



Supporting Students with Autism Spectrum Disorder in the Classroom

Caroline I. Magyar, Ph.D.
Associate Professor & Director
Rochester Regional Center for Autism Spectrum Disorder

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Learning Objectives

- Participants will increase knowledge of...
 - current school practices related to student achievement.
 - the effect of autism spectrum disorder (ASD) symptoms on school participation and engagement in learning.
 - the Multi-tiered Problem-solving Model (MTPS) to guide the selection of evidence-based supports and interventions.

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Current School Practice

- Several focus areas...
 - **Improve student achievement outcomes.*****
 - **Data-driven instruction.** ***
 - ASSESSMENT: *Identify* learning and behavior *problems early*.
 - INTERVENTION: Link assessment to *intervention*, use evidence-based methods.
 - Recruit, develop & retain quality teachers and administrators.
 - Identify and replicate effective school practices.

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Current School Practice

- Literature shows a relationship between the **instructional context** and **student achievement**.
 - Contexts that promote student participation and engagement are associated with better student achievement.
- Two elements of an effective instructional context.
 - Effective Behavior Supports.
 - Quality Instruction.

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ASD & LEARNING

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ASD & Learning

If the instructional context is designed to support participation & engagement then the student is more likely to learn and achieve.

Participation

+

Engagement

=

Learning/
Achievement

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ASD & Learning

- ASD characteristics and related conditions can affect participation and engagement.
- The student may show...
 - Functional communication impairments.
 - May not seek out and ask for assistance, instead may 'act out' when frustrated, challenged, or upset.
 - Restricted & repetitive behavior, interests & activities (RRB).
 - May prefer to engage in RRB instead of school work.

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ASD & Learning

- Student may show...
 - Attention and concentration problems.
 - May be off-task.
 - May have difficulty initiating & completing assignments.
 - Processing speed problems.
 - Difficulty combining information efficiently so may appear to be noncompliant.

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ASD & Learning

- Student may show...
 - Executive function problems.
 - Difficulty with planning, organizing and problem-solving.
 - Difficulty following classroom routine.
 - Working memory and other memory problems.
 - Difficulty remembering more than 1 or 2 things so may not be able to follow multi-step direction/instruction.

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ASD & Learning

- The student may show...
 - Emotional & Behavioral Problems/Conditions (EBD).
 - For example: Anxiety, depression, ADHD, Oppositional Defiant Disorder, Aggression, Property Destruction.
 - Academic learning problems.
 - Intellectual disability.
 - Scattered cognitive skills.
 - Specific learning disabilities.

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ASD & Learning

- One or more of these difficulties can lead to...
 - NON-COMPLIANCE.
 - Passive
 - Active
 - DISRUPTIVE BEHAVIORS.
 - Aggression (verbal, physical)
 - Elopement.
 - Tantrum or meltdown.
 - Property destruction.
 - Repetitive behavior.



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MULTI-TIERED PROBLEM-SOLVING MODEL (MTPS)

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Multi-Tiered Problem-Solving Model

- Problem-solving model used to improve participation and engagement.
 - Prevention oriented.
 - Ecological framework.
 - Assessment data from student and context is used to inform support/intervention plan.

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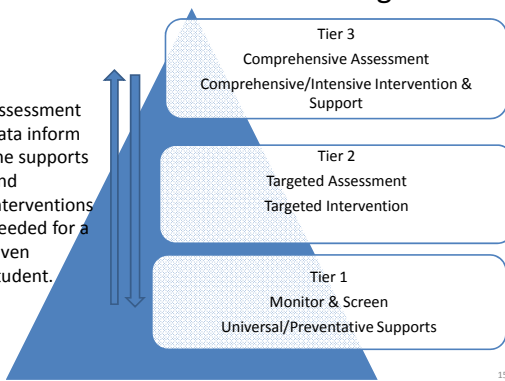
Multi-Tiered Problem-Solving Model

- Problem-solving model used to improve participation and engagement.
 - Applies the problem-solving process: data-based decision making.
 - Problem Identification
 - Problem Analysis
 - Intervention Planning
 - Implementation
 - Evaluation

