

## THINKING DIFFERENTLY:

### Social Cognition and Social Motivation of Students With Autism Spectrum Disorders



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## Objectives

- Describe latest research relevant to the way individuals with ASD process social information and engage socially
- Identify challenging behaviors that students may display related to how they process information
- Identify strategies that can be used to teach adaptive skills to replace the challenging behaviors

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## Typical Child Development of Social Cognition

- 9 months – “Do you see what I see?”
- 2 years – referencing, modeling, integrating information about the world and how it functions in the social arena
- 4 years – development of understanding that others might feel sad, although “I” don’t; development and refinement of bigger picture of the world
- 8-12 years – increase in pro-social skills/self-regulation; develop understanding for central elements of what determines friendships and greater feeling of loneliness

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(Bauminger & Kasari, 2000)

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## Individuals with ASD

- Impairments in social interaction is one of the diagnostic criteria and may include
  - deficits in nonverbal behavior
  - failure to acquire developmentally appropriate peer relations
  - lack of spontaneous seeking to share enjoyment/interests
  - lack of social/emotional reciprocity

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(Center for Autism Spectrum Disorders)  
(American Psychological Association)

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## Social Strengths Observed in Many Children with ASD

- Lack of “social” games
- Honesty/Non-judgmental
- Pure and unconditional caring
- Loyalty to friends/family
- Trustworthy/Genuine
- Individuality
- Logical thinkers – decisions aren’t emotional

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(S. Shore, Autism Speaks, 2010)

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## Social Motivation

An incentive or drive resulting from a socio-cultural influence that initiates behavior toward a particular goal

- TD infants preferred social stimuli when shown videos (Legerstee et al., 1998)
- ASD infants showed decreased motivation to attend to social stimuli (Dawson et al., 1998)
  - Birthday party studies - reduced attention to faces, decreased pointing/showing, failure to orient to own name

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## Face Processing

Behavioral and electrophysiological studies:

- Impaired face discrimination/recognition
  - Face vs. non-face memory
- Use of atypical strategies to process faces
  - Reduced attention to eyes
  - Piecemeal rather than configural strategies
- Slower speed of processing faces

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(Dawson, G., Webb, S.J. and McPartland, J.)

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## Social Motivation Model Klin and Colleagues

- TD children have a preference for biological movement – eyes, gestures, etc.
- In studies, ASD children focus on mouth while viewing faces
- Used pat-a-cake video using motion capture technology
- Surprising results



(Klin, A. et al, 2009)

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## Audio-Visual Synchrony

Klin, Lin, Connors, Ramsay, & Jones, 2009



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## What is Joint Attention?

- An early social-communicative behavior in which two people share attentional focus on an object or event, for the sole purpose of sharing that interesting object with each other

Bakeman, R., & Adamson, L. (1984). Coordinating attention to people and objects in mother-infant and peer-infant interaction. *Child Development*, 55, 1278-1289.

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## Joint Attention Deficits Classroom

- Joining into discussion without providing background information (overlooks joint reference point)
- Looking away while responding can be perceived as non-compliance
- Less positive affect or inappropriate facial expression may give the impression of aloofness and being uninvolved



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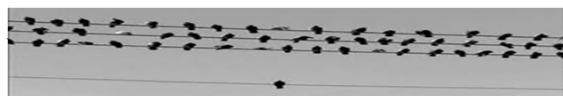
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## Joint Attention Deficits Classroom

- Communication may be behaviorally regulated (i.e., requesting or protesting) rather than socially driven
- Approach adults more than peers
- Respond less often to the approaches of others
- May be more content when left alone



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## Theory of Mind (ToM)

- Understanding that we all have different beliefs, knowledge and minds
- Ability to see that others have thoughts and feelings which impact their actions

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(D. Fein, 2011)

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## Theory of Mind

The "False Belief" Test:  
Theory of Mind

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## ToM and Pragmatic Social Skills

This is Sally. 		This is Anne. 
Sally has a basket.		Anne has a box.
		
