The Ziggurat Model
Designing Comprehensive Behavior Interventions for Students with ASD

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The Ziggurat Model

Characteristics
- Social
- Communication
- Repetitive Patterns
  - Associated Features
  - Sensory
  - Motor
  - Cognitive
  - Emotional Vulnerability
  - Medical and Biological Factors

Interventions
- Skills to Teach
- Task Demands
- Structure and Visual / Tactile Supports
- Reinforcement
- Sensory Differences and Biological Needs
5 Steps to Designing a Comprehensive Intervention Plan

1. Characteristics
2. Design
3. Implementation

Underlying Characteristics Checklist

- Helps you to "see" the autism
- Provides a "snapshot" of how autism is expressed for an individual
- A descriptive instrument
- Can be completed by a team
- Provides a tool for assessing progress/change
Individual Strengths and Skills Inventory

Social
Behavior, Interests, and Activities
Communication
Sensory
Cognitive
Motor
Emotional
Biological

Skills to Teach
Task Demands
Structure and Visual /Tactile Supports
Reinforcement
Sensory Differences and Biological Needs

"The last thing one knows in constructing a work is what to put first”
-Blaise Pascal

Sensory Differences and Biological Needs
Sensory Differences and Biological Needs

- Provide a sensory diet
- Monitor and address environmental stressors:
  - Sound, light, proximity/personal space, textures
- Movement needs

- Monitor and address:
  - Appetite/hunger
  - Arousal/activity level (e.g., fatigue, hyper)
  - Posture and movement
  - Medical needs

Sensory Issues

- Asperger Syndrome
- Sensory Issues

Sensory Issues

- Smell
- Taste
- Touch
- Visual Input
- Auditory
- Vestibular (balance)
- Proprioception (body awareness)
Children with AS have more difficulties with modulation and emotional reactivity when compared to their counterparts with autism.

Emotional Reactivity
- Displays emotional outbursts when unsuccessful
- Is stubborn or uncooperative
- Often gets "stuck" in a situation
- Is overly sensitive
- Reacts overtly when sensory systems needs are not met

Sensory Diet Is ...
- A planned and scheduled activity program designed to meet a child’s specific sensory needs (Yack et al., 1998)
- Incorporates naturally occurring opportunities for children to get the sensory stimulation they need (Willbarger, 1995)
Sample Sensory/Motor Interventions

How Long Does it Last?

- Tactile: 1 to 1 1/2 hours
- Vestibular: 4 to 8 hours
- Proprioception: Up to 1 1/2 hours
- Auditory, Gustatory, Transitory & Olfactory:

Sensory - Key Points

- Sensory dysfunction influences all aspects of an individual's life.
- There are seven types of sensory dysfunction
- Interventions need to occur in ALL of the individual's environments.
- Assessments must be completed and interventions must be supervised by a trained occupational therapist.

Brenda Smith Myles
Coping Cards

Take 2 deep breaths with your eyes closed

Press hands together and count to 10 slowly

Amy Bixler, 2006

Reinforcement

“If you do not have good reinforcers and are not working to establish them, you might as well just go home”

-Leaf & McEachin

Reinforcement Reminders

Reinforcement increases the likelihood of a behavior

“The way positive reinforcement is carried out is more important than the amount”

-B.F. Skinner
Reinforcement Reminders

- Involve students/clients in the process of selecting reinforcers
- Start with high rate of reinforcement for new skills
- Use variable rate of reinforcement for maintenance
- Reinforce practice
- Reinforce prompted behavior
- Reserve some reinforcers to maintain their effectiveness

"You may not have to look any further than your child’s special interest to find the perfect reward”

-Sakai, 2005, p. 52

Shawn’s Daily Reinforcer Menu

- Video
- Game with peer
- Book about plants
- Feeding/watering plants
- Internet on plants
- Shelf books in library
- Work on plant project
- Walk
- Other (specify) ________________
Reinforcement Menu

My School Rewards
- 10 minutes of reviewing baseball statistics in personal magazines/books
- 15 minutes to research on the internet on baseball/sports statistics/events
- Time to browse books in the school library

Amy Bixler, 2006

Home Reinforcement Menu

My Home Rewards
- 30 minutes of time to browse the web
- Trip to local baseball card store
- 30 minutes of video games

Amy Bixler, 2006

“And it is best if you know a good thing is going to happen, like an eclipse or getting a microscope... And it’s bad if you know a bad thing is going to happen like having a filling or going to France. But I think it is worst if you don’t know whether it is a good thing or bad thing which is going to happen.”