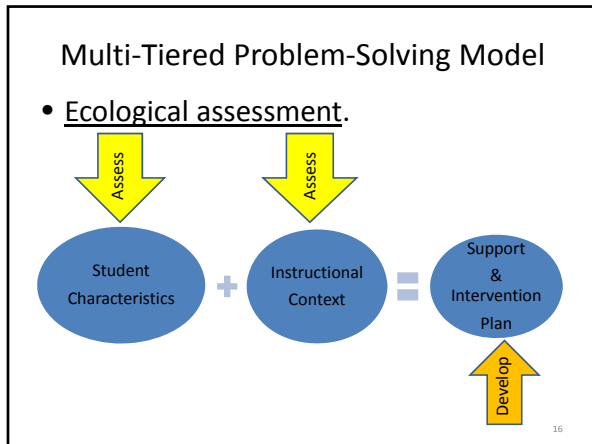
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Multi-tiered Problem-solving Model

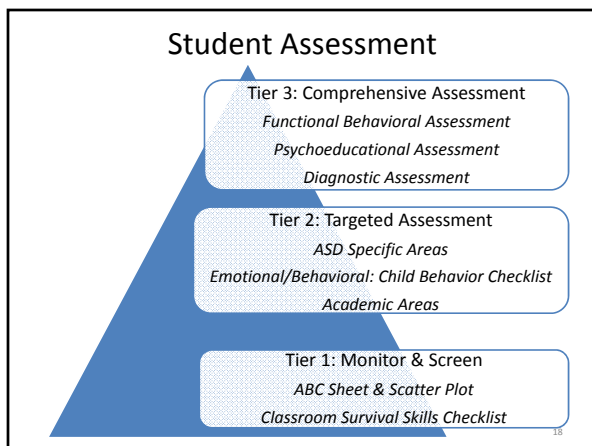
Assessment data inform the supports and interventions needed for a given student.

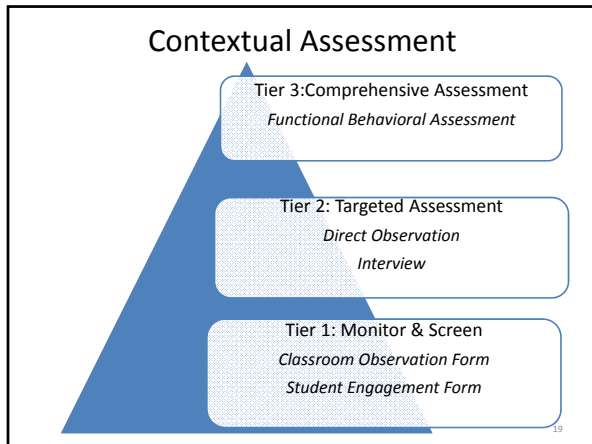


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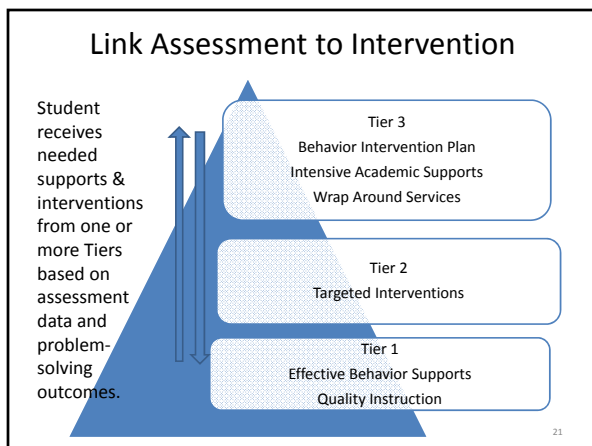
- ### Ecological Assessment
- | Student | Context |
|--|--|
| <ul style="list-style-type: none"> • ASD Characteristics. • Developmental levels. <ul style="list-style-type: none"> – Cognitive – Academic – Language – Social – Motor – Adaptive • Other Conditions. <ul style="list-style-type: none"> – Emotional – Behavioral – Medical | <ul style="list-style-type: none"> • Behavior Support System (Classroom Management System). <ul style="list-style-type: none"> – Expectations. – Reinforcement System. • Quality of Instruction. <ul style="list-style-type: none"> – Curriculums. – Methods, format, activities, pace. – Opportunities to respond (OTR) – Error Correction. – Evaluation system. |
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Link Assessment to Intervention

- Use assessment data to identify evidence-based supports and interventions needed for improving student participation and engagement.
- Evidence-based methods/interventions derived primarily from learning theories and developmental models.