Sally has a marble. She puts the marble into her basket.		
		
Sally goes out for a walk.		
		
	Anne takes the marble out of the basket and puts it into the box.	
	Now Sally comes back. She wants to play with her marble.	
		
	Where will Sally look for her marble?	

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## Theory of Mind Impact on Socialization

- Inappropriate responses
- Inability to see that behavior affects how others think and feel about you
- Challenges in using imagination
- Difficulty with empathy and compassion

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## Theory of Mind Impact on Communication

- Failure to view conversation as means of modifying and extending information
- Limited understanding of metaphors, sarcasm, jokes and irony
- Limited understanding of pragmatics of language
- Lack of seeking/sharing attention, providing new information, expressing intentions or choice making

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(U. Frith, F. Happe & F. Siddons ,1994)

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## Theory of Mind Perspective Taking



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## Missing Social Cues

Unaware of social requirements:

- private versus public
- “who” they are talking to
- what is/isn’t appropriate to say in a certain situation
- timing
- perseverance on a topic

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## Consequences of Social Cognitive Deficits

- Emotional vulnerability
- Risk of being bullied or victimized
- Limited ability to make friends
- Poor coping and problem solving strategies
- Can challenge social roles and conventions
- May find the pressures of social interaction distressing (not motivated by social interactions or teacher’s expectations)
- Not able to develop a social prototype

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## Beware

- Students with ASD often look “typical”
- Misinterpreted as “spoiled”, “manipulative” or being “defiant” and “troublemakers”
- Students with ASD may possess many strengths:
  - excellent rote memory
  - attention to detail
  - strong ethics code
  - strong visual memory
  - strong knowledge in a particular area of interest
  - challenge social rules and norms
  - less susceptible to an illusion

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## Effective Social Skills Instruction

- Increase dosage of social skills interventions
- Provide the instruction within the child's natural setting
- Match the intervention strategy with the type of deficit
- Ensure intervention fidelity

Bellini, Peters, Benner, and Hopf (2007)

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## 5 Step Model of Social Skills Instruction

1. Assessing Social Functioning
2. Skill Deficit vs. Performance Deficit
3. Selecting Intervention Strategies
4. Implement the Intervention
5. Evaluating and Monitoring Progress

Bellini, S. (2006). *Building Social Relationships: A Systematic Approach to Teaching Social Interaction Skills to Children and Adolescents with Autism Spectrum Disorders and other Social Difficulties*. Shawnee Mission, KS: Autism Asperger Publishing

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## Step 1: Assessing Social Functioning

- Interview Forms
  - Parent/Child/Teacher (Bellini, 2008)
- Rating Scales
  - Standard/nonstandard
- Observation
  - Naturalistic vs. structured
  - Norm-referenced

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Bellini, 2008

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## Step 2: Skill Deficit vs. Performance Deficit



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## Skill Deficit vs. Performance Deficit

- Skill Acquisition Deficit: Does not possess skills
  - Intervention: teach skills
- Performance Deficit: possess skill, but does not perform the skill
  - Intervention: enhance performance

Be careful not to assume that lack of performance is a performance deficit!

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## Questions to Ask to Help Distinguish Between Skill Deficit and Performance Deficit

- Does the child perform the skill across multiple settings?
- Does the child perform the skill without support or assistance?
- Does the child perform the skill fluently and effortlessly?
- Does the child perform the skill when the reinforcement is provided?
- Does the child perform the skill when environmental modifications are made?



