

Social Cognition: What Is It and What Does It Tell Us About How to Teach?

Kari Dunn Buron

[www.5pointscale.com](http://www.5pointscale.com)

Understanding how a person learns is essential to understanding how to teach. If a math teacher asks a student to “show me your work”, she is checking to see if the student understands the process used in solving the problem. We, as educators or parents, might ask ourselves the same question regarding how we are able to function so effortlessly in a social situation or within a casual conversation. How do we do it? What is the process we go through to determine whether or not another person is interested in what we have to say? How do we know that someone enjoys our company? How do we make social decisions regarding how closely we stand to another person or how long we maintain eye contact? The answer is that we do not know how we make these decisions. Somewhere in our early development we figured it out and over time, through experience and practice, it became second nature. This is social cognition and in order to teach it effectively to children and youth with autism spectrum disorders (ASD), it would make sense for us to learn the cognitive process we use for solving these social problems.

Social cognition involves how we think about all things social, how we interpret other people’s actions and how we adjust our own actions based on the reactions of others. There are not many, if any, conditions more social than the school environment. In order to feel competent and comfortable students need to understand the global expectations of school, accept the authority of the teachers, and restrain one’s own desires for the good of the group. If a student is not successful in these very basic social cognitive feats, they risk social failure and social anxiety which can lead to social confusion or challenging behaviors.

Science is discovering new information about how the brain works and neuropsychology, in particular, can provide tremendous insight into how social cognitive

challenges can impact learning. Several new theories can help educators, families, and individuals on the spectrum better understand the complexities associated with social cognition.

### *Theory of Mind*

The first of these theories and unquestionably the most well known is Theory of Mind (ToM: Baron-Cohen, Leslie & Frith, 1985) - the ability to understand the thoughts and feelings of other people. According to this theory, people with ASD tend to lack the ability to effectively understand or interpret the actions of others. ToM impacts a person's ability to understand that another may want a turn, or that one's behavior matters to another person. ToM challenges can cause great confusion in a person with ASD as they attempt to determine social expectations. Why would I choose to share my toy if I don't understand that another person might want it?

Many years ago, a 5 year old student with ASD who was having great difficulties understanding how to function within a group, told me that he thought everything would be alright if he could just have all the turns. In retrospect, I think he was right. I look back at that statement and am in awe of that child's ability to figure out what I was unable to see at the time. How can we teach someone about sharing if the concept remains elusive due to how the person's brain is functioning? How can we teach abstract social concepts to someone whose brain is likely processing information in a different way? Part of the answer might lie in how the person *does* learn. How does the person with ASD learn best and most efficiently?

### *Systemising and Empathising*

Another exciting learning theory which directly relates to the question of how, is Systemising (Baron-Cohen, 2006). This theory suggests that people with ASD tend to be “hypersystemisers” and “hypoempathisers”. That is, individuals with ASD learn most effectively through the use of rule governed systems, and seem to have the most difficulty when learning involves understanding emotional or social concepts. Baron Cohen suggested that the person with ASD is *driven* to create systems to make the information easier to understand and predict. Examples of systems might include task lists, predictable routines, train schedules and sports statistics. These systems are rule based and easier for the student with ASD to understand. The hypersystemiser theory would explain why a person with ASD might rely heavily on schedules and routines. Hypersystemising also involves focusing on the details of things to determine if they follow different rules. Focusing on differences rather than similarities can cause a person to resist any generalization. For example, transition to middle school can be difficult for all students, but for a student with ASD, the differences in the environment and schedule may make it difficult for the student to use information previously learned. This student may have learned to follow a visual schedule in elementary school, and through the use of the schedule she was able to accept periodic changes in her daily routine, accept teacher input and make independent transitions. However when this student goes on to the new environment, she may focus on the differences in the “system” of school and expectations rather than the similarities. Consequently she may not be able to function with the same level of independence or success because she is encountering an unfamiliar *system*. How then does this relate to teaching social information? If a person’s strength

is in systemising and her challenge is in empathising, then it might make sense to use a system to teach social and emotional information. For example, a person with ASD might stand too close to another person causing that person to feel uncomfortable.

