An Introduction to
The Ziggurat Model

Ruth Aspy, Ph.D., and Barry G. Grossman, Ph.D.
The Ziggurat Group

Overview of Day

- Introduce the Ziggurat Model
- Underlying characteristics
- Five levels of intervention
- Three points of intervention
- Case scenarios
- Participants complete UCC

Ziggurat

(zig-gu-rat) from Assyrian ziqqurat, height, pinnacle

1. a temple having the form of a terraced pyramid of successively receding stories, erected by the ancient Assyrians and Babylonians
2. a framework for designing comprehensive interventions for individuals with autism spectrum disorders

Why was the Ziggurat Model Developed?

- Difficulty “Seeing the Autism”
- Tendency to apply one strategy to address all needs
- Tendency to ignore critical areas when designing an intervention

Intervention Ziggurat

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

Characteristics

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

Interventions

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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

The Ziggurat Model
- Sensory and Biological Needs
- Reinforcement
- Structure and Visual / Tactile Supports
- Task Demands
- Skills to Teach

Components of the Ziggurat Model
- Assessment Tools
  - Underlying Characteristics Checklist (UCC) & Individual Strengths and Skills Inventory (ISSI)
  - ABC-Iceberg
  - Intervention Ziggurat (Ziggurat Worksheet)
- Implement interventions at five levels and three points
- Evaluate outcomes and adjust

Two pathways to intervention using the Ziggurat Model
- General
- Specific

General Intervention Plan
1. UCC
2. Intervention Ziggurat (Ziggurat Worksheet)
3. CAPS

Specific Behavior Plan
1. UCC
2. ABC-Iceberg
3. Intervention Ziggurat (Ziggurat Worksheet)
4. CAPS
Underlying Characteristics Checklist

**UCC-HF and UCC-CL**

- Provides a "snapshot" of how autism is expressed for an individual
- A descriptive instrument
- Can be completed by multiple respondents
- Provides a tool for assessing progress/change

**The UCC Areas**

- Social
- Restricted Patterns of Behavior, Interests, and Activities
- Communication
- Sensory Differences
- Cognitive Differences
- Motor Differences
- Emotional Vulnerability
- Known Medical or other Biological Factors

**UCC-HF for HFA and AS**

[Image of UCC-HF form]

**UCC-CL for Autistic Disorder**

[Image of UCC-CL form]

**Individual Strengths and Skills Inventory**

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

**ABC-Iceberg**

- Assesses patterns of behavior with an understanding of the characteristics of ASDs
- Adapted from functional behavioral assessment and the iceberg metaphor
- Prevents a "band aid" approach to intervention
- Prevents punitive approaches
Specific Behaviors Underlying Characteristics*  ____________________________

Interventions Based on Underlying Characteristics

Hypothesized Function: Gain access to preferred activity

Interventions based on FBA
- Reinforce Rick for 3 minutes without flapping hands
- Remove sticks from Rick
- Reward for playing with peers
- Create a “play schedule” for Rick to structure his recess time

Interventions Based on Underlying Characteristics

FBA Compared to ABC-I

<table>
<thead>
<tr>
<th>FBA Intervention</th>
<th>ABC-I Interventions</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Reinforce Rick for 3 minutes without flapping hands</td>
<td>• Provide sensory diet</td>
</tr>
<tr>
<td>• Remove sticks from Rick</td>
<td>• Provide written script for joining play and greetings</td>
</tr>
<tr>
<td>• Reward for playing with peers</td>
<td>• Reinforce for using conversational skills</td>
</tr>
<tr>
<td>• Create a “play schedule” for Rick to structure his recess time</td>
<td>• Train and assign peer buddy</td>
</tr>
<tr>
<td></td>
<td>• Teach one or two playground games</td>
</tr>
</tbody>
</table>
Sensory Differences and Biological Needs

Sensory Issues
- Smell
- Taste
- Touch
- Visual Input
- Auditory
- Vestibular (balance)
- Proprioception (body awareness)

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.

Reinforcement

Reinforcement Reminders
- Reinforcement increases the likelihood of a behavior.
- "The way positive reinforcement is carried out is more important that the amount" - B.F. Skinner
Intervention Ziggurat

Task Demands

Changing the Environment to Match Needs

"... a shift from viewing behavior support as a process by which individuals were changed to fit environments, to one in which environments are changed to match the behavioral needs of people in the environments"


Everything Needs to Be Adapted

"Almost everything we think, do, say, and plan needs to be adapted"

-Gill, 2003, p. 200

Video

- Video modeling
- Self
- Peers
- Identify emotional states in others
- Predict reactions in others
- Video with feedback

Intervention Ziggurat

Skills to Teach
The Seemingly Obvious

- What is it about the situation that comes naturally to everyone else but is missing for this person? Why is it that others do not show the same behavior?

- What is it that has not occurred to me to teach?

*That* is the seemingly obvious. *That* is the thing to teach.