- From: The Curious Incident of the Dog in the Night Time, by Mark Haddon, 2003
"I like everything still. It gives you a full feeling. It gives you a full attention. With something quick, you don't get the full idea of it. With something still, you take a look at it and you get to know the whole look and feeling"
-Warden from Rage for Order (BBC, 1996)

**Structure and Visual/Tactile Supports**

**Common Misperceptions**
- If an individual can read then he/she does not need pictures or symbols
- He's in high school, he does not need an individualized schedule
- I can stop using a visual schedule once my client learns the routine
- If an individual has not looked at his/her schedule in three weeks he/she does not need it anymore

**Visual Schedules**
- Highly structured environments – provide an opportunity for those with ASDs to succeed
- Increased predictability and understanding results in:
  - Decreased problem behavior
  - Increased independence

Visual Schedules

Research on visual schedules shows that they are:
- Effective across age ranges
- Effective across settings

Visual Schedules

Schedules are effective in decreasing:
- Off-task behaviors
- Disruptive behavior
- Noncompliance
- Aggression
- Tantrums
- Property destruction

Visual Support

Choiceworks
BeeVisuals
Morning Checklist

<table>
<thead>
<tr>
<th>Check</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>√</td>
<td>Put away backpack</td>
</tr>
<tr>
<td>√</td>
<td>Make lunch selection</td>
</tr>
<tr>
<td></td>
<td>Complete helper chart</td>
</tr>
<tr>
<td></td>
<td>Turn in homework</td>
</tr>
<tr>
<td></td>
<td>Take out journal</td>
</tr>
<tr>
<td></td>
<td>Pick reward from your menu</td>
</tr>
</tbody>
</table>

Stress Thermometer

- When my Lego toys fall apart
- When I have hard homework
- Putting stuff in my backpack after bus arrives

Video-Based Instructional Procedures

- **Video Modeling**
  - video of someone completing the task
  - well validated behavioral intervention

- **Video Prompting**
  - video of each step (often from the perspective of the participant) with opportunity to complete each step
  - rapid skill acquisition in daily living skill study

How to Make Popcorn

- Open plastic bag
- Unfold bag

Cartooning

- Combines words with simple drawings in order to explain a simple concept

Case Study

- Chad
Chad

Chad’s Selected UCC Items

[9] Difficulty understanding others’ nonverbal communication
[14] Has eccentric or intense preoccupations
[18] Has problems handling transition and change
[19] Has strong need for closure
[24] Interprets words literally

[52] Displays poor problem-solving skills
[80] Exhibits “meltdowns”
[85] Has low frustration tolerance
[87] Difficulty identifying and expressing emotions
[89] Difficulty managing stress and/or anxiety

Intervention Ziggurat

Sensory Differences and Biological Needs
UCC Items Addressed

80] Exhibits “meltdowns”
85] Has low frustration tolerance
89] Difficulty managing stress and/or anxiety

Intervention Ziggurat

Reinforcement

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Books about Trains

UCC Items Addressed

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Intervention Ziggurat

Structure and Visual/Tactile Supports

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Hokey Pokey

- Get in circle
- Follow the words to the music
- Sing one verse for each student
- Sit on square

Chad’s Selected UCC Items

- [18] Has Problems handling transition and change
- [19] Has strong need for closure
- [24] Interprets words literally
- [80] Exhibits “meltdowns”

Intervention Ziggurat
First-Then

First Then

Chad’s Selected UCC Items

[18] Has Problems handling transition and change
[19] Has strong need for closure
[24] Interprets words literally
[80] Exhibits “meltdowns”

Prime - Words and Their Meaning

Word Meaning
- One more time Everyone gets one more turn
- Just a minute In a little while
- “Button your lips” No talking
- Lunch is at 11:00 Around 11:00
Chad’s Selected UCC Items

[18] Has Problems handling transition and change

[19] Has strong need for closure

[24] Interprets words literally

[80] Exhibits “meltdowns”

Intervention Ziggurat

Skills to Teach

Feeling Anxious

Sometimes our bodies help us to know when we are stressed and need a break. When Thomas is anxious, his face turns red and he does not look at others. His mouth turns down in a frown. Sometimes, when you think that something is wrong, your body shows signs too. You clinch your fists, stiffen your body, and frown. Your face turns red. When you feel your body do this, it is a sign that you are anxious and need a break.
Chad’s Selected UCC Items

[52] Displays poor problem-solving skills
[80] Exhibits “meltdowns”
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