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## Step 3: Select Interventions

Remember to match intervention strategy to type of skill deficit

➤ Skill Acquisition Deficit

☆ Performance Deficit



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## Peer Mediated Instruction



### Interventions (PMII)

- PMII is designed to increase the social engagement with peers for children and youth with ASD. Specifically, the goals of PMII are to:
  - Teach peers ways in which they can talk and interact with children and youth with ASD
  - Increase the frequency with which children and youth with ASD interact with typically developing peers
  - Extend peers' social initiations with students with ASD across activities in the classroom
  - Minimize teachers'/adults' support (e.g., **prompts** and **reinforcement**)
  - Promote interactions between typically developing peers and students with ASD that are both positive and natural in quality



[www.autisminternetmodules.org](http://www.autisminternetmodules.org)

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## PMI: Steps for Implementation



1. Selecting Peers

2. Training Peers

3. Supporting Peers



[www.autisminternetmodules.org](http://www.autisminternetmodules.org)

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## PMI: Steps for Implementation



4. Implementing in Classroom and Throughout the Day

5. Extending Initiations Across the Day

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National Professional Development Center on  
Autism Spectrum Disorders

**Module:** Peer-Mediated Instruction and Intervention

**Sample Progress Monitoring Form: PMII Activity Observation for Older Children and Adolescents**

Date: \_\_\_\_\_ Time: \_\_\_\_\_

Observer: \_\_\_\_\_

Focal student present: \_\_\_\_\_

Peers present: \_\_\_\_\_

Activity: \_\_\_\_\_

Activity

- |                                                                                                                                                                    |                          |                          |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|--------------------------|
| 1. Did the students participate in the activity after your introduction?                                                                                           | Yes                      | No                       |
| 2. Did the students seem to enjoy the activity?                                                                                                                    | <input type="checkbox"/> | <input type="checkbox"/> |
| 3. Did the activity contain materials that promoted social interaction?                                                                                            | <input type="checkbox"/> | <input type="checkbox"/> |
| 4. Did the activity promote positive or negative social interactions?                                                                                              | <input type="checkbox"/> | <input type="checkbox"/> |
| 5. What changes should be made in the arrangement of the intervention setting to improve social interactions (e.g., materials used, introduction to the activity)? |                          |                          |
| _____                                                                                                                                                              |                          |                          |
| _____                                                                                                                                                              |                          |                          |

PMII Module 7-23-2008  
National Professional Development Center on ASD

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## Power Cards:

Using Special Interests to Motivate Children and Youth with Asperger Syndrome and Autism  
Elisa Gagnon



- Incorporates special interests in social interactions
- Written in first person
- Serves a motivator
- Capitalizes on relationship between individual with ASD and the hero/role model

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HELP WILL ALWAYS BE GIVEN



TO THOSE WHO ASK FOR IT

THE WORLD KIDNEY FOUNDATION



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Comic Strip Conversations

Example



When Matt says "How ya doing dog?" he is teasing me like one of the guys. He is trying to be friendly. He is just joking around. He doesn't think I look like a dog. Next time I see him I'll smile and say, "How ya doing dog?" to him.

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Social Support: 5 Point Scale

The incredible 5- point scale (Buron & Curtis, 2004)

The Incredible 5-Point Scale



Karen's Voice Scale

5	Way too loud!	
4	loud	
3	talking	
2	whispering	
1	no talking	

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## “Thinking About YOU Thinking About ME”



www.socialthinking.com

- Uses Cognitive Behavioral strategies to teach social thinking concepts
- How understanding the perspectives of others is the foundation of interpersonal relationships
- How to address specific deficits in this area
- The four steps of communication - enhancing perspective-taking

Cost: \$48.00



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## “Thinking About YOU Thinking About ME” 4 Steps of Communication



1. Thinking about others and what they are thinking about us
2. Establish a physical presence
3. “Thinking with our eyes”
4. Use language to relate to others



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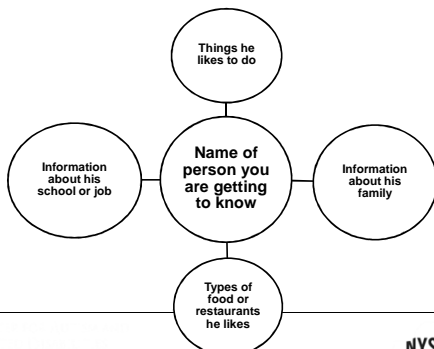
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## “Thinking About YOU Thinking About Me”