The Hidden Curriculum

Locker room rules
- If there are people taking showers or changing their clothes, do not stare at them or make comments about their bodies
- It is not appropriate to touch others in the restroom or shower
- Change into your P.E. clothes in the locker room, not the hallway.

Myles, Trautman, Schelvan, 2004, p.55

Intervention Ziggurat

Skills to Teach
- Task Demands
- Structure and Visual/Tactile Supports
- Reinforcement

Sensory Differences and Biological Needs

Creating A Global Intervention Plan

General Intervention Plan

1. UCC
   - Characteristics
2. Intervention Ziggurat (Ziggurat Worksheet)
   - Intervention Design
3. CAPS
   - Implementation

Michael-Background Information and Individual Strengths and Skills

- 15 year-old sophomore
- Diagnosed with AS
- General education with organizational support
- Intelligent
- Excellent rote memory
- Fascinated with sports statistics

Amy Bixler, 2006
Michael - School Challenges

- Makes Cs due to not turning in assignments
- Socially isolated
- Dominates conversations
- Frequently asks off-topic questions and makes irrelevant comments
- Frequently disciplined for interrupting

Michael - Gym

- Anxious
- Agitated
- Bothered by noise level
- Argues with teacher
- Sits out on sidelines
- Complains that others intentionally hurt him
- Leaves the gym

Designing a Global Intervention

1. List prioritized UCC areas of concern
2. Select UCC items to address
3. Develop interventions for each level of the Ziggurat
4. Ensure that intervention is complete

1. UCC Areas

- Social
- Restricted Patterns
- Communication
- Sensory Differences
- Cognitive Differences
- Motor Differences
- Emotional Vulnerability
- Known Medical/Biological Factors

1. Prioritize UCC Areas: Questions to Consider

- What are the short-term/long-term goals?
- In what settings does the individual function?
- Which UCC areas have the greatest impact on the ability to function in multiple settings?

1. Prioritize UCC Areas: Questions to Consider

- Which UCC areas would have the greatest impact on increasing independent functioning?
- Which UCC areas would have the greatest impact on his/her sense of well-being?
1. Michael - Prioritized UCC Areas

- What are the short-term/long-term goals?
  
  **Short-term**
  - To build friendships
  - Increase compliance (e.g., complete homework, follow PE rules)
  
  **Long-term**
  - Attend college

- In what settings does the individual function?
  - General education setting (e.g., gym, cafeteria, classroom)
  - Special education setting
  - Home

- Which UCC areas have the greatest impact on the ability to function in multiple settings?
  - Social
  - Communication
  - Emotional Vulnerability

- Which UCC areas would have the greatest impact on increasing independent functioning?
  - Cognitive

- Which UCC areas would have the greatest impact on his/her sense of well-being?
  - Sensory
  - Social

Michael - Global Intervention

1. Prioritize Areas of Concern from UCC

- Social
- Communication
- Sensory
- Cognitive
- Emotional Vulnerability

Designing a Global Intervention

1. Prioritize UCC areas of concern
2. Select UCC items to address
3. Develop interventions for each level of the Ziggurat
4. Ensure that intervention is complete
2. Select UCC Items from Prioritized UCC Areas

- Which items have the greatest impact on the prioritized UCC areas of concern?
- Which UCC items address more pivotal underlying needs?
  - Look for needs that are “basic” and have the greatest impact (e.g., mindblindness vs. lacks tact)

2. Prioritize UCC Items for Michael-Global Intervention

- Social
  - #1, 9
- Communication
  - #25, 28, 39
- Sensory
  - #41, 42, 47
- Cognitive
  - #53
- Emotional Vulnerability
  - #89

Designing a Global Intervention

1. Prioritize UCC areas of concern
2. Select UCC items to address
3. Develop interventions for each level of the Ziggurat
4. Ensure that intervention is complete

3. Develop Interventions

Three different Entry Points

- Intervention
- UCC Item
- Ziggurat Level

Approaches to Completing the Ziggurat Worksheet - Intervention

1. Determine if the intervention addresses identified underlying needs
2. Determine which level(s) the intervention addresses
3. Write the specific need and intervention on the appropriate level(s)
Approaches to Completing the Ziggurat Worksheet – UCC Item

1. Develop intervention to address the identified underlying need(s)
2. Determine which level(s) the intervention addresses
3. Write the specific need and intervention on the appropriate levels(s)

Approaches to Completing the Ziggurat Worksheet – Ziggurat Level

1. Select the UCC item(s) to address
2. Develop intervention to address the identified underlying need(s)
3. Write the specific need and intervention on the appropriate levels(s)

4. Ensure that Intervention is Complete

Review worksheet:

- Addresses all five levels of the Ziggurat
- Several core underlying needs are addressed
- Intervenes at all three points A-B-C

Addresses All Five Levels

Design Interventions to Address Underlying Needs

Intervenes at All Three Points
Three Points of Intervention

**Antecedent**

**Behavior**

**Consequence**

### Antecedent Intervention - Michael
- Changing events that occur before behaviors of concern
  - Use calendar to break down large assignments into smaller parts with separate due dates
  - Provide list of conversational cues - keep list in binder
  - Narration
  - Use high interest activities to encourage social interactions