Evaluate Student Response to Intervention

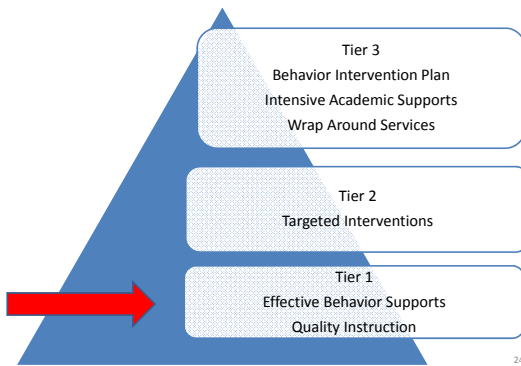
- Establish performance benchmarks.
 - Specific: based on the specific target behavior (s).
 - Global: based on global classroom functioning .
- On-going assessment of student response to supports/interventions
 - Problem-solve/adjust plan if not making progress.
 - May need additional assessment (targeted/comprehensive).

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TIER 1 SUPPORTS: ASD UNIVERSAL SUPPORTS

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Multi-Tiered Problem-Solving Model



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Effective Behavior Supports

*Classroom Management System
Communication Supports*

Evidence-Based Methods

- Effective classroom management systems incorporate a variety of evidence-based methods to prevent disruptive behavior and improve participation.
 - Antecedent-based interventions
 - Visual Supports
 - Reinforcement Schedules
 - Extinction
 - Response Interruption/re-direction

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Classroom Management System

- Establishes expectations for appropriate classroom participation.
- Teaches students the prosocial skills needed to meet the expectations.
- Reinforces students for displaying the prosocial skills & meeting expectations.
- Hierarchy of corrective actions to deal with disruptive behavior.

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Classroom Management System

- Developing an effective management system:
 - Behavioral Expectations (prosocial skills).
 - Posted and taught explicitly.
 - Reviewed, retaught, and error corrected throughout the day.
 - Differential Reinforcement of Appropriate Behavior (DRA) system.

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Classroom Management System

- Developing an effective management system:
 - High rates of reinforcement for meeting expectations/displaying prosocial behavior.
 - Gradient of corrective prompts for disruptive behavior.
 - Planned ignoring
 - Proximity
 - Corrective prompt
 - Corrective prompt + model skill
 - Corrective prompt + warning
 - Corrective prompt + 'intervention'

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Classroom Management System

- Regularly evaluate the effectiveness of the system on student behavior.
 - *Specific: ABC Sheet or other direct observation data sheet.*
 - *Global: Classroom Survival Skills Checklist (Magyar 2006/2010).*
- Problem-solve if ineffective.
 - Modify the system; and/or
 - Consider additional intervention (e.g., Tier 2) if the performance data indicate that a student is not responding as expected.

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Additional Behavior Supports

- May need to consider establishing additional behavior supports.
 - Group Attending & Participation.
 - Other classroom participation skills may need to be taught.
 - Tier 1 & 2
- Follow similar steps....
 - Define and teach skills.
 - Establish a reinforcement system to strengthen each skill.
 - Evaluate student response.

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Communication Supports

Communication Supports

- Social & functional communication supports will often be needed to...
 - Prevent disruptive behaviors.
 - Many disruptive behaviors are related to poor communication skills.
 - Improve participation and engagement.
- May also require targeted intervention (Tier 2) and some may require intensive intervention and support (Tier 3).

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Communication Supports

- Multiple strategies can be used in the classroom (Tier 1).
 - Inquiry.
 - Model prompt.
 - Communication scripts or other visual communication supports.
 - Augmentative or alternative communication system.
 - Consultation and coaching from related service personnel (e.g., speech-language, social work) for student-specific support strategies.

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Quality Instruction

Scheduling Systems
Visual Supports
Instructional Supports

Quality Instruction

- Various ASD supports can enhance the effectiveness of instruction for students.
 - Use of Effective Behavior Supports.
 - Use of Scheduling Systems
 - Use of Visual Support Systems
 - Instructional Supports & Modifications.
- All can contribute to increasing student participation and engagement.

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Schedules
Scheduling Systems

Schedules

- Schedules establish routines and assist with student participation and engagement.
- Multiple types of schedules.
 - Classroom Schedule.
 - Sequence of activities in the day.
 - Student Specific Schedule.
 - Sequence of activities specific to the student's day (full or part).
 - Activity Schedule:
 - Sequence/steps to a specific routine, activity, and task.