Visual Web of What You Remember about Others



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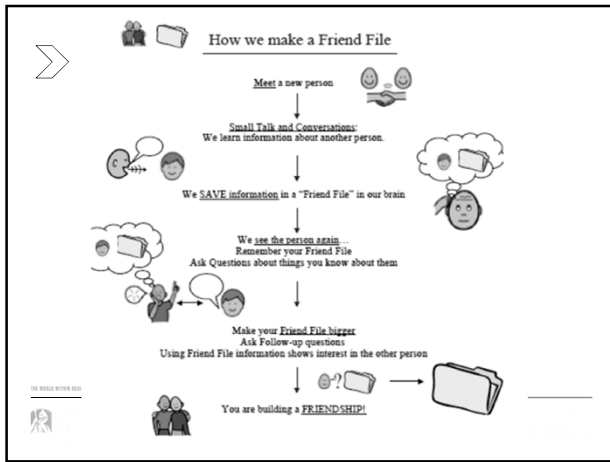
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**“Think Social! A Social Thinking Curriculum for School-Age Students”**  
[www.socialthinking.com](http://www.socialthinking.com)

- Uses Cognitive Behavioral strategies to teach social thinking concepts
- Provides step-by-step methods for teaching social-cognitive and communicative skills
- Lessons span from K-12 and into adulthood
- Cost: \$84.00



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Winner, 2006

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**“Think Social!” Example**  
 Deciphering Language Meaning

What were people thinking?	Words said	Body language that helps to explain	Setting that gives information about what is happening
People are thinking about a dance they are organizing	“We are having a ball.”	Serious facial expressions, calm body, calm tone of voice	Sitting in a meeting room with other ppl while trying to draft details for a dance
People are thinking that it's fun to be together	“We are having a ball.”	Happy faces, excited bodies, high or loud tone of voice	Doing a fun activity together
People are thinking they are bored and frustrated	“We are having a ball.” (Sarcasm)	Unhappy faces, tired or bored looking bodies, soft or bored tone of voice	Doing a work project or a chore that ppl don't really like to have to do

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Ganz, Cook,  
Earles-Vollrath,  
2006

## Social Scripts

Let's draw together.

This is fun!

Wow, that's good.

Which color do you want?

You're doing a good job.

Sophie, I like your picture.

Thanks for drawing with me.

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## Social Scripts – How To Implement Scripts

- Step 1: Choose social or communication skills to target
- Step 2: Write the scripts
- Step 3: Teach the script
- Step 4: Implement the scripts during the chosen scenario
- Step 5: Fade the script

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## Social Scripts – Fading the Script

Let's draw together

Let's draw

Let

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## Teaching Children with Autism to Mind Read



(Howlin, Baron-Cohen, & Hadwin, 2008)

- How to interpret facial expressions
- How to recognize feelings of anger, sadness, fear and happiness
- How feelings are affected by what happens and what is expected to happen
- How to see things from another person's perspective
- How to understand another person's knowledge and beliefs



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## Teaching Emotions



(Howlin, Baron-Cohen, & Hadwin, 2008)

- Level 1: Recognizing facial expression from photographs
- Level 2: Recognizing facial expressions from drawings
- Level 3: Identification of situation-based emotions
- Level 4: Desire-based emotions
- Level 5: Belief-based emotions



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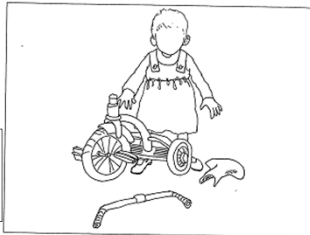
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Teacher: Describe the picture to the child and ask the child either to **say** how the person in the story feels, or to **point** to one of the emotion faces below.

Picture 26: The seat and handles have fallen off Marie's bike.