Individuals who are not on the spectrum intuit social distance. But exactly how is it that we automatically know when we have encroached on someone's personal space and how do we communicate that to individuals on the spectrum? Using language embedded with social and emotional concepts relies on a strength in empathizing which is likely to be the most difficult channel of learning for students with ASD. Thus, it makes sense to utilize the student's strengths in systemizing to teach a social skill that involves the use of social emotional concepts such as "personal space" and another person's "feelings". One example of using a rule-based system to teach personal distance involves the use of a scale, such as the Incredible 5-Point Scale (Buron & Curtis, 2004). A personal space scale might look like this:

5 = Too Close, you are hurting the other person!!

4 = Too Close, other person is afraid of you or uncomfortable around you. This could include staring.

3 = Your touch is confusing to the other person or your facial expression is confusing. Person might avoid you.

2 = This is very casual touch like a high 5 or a tap on the shoulder to get someone's attention. Everyone is relaxed. This could also be close touch if everyone agrees that it is comfortable.

1 = This is no touch at all. Standing at a distance. This is fine but sometimes it is too far away if you want to talk to someone or get their attention.

This example illustrates how to utilize a person's ability to understand systems by creating a system for thinking about personal distance. Once the system is understood, the behavior of concern can be discussed in terms of numbers (a system).

### *Central Coherence*

Another learning theory, Central Coherence (Frith, 1989) refers to the ability to get the gist or general idea of a situation quickly. In highly social environments, it is important to be able to enter a situation and quickly determine what is going on, whether or not we should be there at all, and if people are friendly or dangerous. According to the Central Coherence Theory of Autism, a person with ASD tends to focus on details (and often irrelevant details) rather than interpreting the whole. This learning style would infer that instruction should be direct and obvious so that the person with ASD attends to important ideas. Comfortably and competently entering a social setting requires good central coherence, and the school environment includes varied and numerous social settings. For example, when a student enters the cafeteria he quickly scans the environment to determine which line to go through, which table has room, and which students to sit with. If a student with ASD has difficulty with this cognitive skill, entering the cafeteria can be a confusing and stressful event. Teaching a student with ASD to negotiate the cafeteria routine by hi-lighting each of these important steps and offering opportunities for practice could help to support weak central coherence.

### *The Enactive Mind*

Klin et al (2003) proposed another theory called the Enactive Mind (EM). This theory comes from a neuroscience framework called "embodied cognition" (Varela et al., 1991) and suggests that social learning in children with ASD is derailed early on, as a

result of the child's lack of focused attention to social stimuli. To enact means to "recreate" and this theory refers to how a person's perceptions and experiences are a crucial part of social learning. The process of social learning is embedded in the act of social interaction.

Students with ASD often learn social information through traditional teaching or social skills groups, but then seem to be unable to spontaneously *use* the learned information in real life social situations. These individuals tend to learn about the world, rather than learn how to function in it. The EM theory has significant implications for how we teach social information to individuals with ASD. If learning happens through experience, practice and doing, then instruction should reflect this by using modeling, repeated meaningful practice, direct experience opportunities and feedback.

### *Summary*

The science of social cognition as it affects students with ASD is still in its infancy. The four theories discussed in this article are only a sample of how neuropsychology can impact education and the far reaching implications of this research are yet to be fully understood. However, it is important that educators understand this research because teaching professionals have an obligation to their students to provide appropriate instruction aligned with needs. The more we learn about the function of the brain, the clearer it becomes that, like reading or math, social thinking and social behavior needs to be directly taught to students whose brains seem to develop in nontraditional ways.

## References

- Baron-Cohen. (2006). Two new theories of autism: hypersystemising and assortative mating. *Arch. Dis. Child*: 91: 2-5
- Baron-Cohen, S., Leslie, A.M. & Frith, U. (1985): Does the autistic child have a theory of mind? *Cognition*, 21: 37-46.
- Buron, K. & Curtis, M. (2003): *The Incredible 5-Point Scale: Assisting students with ASD in understanding social interactions and controlling their emotional responses.* Shawnee Mission, KS: Autism Asperger Publishing Company.
- Frith, U. (1989). *Autism: Explaining the enigma.* Oxford: Basil Blackwell.
- Klin, A., Jones, W., Schultz, R.T., Volkmar, F.R. (2003). The enactive mind – from actions to cognition: lessons from autism. *Philos. Transact Bio Sci* 358: 345-360.
- Varela, F., Thompson, E. & Rosch, E. (1991). *The embodied mind: cognitive science and human experience.* Cambridge, MA: MIT Press.