

Assessing Social Communication Abilities of School-Aged Children

Tatyana Elleseff

Rutgers University
Piscataway, NJ

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Abstract

This article explains the importance of assessing social communication abilities of school-age children. It summarizes the effect of social communication on academic abilities, reviews terminology and definitions relevant to social communication disorders, lists areas of the brain involved in social communication, provides examples of social communication skill development, offers relevant pre-assessment considerations, as well as describes standardized instruments and informal procedures used to determine the presence of social communication deficits in school-age children.

Assessment of social communication is a relatively new trend in speech-language pathology. Even a decade ago there were almost no standardized instruments available to assess skills in this area, despite the fact that best testing practices dictated comprehensive assessment of content, form, and use of language in children with suspected language disorders (Bloom & Lahey, 1978). However, even with the new availability of standardized testing materials as well as informal assessment guidelines, many speech-language pathologists (SLPs) continue to search for new information about what constitutes an adequate social pragmatic language assessment as well as which students can benefit from it. This is especially detrimental for students with suspected or diagnosed psychiatric impairments¹ as well as emotional and behavioral deficits, whose emotional and behavioral manifestations often stem from undiagnosed social communication deficits (Cohen, Barwick, Horodezky, Vallance, & Im, 1998; Hollo, Wehby, & Oliver, 2014).

It is important to note that most comprehensive standardized assessments, “typically focus on semantics, syntax, morphology, and phonology, as these are the performance areas in which specific skill development can be most objectively measured” (Hill & Coufal, 2005, p 35). Furthermore, while some comprehensive tests such as Comprehensive Assessment of Spoken Language (CASL; Carrow-Woolfolk, 1999) and the Clinical Evaluation of Language Fundamentals-5 (CELF-5; Wiig, Semel, & Secord, 2013) do contain select subtests relevant to assessment of pragmatic language elements, they do not do so in a comprehensive fashion. To illustrate, the CELF-5 contains a *Pragmatics Profile*. The SLP can provide it to parents and/or teachers to fill out to determine (check off) the child’s deficit areas. While this may be a good starting point, which may lead to a further in-depth assessment of social communication deficits, it should not be used as a sole measure to discuss the child’s functioning in this area since it does not directly test the child’s social language skills.

Another source of confusion for many SLPs is the concept of “academic impact.” Although assessing academic impact may include a review of grades, the process should include much more. Academic functioning does not simply constitute adequate performance on academic

¹These may include but are not limited to: attention and behavior disorders (e.g., Oppositional Defiant Disorder), mood disorders (e.g., Depression), anxiety disorders (e.g., Obsessive-Compulsive Disorder), psychotic disorders (e.g., Early Onset Schizophrenia), etc.

subjects; it involves effective functioning with peers and staff in academic setting, which is oftentimes the most significant concern for students with social communication difficulties (Rubin, Bulkowski, & Parker, 2006). Furthermore, when it comes to vocational success and postsecondary accomplishments, research has found that “students with better social skills, work habits, and who participated in extracurricular activities in high school had higher educational attainment and earnings” (Lleras, 2008, p. 888). That is why an assessment of social communication abilities should be an integral component of every comprehensive language evaluation for students with suspected language impairments and/or psychiatric deficits.

Terminology and Definitions

Over the years there have been a variety of terms used to describe skills in this area. Terms such as “pragmatics,” “social pragmatics,” “social skills,” “social competence,” and “Social Thinking®” have been used. Presently, the American Speech-Language-Hearing Disorder (ASHA, n.d.) is using the term “social communication disorder” to describe difficulties in the complex realm of social interaction. Similarly, the concept of “social skills” is a highly nebulous idea. Hence, a variety of definitions have been used to explain students’ struggles in this area. In its “Social Communication Disorders” practice portal, ASHA used Adams’s (2005) definition and explained social communication as “the synergistic emergence of social interaction, social cognition, pragmatics (verbal and nonverbal), and receptive and expressive language processing” (p. 182). This technical terminology is best captured by Winner (2011), who described social communication as “the ability to adapt your behavior effectively based on the situation and what you know about the people in the situation for them to react and respond to you in the manner you had hoped.” For the purposes of this article, the term “social communication” will be used to describe students with difficulties in the realm of social pragmatic functioning.