(Howlin, Baron-Cohen & Hadwin, 2008)

Level 3  
Example 4  
Sad

**Emotion Question:** How will Marie feel when the seat and handles fall off her bike?  
prompt — will she feel happy/sad/angry/fraid?

**Justification Question:** Why will she feel happy/sad/angry/fraid?




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## Teaching About Informational States



- Level 1: Simple visual perspective taking
- Level 2: Complex visual perspective taking
- Level 3: Understanding the principle that “see leads to knowing”
- Level 4: Predicting actions on the basis of a person’s knowledge
- Level 5: Understanding false beliefs  
(Howlin, Baron-Cohen, & Hadwin, 2008)

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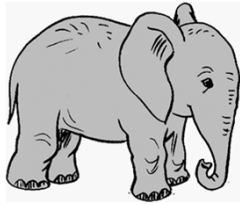
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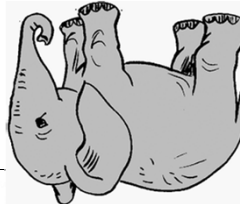
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Level 2:  
Complex  
Visual  
Perspective  
Taking



(Howlin, Baron-Cohen,  
& Hadwin, 2008)



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## Let's Face It (LFI)

<http://web.uvic.ca/~letsface/letsfaceit/?q=home>



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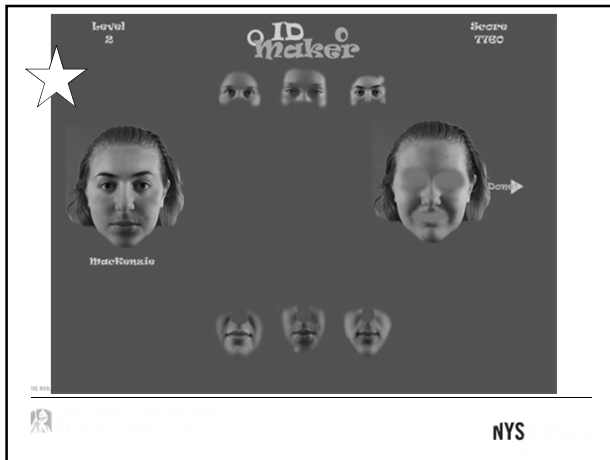
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## Step 4: Implement the Intervention

- Format (individual, group, class wide)
- Selecting peer models (if necessary)
- Assembling and training the team (professionals/students)
- Selecting materials and resources
- Determining where sessions will take place
- Developing the schedule and who is going to implement strategies

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Parent Generalization Form

Child: Johnny

Date: October 10<sup>th</sup>

Skills currently being targeted:

1. Initiating interactions with peers
2. Asking/answering questions from peers
3. Identifying feelings

Strategies to enhance performance of the skills at home:

1. Set up play dates with other children
2. Provide prompts for "asking/answering questions" (visual/verbal)
3. Ask Johnny to identify feelings of characters on television/movies
4. Reinforce every attempt

Please share your experiences using these strategies with Johnny – what worked/didn't work?

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Adapted from S. Bellini, 2008

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## Step 5: Evaluating and Monitoring Progress

- Consider methods as social skill deficits are being identified
- Take baseline data
  - Frequency, duration, latency
- Collect data regarding a variety of settings and people

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## A Few Things to Remember

- Assess if the individual has a skill deficit or a performance deficit
- Provide interventions in multiple settings
- Use typically developing peers
- Deliver interventions with consistency
- Continually monitor and modify interventions

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CARD Albany is now on Facebook

[www.facebook.com/cardalbanys](http://www.facebook.com/cardalbanys)

Required Coursework for Special Education Professionals now online – “Responding to the Needs of Students with ASD”

[http://www.albany.edu/autism/nysed\\_autism\\_training.php](http://www.albany.edu/autism/nysed_autism_training.php)

Online Distance Learning Training

<http://www.albany.edu/autism/33452.php>

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## For More Information/Training



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Website: [www.albany.edu/autism](http://www.albany.edu/autism)

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