Starter Strategies

1. Stop fighting, step back
2. Ask
3. Slow down, give time
4. Think younger
5. Observe, adapt
6. Show, repeat
7. Prevent
8. Breathe. Deeply
9. **Be gentle with yourself**
Who is the person?
Accommodations based on strengths & needs

<table>
<thead>
<tr>
<th>IF</th>
<th>THEN</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dysmature</td>
<td>Think Younger</td>
</tr>
<tr>
<td>Slow Processing</td>
<td>Slow Down</td>
</tr>
<tr>
<td>Memory Problems</td>
<td>Provide Assists</td>
</tr>
<tr>
<td>Difficulty Planning</td>
<td>Simplify</td>
</tr>
<tr>
<td>Impulsive</td>
<td>Assure Safety</td>
</tr>
<tr>
<td>Difficulty Abstracting</td>
<td>Keep It Concrete, Specific</td>
</tr>
</tbody>
</table>

Paradigm: Way of seeing
Paradigm shift: Seeing differently

“I get it…she has the disability. We have to do the changing”.

Source: Parent of child with FASD
Paradigm Shifts and FASD
(pre & post survey of parents)

**From:**
- Won’t
- IS the problem
- Doesn’t work
- Acts immature
- Doesn’t try

**To:**
- Can’t
- HAS a problem
- Has trouble starting
- Is dysmature
- Tired of failing

Reframing: Emotional shifts

**From:**
- Confusion
- Anger
- Frustration
- Reactivity

**To:**
- Understanding
- Compassion
- Acceptance
- Proactivity
Certified Facilitators of the FASCETS NB Model

Tami Eller
teller@alaska.edu
907-264-6278

Karen Lomack
karenl@stonesoupgroup.org
907-561-3701

FASCETS
www.fascets.org
info@fascets.org