“Anatomy of Social Communication”:

For comprehensive assessment and treatment purposes, it is important to understand the areas of the brain that control social communication. Social communication, executive function skills, as well as language processing abilities are not distinct entities located in separate areas of the brain. They are interconnected and largely controlled by the frontal and temporal lobes as well as the subcortical structures of the brain. The frontal lobe (including the orbitofrontal, the dorsomedial frontal, and the dorsolateral frontal cortices) of the brain is involved in pragmatic language processes and complex social cognition functions including processing of emotions, self-regulation and inhibition of behavior, awareness of own capabilities and limitations, flexible critical thinking ability, and comprehension of sarcasm, among other functions (Adolphs, 2001; Shamay-Tsoory, Tomer, & Aharon-Peretz, 2005). The temporal lobe is involved in organization and categorization of verbal information as well as contributes to accurate perception and interpretation of social communication (e.g., recognizing facial emotions, interpreting prosody, understanding a person’s intentions and emotions based on nonverbal body language, etc.; Adolphs, 2001; Kolb & Whishaw, 1990). Furthermore, subcortical structures such as the amygdala, hypothalamus, and several regions in the brainstem have an important role in emotional processing (Panksepp, 1998).

It is important to explicitly understand the involvement of the brain in social communication due to how “social skills” were taught by many programs. Until quite recently, this was done largely through behavioral application by “teaching superficial rote social codes, actions, and patterns of response” (Winner, 2007, p. v). As the research progressed in the field of social communication, the assessment and treatment evolved from behaviorally based to cognitively based models. Rather than assessing rote abilities such as the usage of the rules of politeness, the assessment shifted to evaluation of the student’s thinking processes and their effect on the student’s behavior. Both standardized and informal assessments began utilizing tasks that tapped into the student’s gestalt processing, executive functioning, as well as perspective taking

abilities in a variety of dynamically based tasks in order to comprehensively assess their social communication abilities.

Typology of Social Communication Deficits

There are a number of ways in which social communication skill hierarchy can be organized. For example, Prutting & Kirchner (1987) divided their “Pragmatic Protocol” into the following three broad categories: verbal aspects (e.g., speech acts, topics, turn-taking, lexical cohesion, etc.) paralinguistic aspects (e.g., intelligibility and prosody), and nonverbal aspects (e.g., kinesics and proxemics). In contrast, Winner (2007) created an “I LAUGH” model of Social Thinking® which consists of assessing the following areas of functioning: initiation of communication or action, listening with the eyes and brain, abstract and inferential idea interpretation, understanding of perspectives, gestalt processing, as well as humor and interpersonal relatedness (pp. xi–xii).

Broadly speaking, strictly for assessment selection purposes, social communication could be grossly divided into initial, intermediate, and advanced functioning². Children in the initial stages of social communication mastery may function on a more severe end of the spectrum. They may present with difficulties in the following areas:

- Attention (to task/listener)
- Initiation (requesting help/ask for items, starting an activity/conversation)
- Communication (using language for variety of functions, taking turns, switch topics)
- Adherence to basic social rules and conventions (accepting boundaries/limits)

In contrast, students who have mastered the above skills and who are functioning higher on the social communication continuum may present with deficits on higher order tasks such as:

- Problem-solving social scenarios
- Discourse and narrative production (Hedberg & Westby, 1993)
- Interpreting figurative and abstract language (Happé, 1994; Mackay & Shaw, 2004)
- Understanding and using Humor (Lyons & Fitzgerald, 2004)
- Gestalt processing of text (Happé, 1994)
- Perspective taking

Finally, students functioning on the higher end of the continuum may have largely mastered the above skills but have difficulty applying them in social contexts when it comes to peer relatedness. Their deficits may lie in such areas as:

- Interpersonal negotiation for conflict resolution/compromising/mutual cooperation
- Supporting peers in social contexts (e.g., knowing the right thing to say in a variety of situations)
- Social adaptability (e.g., ‘go with the flow’ change with the situation, etc.)
- Understanding motives of others
- Navigating the “Hidden Curriculum” (Myles, Trautman, & Schelvan, 2004)
- Self-regulating and monitor the effect of own behavior on others

²Please note that in this article the terminology which labels the severity of student’s deficits is used to strictly describe their functioning in academic setting as subjectively perceived by school professionals.

Pre-Assessment Considerations:

When only a referral for testing is available without any other accompanying information, the clinicians become constrained by the lack of knowledge regarding the degree of the student's severity of functioning. Further affecting assessment practices are district budget limitations imposed on the purchase of assessment materials. As a result many SLPs may have limited access to assessment instruments (ASHA, 2014). This further hampers their options when it comes to effectively assessing varying degrees of social communication severity in the referred students. It is important to understand that "one size does not fit all." Namely, one social pragmatic language test will not be appropriate for assessment of all the students with social communication deficits because social communication difficulties exist on a continuum. This is why prior to testing selection, it is important to collect background information from parents and teachers regarding the student's social communication difficulties in a variety of settings. It is also important to supplement that information with observations of student in several unstructured school settings in order to further narrow down assessment instrument selection.