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Schedules

- Steps to developing a schedule.
 - Assess student learner characteristics.
 - Developmental level, visual discrimination skills, attention, motor ability.
 - Assess prerequisite skills.
 - Matching and discrimination.
 - Task analyze the routine, activity, and task.
 - Align with student learner characteristics.

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Schedules

- Steps to developing a schedule.
 - Determine the form of the schedule.
 - Object, picture, symbol, written, combination.
 - Determine the format of the schedule.
 - Vertical, horizontal; single, double, multiple; size.
 - Determine the location for the schedule.
 - Ease of use.

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Schedules

- Steps to developing a schedule.
 - Evaluate the student's level of independence.
 - Assess level of assistance needed.
 - Teach the student to use the schedule independently.
 - Initial Teaching
 - Verbal instruction with prompt & fade.
 - Maintenance
 - Shadow & graduate guidance.






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Example Daily Classroom Schedule Picture Format



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Example Daily Classroom Schedule Picture/Word Format

Math	
Science	
Lunch	
Music	
Art	

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Example Daily Classroom Schedule Written Format

- **9:05-9:45** PE
- **10:00-10:30** Math
- **10:30-11:30** Writing
- **11:30-12:00** Lunch
- **12:00-12:45** Science
- **12:45-2:00** Reading
- **2:05-3:00** Math
- **3:00-3:30** Recess

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Example: Student Specific Schedule

8:45- 9:00- morning routine
9:00- 10:00- SPECIAL
10:00-10:30- B, D, F- adaptive P.E.
10:30-10:45- B, -science (Ms. Smith) D, F- social studies (Mrs. Boucher)
10:05-10:45/ A, C- science (Ms. Smith) E- social studies (Mrs. Rex)
10:45-10:55/ sensory break
10:55-11:25/ LUNCH
11:30-12:00 F/ counseling with Ms. Cole
11:30- 12:00/ C, E- word study
11:30-12:00/ A, C, E- Speech & Language
12:00-1:00/ Reader's Workshop
12:25-12:40/ break
12:40- 1:45- lunch
1:45- 2:15 RECESS & SNACK
2:15- 3:00 Writer's Workshop
3:00- 3:15 sensory BREAK
3:20- 3:35- pack up, do jobs, read aloud, listen to announcements

Example: Activity Schedule



- Put name on paper
- Read direction
- Answer questions
- Raise hand
- Show teacher
- Hand in assignment

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Example: Activity Schedule



- Hand up coat
- Empty Backpack
- Put School-Home Notebook in Bin
- Put Homework in Bin
- Go to your desk

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Learn More!

- To view a self-guided training module on Daily Visual Schedules developed by the RRCASD and to download the training guide, visit the following website.

<http://www.urmc.rochester.edu/childrens-hospital/developmental-disabilities/Rochester-Regional-Ctr-Autism-Spectrum-Disorder/Training-and-Education/Training-DVDs.aspx>

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Visual Supports

Organization

Clarity

Instruction

Visual Supports

- Visual supports can be used to...
 - assist with independent and appropriate classroom participation.
 - Prompts specific skills or behaviors needed to complete a routine, activity, and task.
 - direct student attention to relevant stimuli or parts of a routine, activity, task, or situation to improve engagement.

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Visual Supports

- Visual supports...
 - **Organize** the environment around specific learning objectives, routines, activities, tasks.
 - **Clarify** specific steps of a routine, activity, or task, and/or a behavior needed for participation.
 - **Instruct** the student on a routine, activity, or task by providing a model and/or task list/activity schedule.

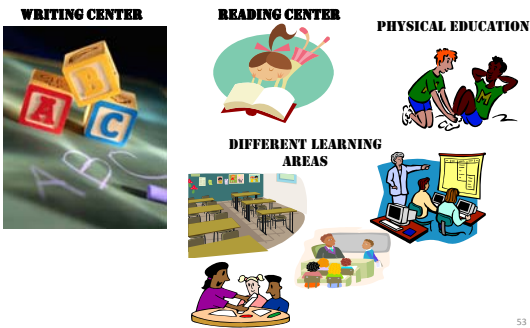
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Visual Supports

- Visual supports include....
 - Spatial arrangements.
 - Physical, position, arrangement of materials.
 - Objects, photographs, pictures, symbols, written text, and combination of forms (e.g., photo/word).
 - Single.
 - Sets: sequences as in scheduling systems.
 - Added stimuli...
 - Color highlight.
 - Arrows (with and without text).
 - Underlines, brackets, circle.

