

SOCIAL THINKING

CHARACTERISTICS OVERVIEW CHART

Verbal Skills	Grade Levels	Cognitive Level	Areas Addressed
<input type="checkbox"/> Nonverbal	<input checked="" type="checkbox"/> PK	<input type="checkbox"/> Classic	<input checked="" type="checkbox"/> (Pre)Academic/Cognitive/Academic
<input type="checkbox"/> Mixed	<input checked="" type="checkbox"/> Elementary	<input checked="" type="checkbox"/> High	<input type="checkbox"/> Adaptive Behavior/Daily Living
<input checked="" type="checkbox"/> Verbal	<input checked="" type="checkbox"/> Middle/High	Functioning	<input type="checkbox"/> Behavior
			<input type="checkbox"/> Communication/Speech
			<input checked="" type="checkbox"/> Social/Emotional

BRIEF INTRODUCTION

Successful social interaction requires effective social cognition. Social cognition refers to understanding theory of mind, which is highly related to social performance. A social thinking curriculum emphasizes training students with autism (AU) to develop appropriate social thinking and results in reciprocal social interaction.

DESCRIPTION

Theory of mind refers to the ability to attribute thoughts and feelings to other people and understand others' behavior by inferring their mindsets (Baron-Cohen, 1989; Baron-Cohen, Leslie, & Frith, 1985; Howlin, Baron-Cohen, & Hadwin, 1999). Baron-Cohen (1989) reported that students on the spectrum have difficulties predicting others' behavior, reading intentions, making sense of emotions, or understanding others' perspectives. All of these are known as mindblindness or theory-of-mind deficits (Baron-Cohen, 1995; Howlin et al., 1999).

The social thinking approach teaches behaviors associated with mindblindness (Gevers, Clifford, Mager, & Boer, 2006; Steerneman, Jackson, Pelzer, & Muris, 1996). The social thinking approach is based on the following principles (Crooke, Hendrix, & Rachman, 2008).

1. Different from a strictly behavioral model, the social thinking approach does not use reinforcement or tangible consequences to teach desirable behaviors. Rather, it addresses the

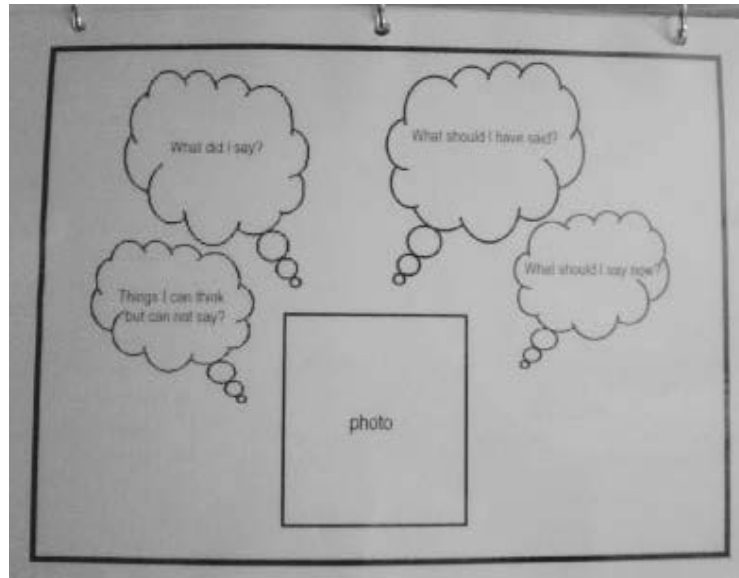
importance of understanding others' thoughts and realizing the association between understanding social knowledge and the use of social skills. Therapists or interventionists are encouraged to give verbal/visual feedback during skill practice.

2. The purpose of social thinking is to make abstract concepts concrete and clear. To do so, visual structure is used to enhance communication/interaction.
3. When considering skill generalization, self-/peer awareness instruction incorporates familiar life experiences into skill teaching. Also, highlighting and giving feedback promotes skill generalization.

The following are examples from the social thinking approach:

- Using thought bubbles to represent what others are thinking (see below)
- Teaching a student or a group specific strategies, such as perspective taking and emotion recognition
- Incorporating social thinking lessons to learning activities to encourage generalization
- Using a social thinking curriculum (Winner, 2002, 2005)

THOUGHT BUBBLES



From the Geneva Centre on Autism (www.autism.net). Used with permission.

STEPS

The following steps exemplify a social thinking session (Crooke et al., 2008):

1. *Gathering.* A warm-up activity is provided for open talk, which lasts 3 to 5 minutes.
2. *Group lesson.* Teachers or therapists teach specific social cognitive strategies or social thinking lessons using clear and concrete explanations and examples.
3. *Practice/unstructured time.* Teachers or therapists provide visual supports and use verbal/visual feedback to enhance skill practice.

BRIEF EXAMPLE

A special education teacher decided to address perspective taking with a group of students with autism. The teacher adapted several principles and steps of a social thinking approach. The teacher began the lesson with 5 minutes of sharing social experiences as the warm-up activity. Then she addressed the importance of understanding others' perspectives when interacting/communicating

with others. For example, if a student wanted to share a special interest with peers, it was important to determine if they shared common interests by using appropriate social skills, such as asking questions or reading facial expressions. Later the students had an opportunity to practice understanding others' perspectives in a group activity. During the interactions, the teacher provided verbal feedback and visual supports to encourage the use of appropriate social skills. The teacher also highlighted how to generalize the skills to real-life situations.

TIPS FOR MODIFICATIONS

The social thinking approach can be used in individual or group lessons. Teachers or therapists can individualize specific social concepts to meet the needs of a child or create a group activity to teach social cognitive strategies, such as perspective taking and understanding emotions.