Standardized Assessments and Their Limitations

Presently there are a number of select standardized assessment tools on the market that are useful for assessing various aspects of social communication difficulties in monolingual children³.

For young preschool children between 3-4 years of age the, *Language Use Inventory (LUI;* O'Neill, 2009) can be used to assess aspects of pragmatic communication. Aimed at identifying children with delay/impairment in pragmatic language development the *LUI* is a parental questionnaire that contains 180 questions and is divided into 3 parts: "communication with gestures," "communication with words," and "longer sentences." It has been also specifically recommended for evaluation of spoken language acquisition in children with autism spectrum disorders (Tager-Flusberg, Rogers, Cooper, Landa, & Lord, 2009).

For children between 4 and 6 years of age with significant social communication difficulties, the United States edition of the *Children's Communication Checklist (CCC-2)* (Bishop, 2006) is another useful assessment of skills in that area. This parental questionnaire is composed of 70 items and 10 scales. It devotes 4 scales to address pragmatic aspects of communication and 2 scales to assess behaviors commonly impaired in children with autism spectrum disorders. When using this instrument, it is recommended that SLPs assist parents in filling out the information, in order to provide explanations of questions in different categories. This is important in order to avoid over-inflation or underestimation of scores, as some parents may not have a clear understanding of the extent of their child's level of deficits.

Beginning at 6 years of age, there are several standardized tests available for assessment of children with moderate social communication impairments. These are children who are able to communicate at the conversational level but who present with limitations in identification of facial expressions and emotions, have difficulty understanding and using common rules of politeness and adjusting their conversation to different audiences, and lack basic knowledge of abstractions (e.g., common idioms, multiple meaning words, etc.).

For such children, the administration of the *Social Emotional Evaluation (SEE;* Wiig, 2008) and/or the *Test of Pragmatic Language-2 (TOPL-2;* Phelps-Terasaki & Phelps-Gunn, 2007) may be appropriate. With that in mind, it is very important to understand the limitations of these testing

³Presently there are no social pragmatic assessments standardized for use with bilingual and multicultural children. However, all the listed standardized instruments can be used selectively to assess aspects of social communication in bilingual as well as culturally diverse children with suspected social communication deficits.

instruments. Both are norm-referenced tests, which use total scores such as “usage index” and “z scores” to determine the student’s level of functioning. While the *SEE* does provide the examiner with the raw scores for each subtest, it does not provide standard scores to indicate the student’s performance on each subtest. Because the subtests are arranged in the order of complexity, receiving higher scores on easier subtests such as “Identifying Common Emotions” and “Recognizing Emotional Reactions” can mitigate impaired performance on harder subtests such as “Understanding Social Gaffes” and “Understanding Social Messages” and as a result inflate the total test score. Similarly, the *TOPL-2* does not provide the breakdown of performance on its 6 core areas, as a result making it difficult to formulate therapy goals. Furthermore, based on the skills targeted by both tests, these assessments appear to be better suited for students with below average Intelligence Quotient (IQ) and/or significantly impaired Theory of Mind (ToM) as well as perspective-taking abilities and are not suitable for students functioning on the higher end of the social communication impairment continuum.

For students with average IQ and “milder” social communication deficits, the administration of the elementary or adolescent versions of the *Tests of Problem Solving (TOPS-3; TOPS-2; Bowers, Huisingsh, & LoGiudice, 2007; Huisingsh, Bowers, & LoGiudice, 2005)* and *Social Language Development (SLDT-E; SLDT-A; Bowers, Huisingsh, & LoGiudice, 2008, 2010)* will be more suitable. With the exception of *TOPS-2*, which allows the students to reference the presented text in the “Reading Passages Book,” all of the above tests use an open-ended question format to assess the students ability to make inferences, answer negative questions, interpret ambiguous and figurative language, problem-solve, and justify social scenarios as well as take on perspectives of others.

If the adolescent students are functioning at a younger level due to their chronological age not matching their developmental age, a non-standardized administration of the elementary test versions is strongly recommended. This is important in order to determine the students’ relative strengths and establish the starting point of therapy.