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Example: Organizing



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Examples: Organizing



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Example: Clarifying

Mary had **five** apples and she gave John **2**, how many apples did Mary have **left**?

Mary had five apples and she gave John 2, how many apples did Mary have left?

Mary had **FIVE** apples and she gave John **TWO**, how many apples did Mary have **LEFT**?

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Examples: Instructing



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Example: Instructing

Ask for Help

Sit

Ask Question

Look

Wait Turn

Listen

Raise Hand

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Learn More!

- To learn more about the use of visual supports in ASD, visit the Autism Speaks website and download the Visual Supports Toolkit.
 - <http://www.autismspeaks.org/science/resources-programs/autism-treatment-network/tools-you-can-use/visual-supports>

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Instructional Supports

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Instructional Supports

- In addition to Tier 1 supports determine what supports are needed for ***specific instructional sessions/learning objectives***.
 - Be familiar with the curriculums you are using.
 - Be familiar with the student's learner characteristics.
 - Assess the student in each of the identified curriculums to ascertain instructional levels for each.
 - Assess the student's motivational level to identify needed behavior supports.

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Instructional Supports

- Supports include...
 - Modifying the level of difficulty.
 - Should be at the student’s instructional level as determined through curriculum-based assessment.
 - Modifying the amount of information presented.
 - Less may be more! Space out the amount of work to be completed across several instructional sessions.
 - Modifying the required student response.
 - Multiple response formats should be considered, depending on student learner characteristics.
 - Point, write, speak, draw, type etc.
 - Use (assistive) technology.

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Instructional Supports

- Supports include...
 - Selecting an instructional format that maximizes engagement.
 - Visual, auditory, multi-sensory, technology.
 - Group (small, large, cooperative), individual, community-based, independent.
 - Selecting activities & materials that maximize student interest and therefore, engagement.
 - Spatial arrangement; hands-on activity; paper-pencil; technology.
 - Student interest.

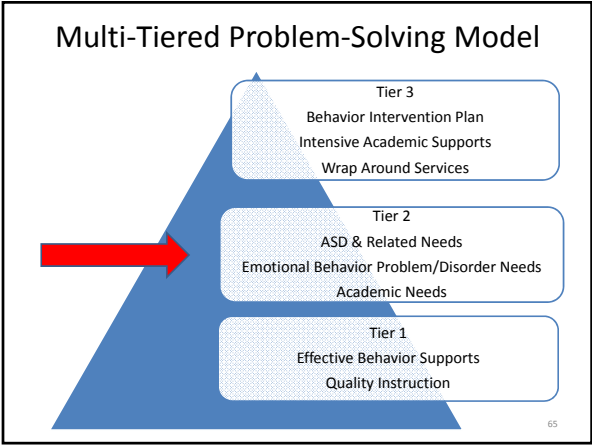
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Instructional Supports

- Supports include....
 - Creating multiple opportunities for learning through linkage with other content areas and learning objectives/goals, and multiple opportunities for practice.
 - Implementing a reinforcement system to increase learning and engagement (via increasing motivation to engage).

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TIER 2: TARGETED INTERVENTIONS



Tier 2: Targeted Interventions

- A variety of evidence-based methods can be used to address specific areas of need.
- Assessment data will determine which methods may be most effective for a given student.
- The next few slides provide a list of evidence-based methods used to address ASD and related needs.

Tier 2: Targeted Interventions

Functional Communication

- Direct Instruction.
- Discrete Trial Teaching.
- Verbal Behavior training.
- Naturalistic Interventions.
- Pivotal Response Training.
- Picture Exchange Communication Systems.
- Augmentative/Alternative Communication.

Social Skills

- Social Skills Training: Direct Instruction.
- Social Narratives.
- Social Scripts.
- Peer/Video Modeling.
- Pivotal Response Training.
- Naturalistic Interventions.

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Tier 2: Targeted Interventions

Emotional-Behavioral Self-Regulation

- Cognitive Behavioral Intervention
 - Coping and problem-solving.
- Behavior Modification.
- Self-Management Training.