### Behavior Intervention - Michael
- Teach a skill
  - Relaxation techniques
  - Conversational manners
  - Different people have different interests
  - Starting conversations
  - Mind reading skills
  - Identify body cues that indicate stress
  - Problem solving skills

### Consequence Interventions - Michael
- Changing the events that occur after a behavior
  - Reinforcement
  - Feedback
  - Ignore
  - Prompt to use coping cards
  - Reinforce for using appropriate conversational manners
  - Reinforce for completion of homework checklist

### Intervention Ziggurat

- Sensory Differences and Biological Needs

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**Feeling Anxious**

All people feel anxious now and then. It is acceptable to feel anxious. Our bodies, thoughts, and actions can tell us when we are feeling anxious. Anxiety may look and feel different for different people. For some, they may feel it in their stomach... When I feel overwhelmed with the noise level in class or am very sensitive to others' touch, that might tell me that I am feeling anxious... I can use the relaxation techniques on my coping cards...
Coping Cards

Take 2 deep breaths with your eyes closed

Press hands together and count to 10 slowly

Amy Bixler, 2006

Intervention Ziggurat

Reinforcement

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

Intervention Ziggurat

Structure and Visual/Tactile Supports

Amy Bixler, 2006

Stress Thermometer

Triggers:
- People being mean
- Noisy places
- Forgetting assignments

Strategies:

No stress
Reminders When Asking a Question

- Make sure it is related to the topic.
- Make sure that it is an appropriate time to ask.
- Raise your hand and wait to be called on.
- After asking a question or making a comment, remember to let the teacher respond.
- Remember that others may have questions/comments. Limit yours to three per class.

Specific Behavior Plan

1. UCC
2. ABC-Iceberg
3. Intervention Ziggurat (Ziggurat Worksheet)
4. CAPS

Characteristics

Intervention Design

Implementation

Homework Checklist

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<thead>
<tr>
<th>Task</th>
<th>Language Arts</th>
<th>Math</th>
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Intervention Ziggurat

Task Demands

Skills to Teach

Intervention Ziggurat

Michael - Gym

- Anxious
- Agitated
- Bothered by noise level
- Argues with teacher
- Sits out on sidelines
- Complains that others intentionally hurt him
- Leaves the gym

Amy Bixler, 2006

Amy Bixler, 2006
As determined through the Underlying Characteristics Checklist © Ruth Aspy, Ph.D. and Barry G. Grossman, Ph.D.

**ABC-Iceberg Michael**

**Behavior**

Sore Loser

1. Complains that others hurt him
2. Argues with teacher
3. Not participating in sports
4. Stomps off and leaves gym

**Antecedent(s)**

- PE
- Increased noise level
- Contact Sports
- Conversation with coach

**Consequence(s)**

- Escapes activity
- Escapes noise
- Isolated from peers
- Private conversation with teacher

**Underlying Characteristics**

- #1. Mindblindness
- #5. No friends
- #9. Difficulty with nonverbal communication

**Specific Behaviors**

- #40. Responds in unusual manner to sounds
- #47. Avoids activities that provide touch, pressure, or movement
- #69. Has athletic skills deficits
- #74. Is easily stressed – worries obsessively
- #85. Has difficulty managing stress and anxiety
- #17. Seems to be unmotivated by customary rewards

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**Strengths of the Ziggurat Model**

1. Provides a process and framework for designing an intervention plan and is consistent with PBS/PBIS approach

   "Make everything as simple as possible but not simpler"
   
   - Albert Einstein

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**Autism Intervention Challenge**

- Autism Intervention Challenge Worksheet
- UCC-HF

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**Strengths of the Ziggurat Model**

2. Addresses underlying characteristics of ASD by utilizing strengths and building skills

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**Strengths of the Ziggurat Model**

3. Emphasizes and enhances evidence-based strategies
### Strengths of the Ziggurat Model

4. Facilitates comprehensive intervention design

5. Incorporates assessment
   - Underlying Characteristics Checklist
   - ABC Iceberg

6. Emphasizes positive approach/reinforcement

7. Facilitates the design of proactive interventions

8. Facilitates interdisciplinary interventions

9. Consistent with Positive Behavioral Interventions and Supports (PBIS) approach
   - Individualized
   - Evidenced based strategies
   - Comprehensive
   - Functional assessment
   - Skill development
   - Improves environment
   - Team building

Completing the Underlying Characteristics Checklist
UCC-HF or UCC-CL

Not a fine line. When in doubt, select the UCC-HF

UCC-HF or UCC-CL

Complete the UCC

Contact Information

Ruth Aspy, Ph.D.
aspy@texasautism.com
214-227-7741

Barry G. Grossman, Ph.D.
grossman@texasautism.com
214-227-7741

www.texasautism.com