SUMMARY

The purpose of the social thinking approach is to improve social cognition, such as perspective taking. It emphasizes teaching children with autism the foundation of social knowledge to develop successful social behaviors.

RESEARCH TABLE

Number of Studies	Ages (year)	Sample Size	Area(s) Addressed	Outcome
4	3-11	62	Perception/imitation, emotion recognition, pretense, distinction between physical and mental, first-order belief, false belief, second-order belief, irony/humor, mental representations, verbal behaviors, imitations, listening with eyes, nonverbal behaviors	+

STUDIES CITED IN RESEARCH TABLE

1. Stitcher, J.P., Herzog, M.J., Visovsky, K., Schmidt, C., Randolph, J., Schultz, T., Gage, N. (2010). Social competence intervention for youth with asperger syndrome and high-functioning autism: An initial investigation. *Journal of Autism and Other Developmental Disorders, 40*, 1067-1079.
The purpose of this study was to evaluate the effects of a group based social skills intervention to address theory of mind deficits of 27 high-functioning adolescents with ASD (aged 11-14) on parent-reported social ability and basic theory of mind measures such as emotion recognition and perspective taking. Following 20 hours of structured intervention delivered in 2, 1-hour weekly sessions for 10 weeks the participants were all reported by their parents to have decreased social impairments and their average scores on the basic theory of mind tasks also improved. While the results are encouraging, they must be interpreted with caution given that no social behaviors of any of the adolescents were directly measured in the study.
2. Crooke, P. J., Hendrix, R. E., & Rachman, J. Y. (2008). Brief report: Measuring the effectiveness of teaching social thinking to children with Asperger Syndrome (AS) and high functioning autism (HFA). *Journal of Autism and Developmental Disorders, 38*, 581-591.
Six students with autism participated in this eight-week social cognitive (social thinking) approach. Intervention included structured treatment and semi-structured generalization sessions. Results indicated significant improvement in verbal/nonverbal behaviors.
3. Gevers, C., Clifford, P., Mager, M., & Boer, F. (2006). Brief report: A theory-of-mind-based social-cognition training program for school-aged children with pervasive developmental disorders: An open study of its effectiveness. *Journal of Autism and Developmental Disorders, 36*, 567-571.
Eighteen children with autism participated in this theory-of-mind-based social-cognition training program for 21 weeks. The intervention included five monthly sessions with parents about AU, the development of theory of mind, and training content. Results showed improvement in socialization but not in emotion recognition.
4. Kerr, S., & Durkin, K. (2004). Understanding of thought bubbles as mental representations in children with autism: Implications for theory of mind. *Journal of Autism and Developmental Disorders, 34*, 637-648.
Eleven children with autism and 12 typically developing children participated in an assessment of standard false-belief tasks using thought bubbles. Results showed that children with autism might have the ability to understand mental representations.

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- Winner, M. G. (2002). *Thinking about you thinking about me*. San Jose, CA: Think Social Publishing.
- Winner, M. G. (2005). *Think social! A social thinking curriculum for school-age students*. San Jose, CA: Think Social Publishing.

RESOURCES AND MATERIALS

- Social Thinking: <http://www.socialthinking.com/what-is-social-thinking>
This site provides multiple resource opportunities for users seeking information on social thinking.
- Improving Social Thinking in Children with Autism:
<http://www.autism.about.com/od/improvingsocialskills/a/socialthinking.htm>
This brief article begins with an example and provides several links to related topics.
- Theory of Mind Part I: Social Thinking in Autism Spectrum Disorders:
http://www.thehelpgroup.org/pdf/guide/Stephens_ASD1.pdf
This article provides a good knowledge base for theory of mind.

GENERAL RESOURCES

- Autism Internet Modules (AIM) www.autisminternetmodules.org. The Autism Internet Modules were developed with one aim in mind: to make comprehensive, up-to-date, and usable information on autism accessible and applicable to educators, other professionals, and families who support individuals with autism spectrum disorders (ASD). Written by experts from across the U.S., all online modules are free, and are designed to promote understanding of, respect for, and equality of persons with ASD.
- The Autism Web Course: http://cdd.unm.edu/swan/autism_course/about/index.htm. This web course was developed out of materials from the Interactive Collaborative Autism Network (ICAN). The Autism Programs at the University of New Mexico has updated and added information to this web course.
 - Characteristics
 - Assessment
 - Academic Interventions
 - Behavioral Interventions
 - Communication Interventions
 - Environmental Interventions
 - Social Interventions
 - Family Support Suggestions
- Indiana Resource Center for Autism (IRCA)
<http://www.iidc.indiana.edu/irca/fmain1.html>. The Indiana Resource Center for Autism staff's efforts are focused on providing communities, organizations, agencies, and families with the knowledge and skills to support children and adults in typical early intervention, school, community, work, and home settings.
 - IRCA Articles: <http://www.iidc.indiana.edu/index.php?pageId=273>

- Texas Statewide Leadership for Autism www.txautism.net. The Texas Statewide Leadership for Autism in conjunction with the network of Texas Education Service center with a grant from the Texas Education Agency has developed a series of free online courses in autism. Please check the training page, www.txautism.net/training.html, for update lists of courses, course numbers and registration information. Current courses include the following:
 - Asperger Syndrome 101
 - Augmentative and Alternative Communication and the Autism Spectrum
 - Autism for the General Education Teacher
 - Autism 101: Top Ten Pieces to the Puzzle
 - Classroom Organization: The Power of Structure for Individuals with ASD
 - Communication: The Power of Communication for Individuals with ASD
 - Futures Planning for Students with Autism Spectrum Disorder
 - Navigating the Social Maze: Supports and Interventions for Individuals with ASD
 - Solving the Behavior Puzzle: Making Connections for Individuals with ASD