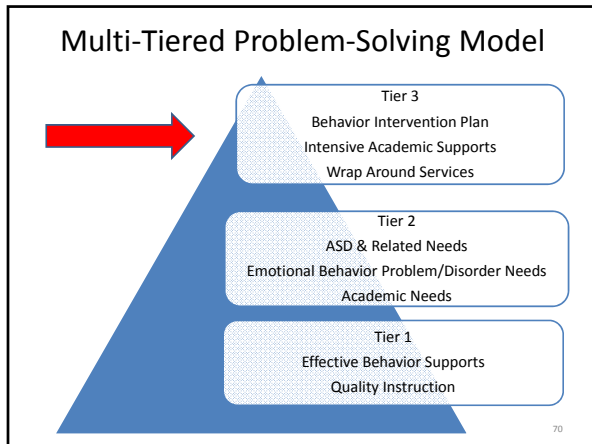
Academic Intervention

- Direct Instruction (explicit instruction).
- Discrete Trial Teaching.
- Task Analysis.
- Structured Work Systems.

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TIER 3: INTENSIVE INTERVENTION & SUPPORTS

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Tier 3: Intensive Intervention & Support

- Some students will require individualized comprehensive supports and interventions, including afterschool and home-based services.
- Some students will require services/interventions across 2 or more professionals/agencies.

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Tier 3: Intensive Intervention & Support

- Evidence-based interventions and supports :
 - Behavior Intervention Plan (BIP).
 - Based on Functional Behavioral Assessment (FBA).
 - Preventative strategies (see Tier 1)
 - Targeted intervention for replacement/alternative skills (see Tier 2)
 - Crisis management strategies (refer to school policy and procedure)
 - Reinforcement system (student specific)

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Tier 3: Intensive Intervention & Support

- Evidenced-based interventions and supports:
 - Intensive Academic Support.
 - Parallel curriculum.
 - E.g., Discrete Trial Curriculums.
 - Individualized instruction.
 - Discrete Trial Teaching
 - Direct Instruction
 - Task Analysis
 - Prompt & Fade
 - Structured Work Systems
 - More restrictive program placement.

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Tier 3: Intensive Intervention & Support

- Other interventions and supports:
 - Wrap Around Services: Community-based interventions and services.
 - Psychological.
 - Psychiatric.
 - Home-based behavior support.
 - Residential Habilitation.
 - Crisis Support Services.
 - Service Coordination.
 - Parent Education.

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Evaluating Student Response to Intervention

Progress Monitoring & Team Problem-solving

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Evaluation

- An interdisciplinary team approach is often used in ASD intervention and the MTPS.
- The team applies a problem-solving framework to identify (assessment data) and solve student learning and behavioral difficulties (support and intervention plan).

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Problem Solving

- Problem solving steps include:
 - Problem Identification.
 - Define and measurable.
 - Problem Analysis.
 - Collect data.
 - Antecedents/root cause.
 - Consequences/maintaining variables.
 - Identify possible setting events (motivation.)
 - Plan Intervention(s).
 - What resources are needed?
 - How will resources be allocated?
 - Will there need to be additional assessment?

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Problem-Solving

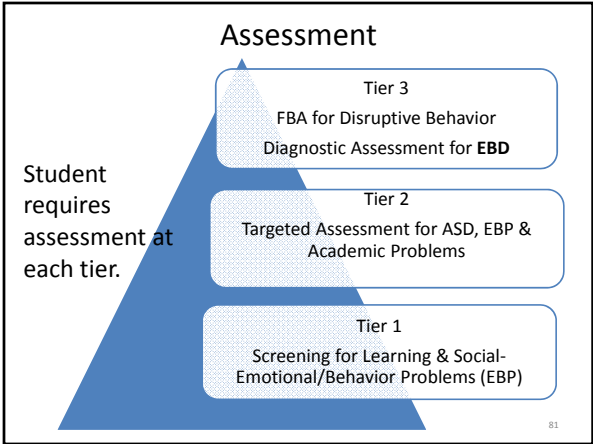
- Problem solving steps include:
 - Implement Intervention(s).
 - Ensure integrity of implementation.
 - Evaluate outcome.
 - Did it work?
 - Any negative collateral effects?
 - Will intervention(s) maintain improvement in the long run?
 - Complete any additional assessment that was recommended.
 - Revise intervention plan as appropriate.