Finally, the *Clinical Evaluation of Language Fundamentals®*, *Fifth Edition Metalinguistics (CELF®-5 M; Wiig & Secord, 2014)* can be selectively used with children who present with difficulty understanding figurative and ambiguous language, making inferences, as well as engaging in discourse. However it is important to note that several of its subtests contain multiple choice answer format, which is not representative of real-life situational contexts (it provides the students with compensatory strategies of responding to questions). Another drawback of this instrument is that the normative age range begins at age 9, which limits its use with younger children with metalinguistic deficits.

Informal Assessment Procedures and Their Utility

It is important to note that static standardized tests compensate for the students’ social communication difficulties. The quiet test environment can compensate for students with self-regulation difficulties characterized by attention and concentration deficits. Segmenting testing sessions into short intervals can compensate for reduced endurance and poor “boredom management.” Provision of instructions, pretest demos, and trials can greatly compensate for poor task orientation and initiation and require reduced mental flexibility on the part of the student. Finally, having extended processing time to respond to questions is also not representable of real-life situations in which the student would need to come up with immediate responses during social interactions (Ward & Jacobsen, 2014; Ylvisaker, 1992).

This is why it is strongly recommended that standardized social communication testing be supplemented with a variety of informal/dynamic assessment tasks and procedures in order to ascertain the student’s extent of difficulties more accurately. For students with limited perspective-taking abilities and impaired ToM, administration of First-Order (Baron-Cohen, Leslie, & Frith 1985) and Second-Order (Perner & Wimmer, 1985) False Belief Tasks is very

useful. These can be administered in order to determine whether the students can attribute mental states—beliefs, intentions, desires, etc.—to oneself and others as well as understand that others have beliefs, desires, intentions, and perspectives that are different from one’s own (Premack & Woodruff, 1978; Parker, MacDonald, & Miller 2007). For students who present with difficulty understanding abstract information, select administration of Happé’s (1994) “Strange Stories”⁴ can be used to determine whether a student understands non-literal messages, indirect requests, sarcasm, jokes, and metaphorical expressions.

Furthermore, since narrative production is strongly correlated with social pragmatic competence, an integral component of a social communication evaluation must be a narrative sample (Norbury, 2013). There are a number of ways in which these could be elicited. For preschool and early elementary aged children, this could be done via a dynamic assessment task utilizing picture books. The examiner can make up and “read” a script for a wordless book or read a regular picture book, then cover up the words and ask the child to retell the story given visual support. Older children can be asked to retell a book or a movie in order to determine the level of their narrative competence. Such narrative samples can yield the wealth of information regarding the students’ abilities in varying areas of functioning. This includes topic cohesion and coherence, verbal sequencing skills related to story order, working memory pertinent to recall of relevant details, oral syntax and grammar, vocabulary knowledge and use, presence of word-finding difficulties, use of episodic structure, as well as evidence of perspective-taking (Hedberg & Westby, 1993; Hughes, McGillivray, & Schmidek, 1997)

Finally, the use of *Informal Social Thinking Dynamic Assessment Protocol*® (Winner, 2007) can provide the clinician with a framework to assess social cognitive abilities of students (ages 8+) who appear to present with “milder” social communication difficulties, but who nevertheless possess significant social communication challenges affecting their daily functioning in a variety of settings. This tool, described in detail in Winner’s (2007) book, “Thinking about You, Thinking about Me”, consists of 8 sections. It includes a questionnaire for teachers and related professionals and assesses a number of skills including: narrative ability, sequencing ability, organizational ability, writing ability, and one’s ability to “think with one’s eyes.” One of the more unique aspects of this tool is “The Double Interview,” which is divided into three parts. In Part 1, the examiner interviews the students regarding themselves. It includes perspective-taking questions such as asking the students to put themselves into their parents’ shoes and imagine what it would be like if their parents had a day to themselves free from responsibility of being parents. In Part 2, the student is asked to interpret several photographs provided by the examiner. Finally in Part 3, it is now the students’ turn to interview the examiner in order to show an interest in his or her life.

Conclusion

When evaluating social communication, it is recommended that clinicians use multiple assessment tasks to create a balanced assessment. Because the obtained diagnostic information will be used to formulate treatment goals, it is important to select testing instruments that will facilitate clear goal formulation. It is also important to add a descriptive portion to the report in addition to documenting standard scores in order to thoroughly describe the student’s deficit areas. Finally, social communication assessments need to be functional and meaningful for the student. This means determining the student’s strengths and not just weaknesses as a starting point of intervention initiation.

⁴The stories are short paragraphs about everyday situations where people say things they do not literally mean. Select examples of these stories can be found here: <http://www.slideshare.net/jamiedavies/a-selection-of-strange-stories-presentation-652250>. The full collection of stories can be found in the appendix of Happe (1994) article.

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