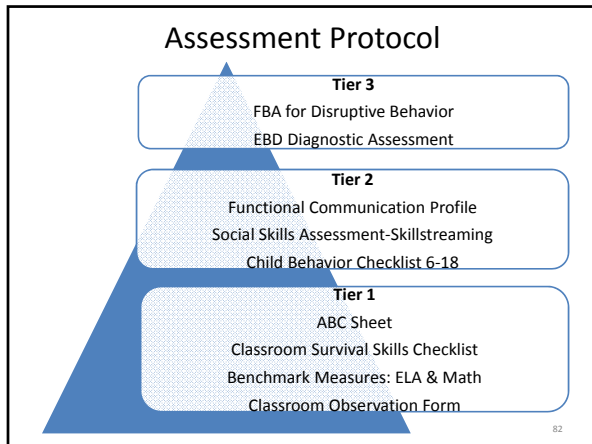
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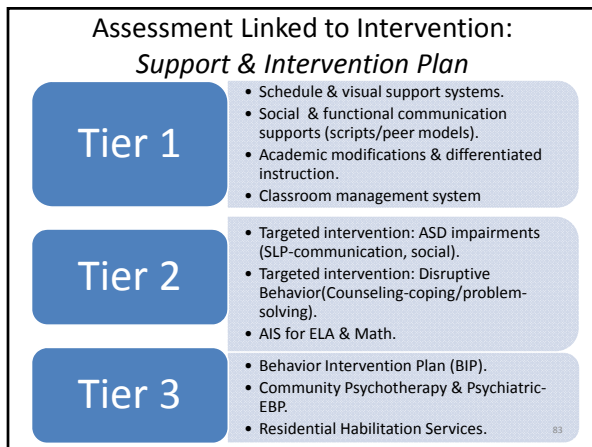
CASE EXAMPLE

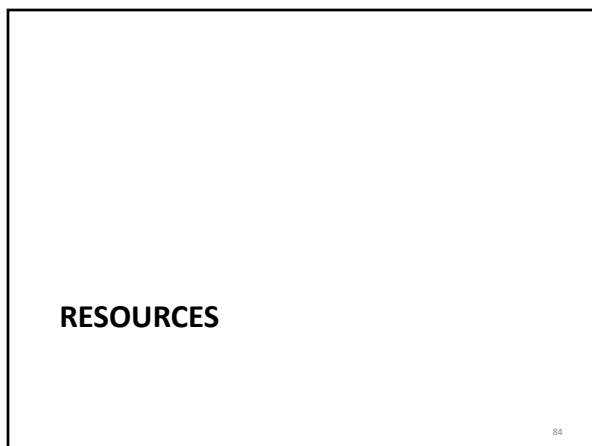
Case Example

- **Description.**
 - 12-year-old girl with ASD (dx age 9).
 - **Language/Communication:** verbal, poor functional communication.
 - **Cognitive:** average ability, but wide scatter.
 - **Academic:** below performance benchmarks in ELA & Math.
 - **Social-Emotional:** social skill impairments; disruptive behavior (occasional verbal refusal, occasional property destruction and physical aggression).
 - **Placement:** general education classroom-1st year in middle school. Has 504 Plan.









Resources

- **Rochester Regional Center for Autism Spectrum Disorder (RRCASD).**
 - On-line educational resources, DVD and study guides, webinars, Information & Referral services.
 - Contact information:
 - Website: www.golisano.urmc.edu/rrcasd-nyautism
 - E-mail: rrcasd@urmc.rochester.edu
 - Tele: 1-855-508-8485
- **Autism Speaks:** website: www.autismspeaks.org
 - This site contains various toolkits and guides for home, school, work, safety, health/medical, etc.

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Resources

- **Autism Spectrum Disorder**
 - Magyar, C.I. (2011). *Developing and evaluating educational programs for students with autism*. Springer Publisher: NY.
 - Magyar, C.I., & Pandolfi, V. (2012). Considerations for establishing a multi-tiered problem-solving model for students with autism and emotional-behavioral disorders. *Psychology in the Schools, Special Edition, 49*, 975-987.
 - Wong, C., Odom, S. L.,... Schultz, T. R. (2013). *Evidence-based practices for children, youth, and young adults with Autism Spectrum Disorder*. Chapel Hill: The University of North Carolina, Frank Porter Graham Child Development Institute, Autism Evidence-Based Practice Review Group. Available online at <http://autismpdc.fpg.unc.edu/sites/autismpdc.fpg.unc.edu/files/2014-EBP-Report.pdf>

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Question & Answer

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